

# AMPHORAE IN NEW KINGDOM EGYPT

By David. A. Aston

## INTRODUCTION

With the notable exception of an innovative treatment by Bryant Wood,<sup>1</sup> two fundamental works by Colin Hope,<sup>2</sup> a combined linguistic and morphological treatise by Laurent Bavay, Sylvie Marchand and Pierre Tallet,<sup>3</sup> and a forthcoming article by Janine Bourriau,<sup>4</sup> New Kingdom Egyptian amphorae – necked vessels with two opposing vertical handles situated on the upper body<sup>5</sup> – have been little studied, contrasting remarkably with contemporary Syro-Palestinian Canaanite storage jars, for which numerous studies exist.<sup>6</sup> This is somewhat surprising since the examination of such vessels would throw much light, not only on the trading interconnections within Egypt, but also of the entire Middle East, and would lead to a greater understanding concerning the vexed questions of chronological synchronisms between the various cultures which lived around the shores of the Eastern Mediterranean during the Late Bronze Age. Recently there has been a welcome upsurge in the study of the fabrics of which these amphorae are made,<sup>7</sup> the contents which they carried,<sup>8</sup> the methods by which they were sealed,<sup>9</sup> the docketts which were sometimes inscribed on them,<sup>10</sup> and the Egyptian wine industry in general,<sup>11</sup> yet basic typological studies of the amphora shapes have been somewhat neglected. The reasons for this are not hard to find: Wood, by shuffling drawings of well-dated amphorae, postulated that the typological development of

the Egyptian amphora can be established with unusual precision<sup>12</sup> whilst Hope, in his first general survey of such amphorae, basically followed the same methodology, with the fabric of the vessel playing only a secondary role. Both studies, essentially based on amphorae dated either by jar stamps impressed (usually) either on the shoulders or on the handles,<sup>13</sup> or by docketts written on the shoulders of such vessels, produced a typological sequence which indicated a general development from early examples that are generally oval with a round base and short neck, gradually becoming more slender so that they developed a tapering lower body, more pronounced shoulder and taller neck. In Wood's scheme this pattern of development continued unchanged so that the latest amphorae were the tallest and most slender. However, a different and contemporary shape is recognised by Hope who argues that from the Nineteenth Dynasty onwards, the existence of an ovoid type with a round or pointed base is also found alongside the narrow tapering type. Both studies, however, fail to realize the importance of the fabrics of which the amphorae are made since this, as will become clear, greatly affects the morphological development of the amphorae, a factor which indeed Hope has clearly realized in his later work dealing specifically with oases amphorae.

This paper deals essentially with Hope's New Kingdom amphorae type 1a (those types mentioned above); type 1b (LB IIB Canaanite jars)

<sup>1</sup> WOOD, 1987.

<sup>2</sup> HOPE, 1989, 2002.

<sup>3</sup> BAVAY/MARCHAND/TALLET, 2000.

<sup>4</sup> BOURRIAU, 2004.

<sup>5</sup> Some amphorae have four handles, see types A2 and B6, but are rare.

<sup>6</sup> For example: GRACE, 1956; AMIRAN, 1969, 140–3; PARR, 1973; ÅCKERSTRÖM 1975; HADJICOSTI/JONES/VAUGHAN, 1988; BOURRIAU, 1990a; LEONARD, 1995; SMITH/BOURRIAU/SERPICO, 2000; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003.

<sup>7</sup> BOURRIAU, 1990a; BOURRIAU/SMITH/SERPICO, 2001; HOPE 2002.

<sup>8</sup> MCGOVERN, 1997; SERPICO, 2000; MURRAY, 2000; BOURRIAU/SMITH/SERPICO, 2001; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003.

<sup>9</sup> HOPE 1978, 1993.

<sup>10</sup> LEAHY, 1978, 1985; KOENIG, 1979, 1980; VAN DIJK, 1992, KITCHEN 1992, TALLET, 1995, 1996, 1998a.

<sup>11</sup> LESKO, 1977; 1995; POO, 1995; TALLET, 1998b.

<sup>12</sup> WOOD, 1987, 79.

<sup>13</sup> Surprisingly these have never been seriously studied, but cf. BRUYÈRE, 1952, 53–54; GUICHARD, 1995.

and to a lesser extent, type 1c (miniature versions of the above),<sup>14</sup> and will be divided primarily between vessels of Canaanite and Egyptian (Nile Valley) origin, though examples made in the Oases and Sinai (?) will also be examined. Since Canaanite jars evidently provided the prototypes for the 'home-made' Egyptian vessels, these will be examined first:

#### CANAANITE IMPORTS

##### A1. From the reigns of Ahmose – Tuthmosis III.

Canaanite Jars had been imported into Egypt since at least the late Twelfth Dynasty, but the earliest example known to me which can be unequivocally ascribed to the New Kingdom is one found in stratum e/1 at Ezbet Helmi (Fig. 1a) which stratigraphically dates to around the time of Ahmose–Tuthmosis I. Made of a hard fabric which fires to a wide grey core with thin yellowish-orange oxidation zones, it is clearly Canaanite in origin, although the actual source remains unknown. Body sherds of Canaanite jars are also recorded from context RAT 365 at Memphis, dated to the reigns of Ahmose – Amenophis I,<sup>15</sup> but such a dating for this deposit is probably too early.<sup>16</sup> Similarly some question must be asked regarding the dating of Canaanite jars found in Memphis deposits RAT 289, RAT 293 and RAT 509, also dated to the reigns of Ahmose – Amenophis I.<sup>17</sup> Personally I would prefer to date these contexts into the time of Hatshepsut – Tuthmosis III, at which period a number of other imported Canaanite jars are well known. These include fragmentary examples from Memphis context RAT 556,<sup>18</sup> and stratum c at Ezbet Helmi. Also of disputed date is Ahmose–Meryet-amun, in whose tomb a Canaanite jar (Fig. 1b) was found, although the original interpretation of her as the wife of Amenophis I seems confirmed by the style of the pottery found with her burial. The example shown as Fig. 1c was found at Debeira East within the tomb of Amenemhet,<sup>19</sup> who lived under Hatshepsut and Tuthmosis III. Whether this type continued on into the reign of Amenophis

II, is hard to determine, but, on the basis of a vessel found at Aksha,<sup>20</sup> this may be possible. A complete Canaanite jar of type A1, now in Liverpool, is reputedly dated to the reign of Amenophis III by an inscribed docket, though this is no longer visible.<sup>21</sup> Since the evidence from Malkata and Amarna would indicate that this type was no longer current by the time these two sites were founded, it must be assumed that this is an example of an old vessel which had been reused.

All these A1 amphorae are oval in general shape, have round bases and short necks, and tend to be made of Bourriau's fabrics P31 and P33. Fabric P31 is a coarse, medium hard and dense amphora fabric characterised by a zoned section: light red 2.5 YR 6/8 near the outer surface, yellow brown 10 YR 6/4 in the middle and gray 5 Y 5/1 in the innermost zone. Most conspicuous among the abundant temper are scattered large chunks of limestone and large black pebbles up to 4 mm in diameter. Abundant medium to coarse mineral particles (quartz, feldspar and dark rock), and some medium limestone comprise the bulk of the inclusions. The uncoated surface has been well smoothed, in marked contrast to the coarseness of the paste, and fires to a light red 2.5 YR 6/6. Sherds of this fabric have been found at Qantir<sup>22</sup> in Eighteenth Dynasty contexts. Fabric P31 is assigned, by Bourriau, Smith and Serpico, to their Group 2, which, they suggest, comes from the seaward portion of the Jezreel Valley to the north-east of the Carmel Ridge, where the Kishion river reaches the coastal sands.<sup>23</sup> P33 is similar to P31 in being a coarse, medium hard and dense amphora fabric characterised by a zoned section: being strong brown 7.5 YR 5/8 near to, and on, the outer surface, with a grey black inner zone and inner surface. In contrast to P31, P33 has many more, but smaller, grey-white inclusions, some mica and some shell among them. Sherds of this fabric have also been found at Qantir<sup>24</sup> in Eighteenth Dynasty contexts. Fab-

<sup>14</sup> HOPE, 1989, 92–96.

<sup>15</sup> BOURRIAU, 1991, 136.

<sup>16</sup> ASTON, forthcoming.

<sup>17</sup> BOURRIAU, 1990a, 22\*–23\*; 24\*.

<sup>18</sup> BOURRIAU, 1990, 23\*.

<sup>19</sup> For the vessel see HOLTHOER, 1977, pl. 22 type AO1, and for the date, SAVE-SODERBERGH, 1991, 184.

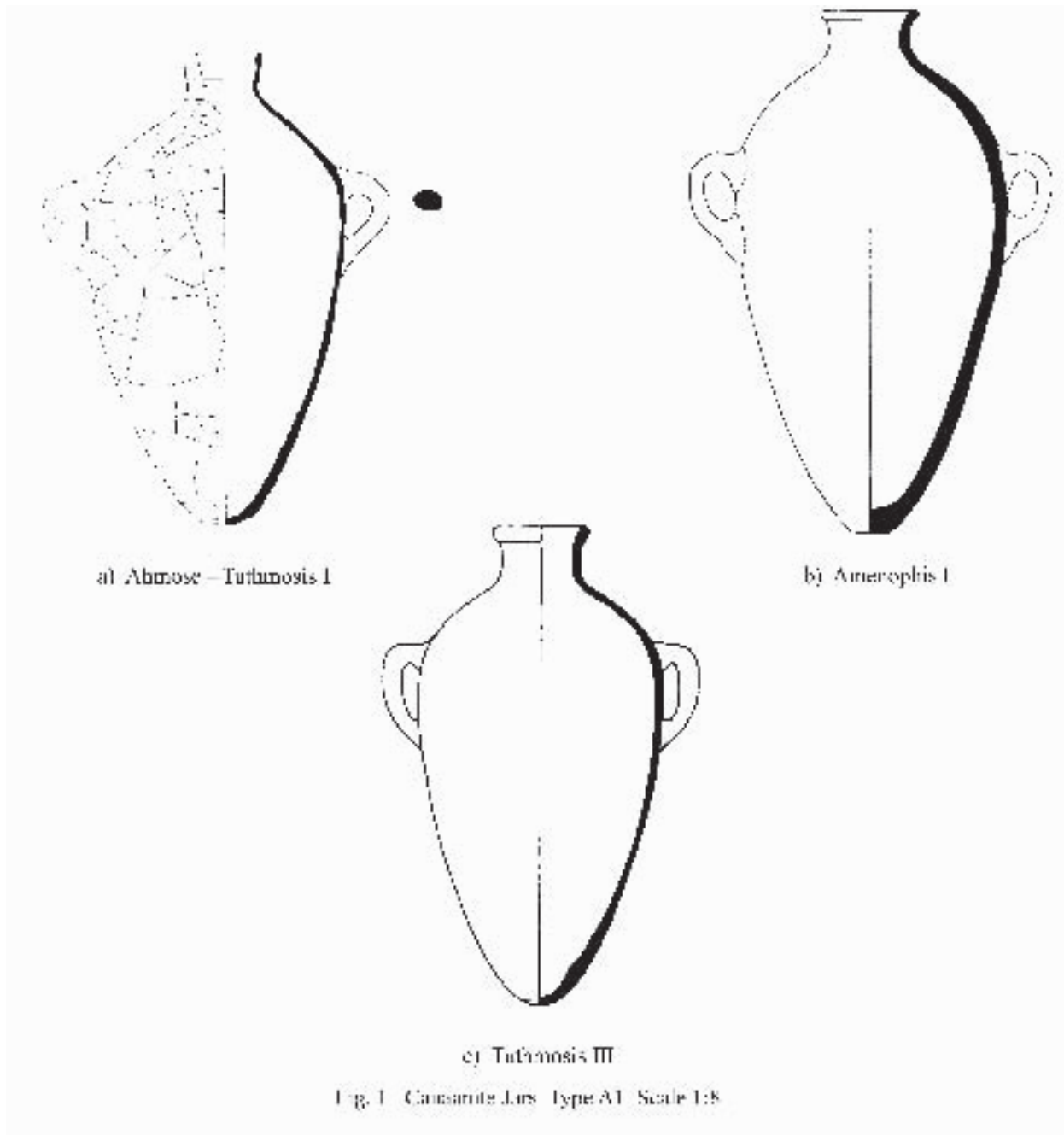
<sup>20</sup> VERCOUTTER, 1962, 115, pl. xxxviiB.

<sup>21</sup> Liverpool 1977–112.237. HOPE, 1989, 102.

<sup>22</sup> ASTON, 1998, 69, fabric IV.07.02.

<sup>23</sup> BOURRIAU/SMITH/SERPICO, 2001, 140; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 369.

<sup>24</sup> ASTON, 1998, 69, fabric IV.07.02.



ric P33 is assigned, by Bourriau, Smith and Serpico, to their Group 5, for which they could not suggest a place of origin, although the presence of micro-fossils and the high content of carbonates as opposed to quartz would suggest that it was made somewhere in coastal Syria or Lebanon.<sup>25</sup>

**A2. (a) From the reigns of Amenophis II – Akhenaten**

A plump vessel from Malkata (Fig. 2a) differs from that of type A1 by exhibiting an undercut rim, a less oval shape with distinct shoulder points, and a stump base.<sup>26</sup> Good, though incomplete, parallels for the latter are found at Memphis, RAT 94 in

<sup>25</sup> BOURRIAU/SMITH/SERPICO, 2001, 143; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 372.

<sup>26</sup> HOPE, 1989, 28, fig. 8a.

fabric P40,<sup>27</sup> and at Ezbet Helmi area H/VI in stratum b, dated to the reign of Amenophis III.<sup>28</sup> The entire lower body of a similar amphora was also found at Memphis in deposit 389, made of fabric P31,<sup>29</sup> and though undated in the preliminary publication, it should stratigraphically be assigned to the mid-late Eighteenth Dynasty.<sup>30</sup> In the preliminary publication of the vessel from Malkata no description of the fabric is given, though elsewhere it is stated that the Canaanite sherds from Malkata are either fired orange, rather coarse, with large white inclusions, or are fired white with innumerable small black particles,<sup>31</sup> which are clearly equivalent to Bourriau's fabrics P11 and P30 respectively. The latest examples of this type of jar, with its rounded shoulders and stump bases seem to be those found at Amarna (Fig. 2b),<sup>32</sup> which, if they are not old vessels, suggests that this type continued on into the reign of Akhenaten, at which time it co-existed with the new type A3 (see below). The deposits at Memphis indicate that although fabrics P31 and P33 are still found, the majority of imported vessels are now made of fabrics P11, P16, P30 and P40, and indeed these fabrics continue to be the most common throughout the remainder of the New Kingdom. At Amarna fabrics P39 and P46 are also found, and these too continue throughout the remainder of the New Kingdom, but are not as common as P11, P16, P30 and P40. Fabric P11 is well known in New Kingdom deposits, particularly those dating to the late Eighteenth and Nineteenth Dynasties, throughout Egypt with examples recorded at Elephantine,<sup>33</sup> Thebes,<sup>34</sup> Amarna<sup>35</sup> Saqqara,<sup>36</sup> and Qantir.<sup>37</sup> Generally used for Canaanite jars, it is also known used for a number of pilgrim flasks, and at Memphis for

an occasional small amphora or cup.<sup>38</sup> The fabric tends to fire a uniform reddish yellow 5 YR 6/6, even in the thickest parts of the vessel wall, and the surface is slipped the same colour. Dominant among the inclusions are sand, fine translucent pebble and many black grits which fill the section. Fabrics P11 and P30 are assigned, by Bourriau, Smith and Serpico, to their Group 1, which, they propose, probably comes from the seaward portion of the Jezreel Valley to the north-east of the Carmel Ridge, where the Kishion river reaches the coastal sands.<sup>39</sup> Canaanite jars made in both these fabrics seem principally to have been used for the transport of pistachio resin<sup>40</sup> most probably used as incense,<sup>41</sup> and to a lesser extent, honey.<sup>42</sup> Fabric P16 is a Canaanite jar fabric characterised by numerous black particles filling the section. It often shows distinct zones in section, even in thin parts of the vessel wall. The extreme outer edge of the section may fire yellowish red 5 YR 5/6 though this outer zone is often absent. Otherwise the outer and inner surfaces are yellow 10 YR 7/6 with a wide grey core 10 YR 5/1. Occasionally the whole section may fire a uniform yellowish brown 10 YR 6/4–6. Added temper comprises ochre, pebble and abundant black grits. The surface of all examples is unslipped and fires reddish yellow 7.5 YR 7/6 to very pale brown 10 YR 7/4 and the many inclusions are readily visible in both the outer and inner surface of the vessel. This fabric is also known at Elephantine,<sup>43</sup> Thebes,<sup>44</sup> Amarna,<sup>45</sup> Saqqara<sup>46</sup> and Qantir.<sup>47</sup> Fabric P16 is assigned, by Bourriau, Smith and Serpico, to their Group 3, which, they propose, probably comes either from the north Lebanese coast or central Jezreel Valley/Eastern Galilee.<sup>48</sup> Fabric P30 is a hard Canaan-

<sup>27</sup> BOURRIAU, 1990a, 25\*, ill. 10.

<sup>28</sup> ASTON, 2001, 190, fig. 12,8.

<sup>29</sup> BOURRIAU, 1990a, 24\*, ill.7. To my mind this vessel is closer in shape to the example from Malkata, than to that from the Memphite tomb of Horemheb with which it is linked in that article.

<sup>30</sup> J. Bourriau, personal communication.

<sup>31</sup> HOPE, 1978, 75.

<sup>32</sup> PEET/WOOLLEY, 1923, pl. lii no. xliii/260; ROSE, 1987a, 133, 143, vessel no. 62485.

<sup>33</sup> ASTON, 1999, 7–8.

<sup>34</sup> HOPE, 1978, 75; SEILER, 1996, 227 fabric IV.07.11; ASTON/ASTON/BROCK, 1998, 142.

<sup>35</sup> Unpublished, P. Rose, personal communication.

<sup>36</sup> BOURRIAU/ASTON, 1985, 40, fabric P11; BOURRIAU, 1990a, 21\*–22\*.

<sup>37</sup> ASTON, 1998, 71, fabric IV.07.11.

<sup>38</sup> BOURRIAU, 1990a, 21\*.

<sup>39</sup> BOURRIAU/SMITH/SERPICO, 2001, 140; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 368–9.

<sup>40</sup> SERPICO/WHITE, 1998.

<sup>41</sup> SERPICO, 2000, 458–9.

<sup>42</sup> SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 373.

<sup>43</sup> ASTON, 1999, 8.

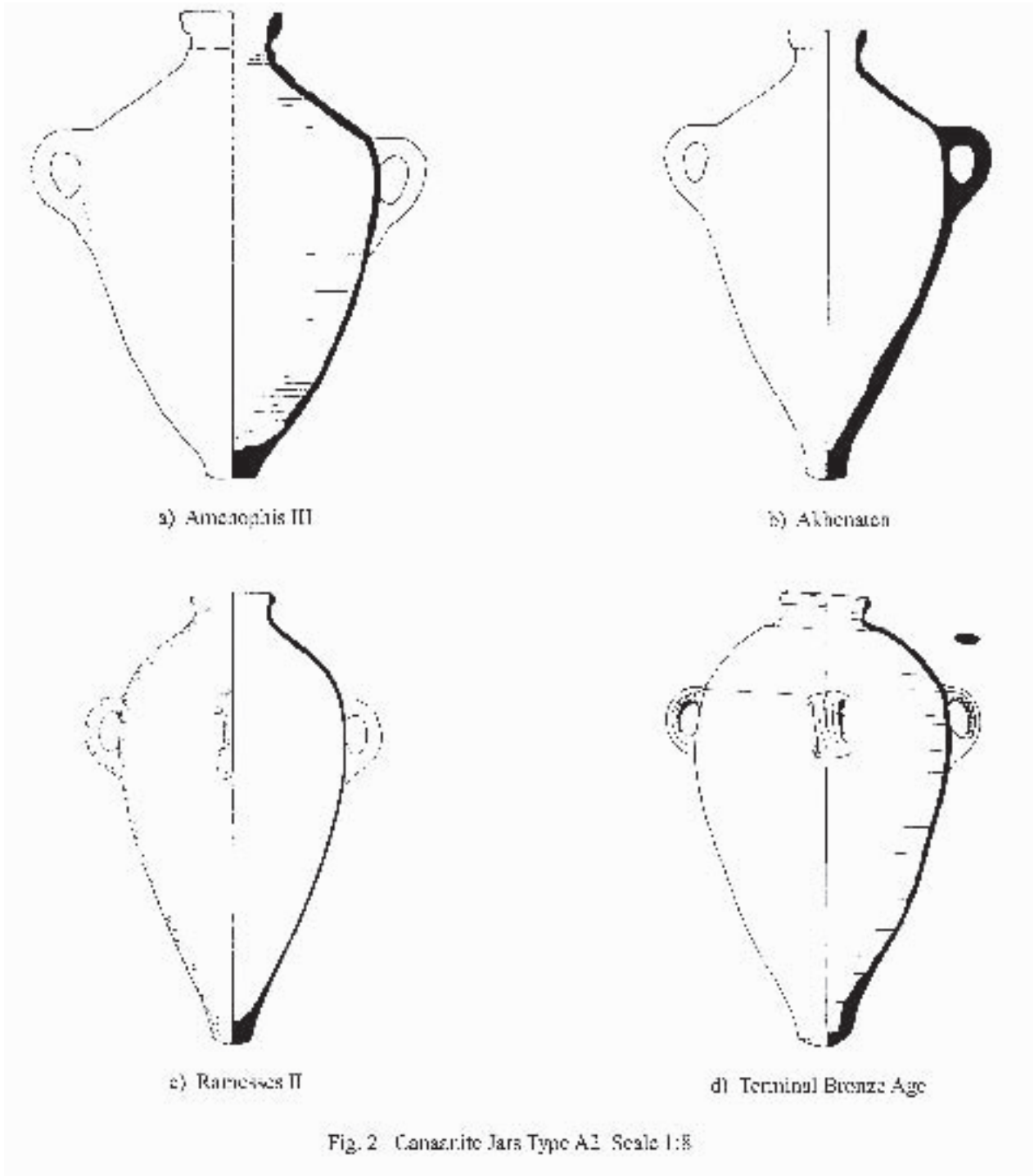
<sup>44</sup> ASTON/ASTON/BROCK, 1998, 142.

<sup>45</sup> Fabric IV.5. Unpublished, P. Rose, personal communication.

<sup>46</sup> Fabric P16, BOURRIAU, 1990a, 22\*.

<sup>47</sup> ASTON, 1998, 70, fabric IV.07.04.

<sup>48</sup> BOURRIAU/SMITH/SERPICO, 2001, 140; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 369.



ite jar fabric which shows distinct zones in section comprising an outer band of red 2.5 YR 5/8 and an inner zone of very pale brown 10 YR 7/6, though in thicker parts of the pot the inner section fires grey 10 YR 6/1. Inclusions within the

paste comprise sand, mica, small translucent pebble and numerous fine limestone particles. The outer surface fires whitish but it is not certain whether this is the result of a slip or a bloom. The fabric has also been found at Buhen<sup>49</sup> and

<sup>49</sup> SERPICO, 1999, 268.

Thebes,<sup>50</sup> and may be compared with fabric III.10 at Amarna,<sup>51</sup> and IV.07.05 at Qantir.<sup>52</sup> Fabric P39 is a Canaanite jar fabric characterised by numerous black particles filling the section. It commonly shows distinct zones in section, even in thin parts of the vessel wall. The extreme outer edge of the section may fire yellowish red 5 YR 5/6 though this outer zone is often absent. Otherwise the outer and inner surface is yellow 10 YR 7/6 with a wide grey core 10 YR 5/1. Occasionally the whole section may fire a uniform yellowish brown 10 YR 6/4–6/6. Added temper comprises ochre, pebble and abundant black grits. The surface of all examples is unslipped and fires reddish yellow 7.5 YR 7/6 to very pale brown 10 YR 7/4 and the many inclusions are readily visible in both the outer and inner surfaces of the vessel. This fabric has also been noted at Thebes,<sup>53</sup> and has been found at Amarna,<sup>54</sup> Saqqara<sup>55</sup> and Qantir.<sup>56</sup> Fabric P39, which is equivalent to Amarna IV.5, is assigned, by Bourriau, Smith and Serpico, to their Group 1, which, they propose, like P11 and P30, probably comes from the seaward portion of the Jezreel Valley to the north-east of the Carmel Ridge, where the Kishion river reaches the coastal sands.<sup>57</sup> Canaanite jars made in these fabrics (P11, P30 and P39) seem principally to have been used for the transport of pistachio resin.<sup>58</sup> Fabric P40 is extremely hard and dense, and fires in section from grey black through 7.5 YR 5/6 strong brown to 2.5 YR 5/6 red. The surface tends to fire 7.5 YR 7/4 pink owing to the application of a self slip. Inclusions within the clay include masses of coarse particles, though not so many as in fabric P16, which are especially noticeable on the inner surface where they are not obscured by any surface treatment. These inclusions comprise black and white particles, coarse straw, fine chaff and a

little sand. On all the sherds found, the self slip has been applied with a brush, and this then seems to have been burnished. Elsewhere this fabric is known in Buhen,<sup>59</sup> the Valley of the Kings,<sup>60</sup> Memphis, where it was the most common of the Canaanite Jar fabrics encountered in late Eighteenth Dynasty levels,<sup>61</sup> and at Qantir.<sup>62</sup> P40 is assigned, by Bourriau, Smith and Serpico, to their Group 4, which, they propose, probably comes from the Baer-Bassit area of Syria,<sup>63</sup> and jars made of this fabric were used for the transport of oil.<sup>64</sup> Fabric P46 is a Canaanite jar fabric in which the section of thin body sherds and the outer zones of thicker sherds is reddish yellow 5 YR 6/6. In thicker body sherds the major part of the section is a uniform dark grey. Within the paste are numerous inclusions, sand, mica, small pebbles, red particles, which often break through the surface despite the fact that pots in this fabric are covered in a thick slip which varies between light reddish brown 5 YR 6/4 to reddish yellow 5 YR 6/6. This fabric is known in small quantities at Buhen,<sup>65</sup> the Valley of the Kings,<sup>66</sup> and elsewhere at Elephantine,<sup>67</sup> Amarna,<sup>68</sup> and Qantir.<sup>69</sup> Since this fabric was identified as equivalent to fabric IV.1a by Pamela Rose, then P46 falls into Bourriau, Smith and Serpico's Group 5, which is presumed, by Yuval Goren to come from the Lebanese coast north of Byblos,<sup>70</sup> and amphorae made of this material were evidently primarily used for the transport of oil.<sup>71</sup>

## A2. (b) From the reigns of Akhenaten – Ramesses XI

The development of the type A2 storage jars after the reign of Akhenaten is hard to follow in the archaeological record since sherd material from types A2 and the common A3 (see below) would be hard to tell apart. However, by shape traits it

<sup>50</sup> SEILER, 1996, 227, fabric IV.07.05; ASTON/ASTON/BROCK, 1998, 142–3.

<sup>51</sup> NICHOLSON/ROSE, 1985, 138.

<sup>52</sup> ASTON, 1998, 70.

<sup>53</sup> SEILER, 1996, 229; ASTON/ASTON/BROCK, 1998, 143.

<sup>54</sup> Fabric IV.5, unpublished. P. ROSE, personal communication.

<sup>55</sup> Fabric P16, BOURRIAU, 1990a, 22\*.

<sup>56</sup> ASTON, 1998, 69, fabric IV.07.03.

<sup>57</sup> BOURRIAU/SMITH/SERPICO, 2001, 140; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 368–9.

<sup>58</sup> SERPICO/WHITE, 1998, 1037–48; SERPICO, 2000.

<sup>59</sup> SERPICO, 1999, 268.

<sup>60</sup> ASTON/ASTON/BROCK, 1998, 143, fabric P40.

<sup>61</sup> BOURRIAU, 1990a, 25\*.

<sup>62</sup> ASTON, 1998, 70, fabric IV.07.09.

<sup>63</sup> BOURRIAU/SMITH/SERPICO, 2001, 142; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 369–72.

<sup>64</sup> SERPICO/WHITE, 1998; SERPICO, 2000; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 372.

<sup>65</sup> SERPICO, 1999, 268.

<sup>66</sup> ASTON/ASTON/BROCK, 1998, 143.

<sup>67</sup> ASTON, 1999, 8.

<sup>68</sup> NICHOLSON/ROSE, 1985, 139, fabric IV.1a.

<sup>69</sup> ASTON, 1998, 70, fabric IV.07.06.

<sup>70</sup> BOURRIAU/SMITH/SERPICO, 2001, 143; SERPICO/BOURRIAU/SMITH/GOREN/STERN/HERON, 2003, 369–72.

<sup>71</sup> SERPICO/WHITE, 1998; SERPICO, 2000.

can be seen that the successors of the slender vessel shown in Fig. 2b are the two- and four-handled jars which Wood terms 'Tapered Store Jars' (Fig. 2c–d). Such vessels were clearly in use by the time of Ramesses II as the example found in tomb 114 at Deir el-Balah testifies,<sup>72</sup> and continued on throughout the entire LB IIB – Iron IA1 periods.<sup>73</sup> These differ from contemporary A3 jars in retaining the distinctly rounded shoulder of the A1 jars and have more slender proportions. Tapered store jars are clearly recognisable when they are found complete, such as those from Gezer,<sup>74</sup> Aphek,<sup>75</sup> Ashdod,<sup>76</sup> Lachish<sup>77</sup> and Deir el-Balah,<sup>78</sup> but would be hard to identify from sherds. One may assume that such vessels, and their contents, were imported, though perhaps in much smaller numbers than the jars of type A3, but are hard to trace in the archaeological record, though at least one slender base at Qantir may come from this type,<sup>79</sup> and a handle fragment from the tomb of Ramesses IV, which exhibits a pronounced high shoulder, may also come from a vessel of this sort.

### A3. From the reigns of Akhenaten – Ramesses IV (?)

The typical Late Bronze IIB Canaanite jar of type A3 (Fig. 3) with sharp shoulders and stump bases, was, to judge from the number of sherds found on settlement sites, particularly Amarna, Memphis in late Eighteenth–Nineteenth Dynasty contexts, including RAT 367 and 487, and Qantir, extremely popular, but very few complete, or essentially complete examples come from well-dated contexts. The complete vessel found at Amarna, and illustrated by Peet and Woolley<sup>80</sup> would appear to be the earliest datable example, and is presumably to be dated to the reign of Akhenaten. This, however, is not certain since later activity is also attested at Amarna, but a date in the time of Akhenaten is perhaps confirmed by sherds of a similar type of vessel found at Amarna in tomb 28.<sup>81</sup> On the basis of a base sherd and a handle found in context RAT 356 at Memphis, Bourriau

argues for an earlier introduction of this shape during the reigns of Tuthmosis III–IV.<sup>82</sup> Since, however, these pieces remain unpublished, their attribution to Canaanite Jars of this type, as opposed to those shown in Fig. 2 (type A2), is open to question, the more so as no other vessels of this type are known at such an early date. Dated to the reign of Horemheb are a number of A3 vessels found in his tomb at Saqqara and in that of Maya also at Saqqara. Clearly datable to the reign of Ramesses II are the examples found in the tombs of Tia and Iurudef at Saqqara, the tomb of Amenemwia, tomb 356 at Deir el-Medineh,<sup>83</sup> and tomb 114 at Deir el-Balah.<sup>84</sup> A number of incomplete vessels were found as building fill under the palace within the mortuary temple of Merenptah, and are thus datable to the reign of Merenptah at latest.<sup>85</sup> An illustration in the tomb of Tauseret, on the north wall of the burial chamber, shows an accurate representation of a LB IIB Canaanite jar, although the effect is somewhat spoiled by its blue colouring which is never found on actual vessels.<sup>86</sup> The question arises, therefore, whether this is a picture of a contemporary vessel, or as is clearly the case in the later tomb of Ramesses III, simply represents a scene of imagined tribute, copied from an earlier source.<sup>87</sup> Vessels found at Zawiyet Umm al-Rakham,<sup>88</sup> a fortress founded early in the reign of Ramesses II, have a less sharp shoulder than those found in the tombs of Tia and Iurudef at Saqqara, which probably indicates that the latter existed contemporaneously with the more gently sloping type, or that the ones found at Zawiyet Umm al-Rakham, are to be dated earlier in the reign than those found at Saqqara.

The next datable well-preserved vessel is the incomplete one associated with the tomb of Ramesses IV (Fig. 4a) but it is not clear whether it should be assigned to this type or to type A4. Although there are not many well-dated examples to play with, the illustrated examples do show the beginning of a clear typological development. The

<sup>72</sup> T. DOTHAN, 1979, 13, 16, no. 22.

<sup>73</sup> Cf. WOOD, 1985, 401–409, pls. 45–49.

<sup>74</sup> DEVER/LANCE/BULLARD/COLE/SEGAR 1974, pl. 23.1, 23.3.

<sup>75</sup> BECK/KOCHAVI, 1983, 50.

<sup>76</sup> M. DOTHAN, 1971, figs. 82.9, 83.1–3.

<sup>77</sup> AHARONI, 1975, pl. 40.12.

<sup>78</sup> T. DOTHAN, 1979, 16, 38, 55.

<sup>79</sup> Cf. however, ASTON, 1998, 640–641, no. 2602.

<sup>80</sup> PEET/WOOLLEY, 1923, pl. lii, xliii/67.

<sup>81</sup> ROSE, 1987b, 19.

<sup>82</sup> BOURRIAU, 1990a, 24\*.

<sup>83</sup> NAGEL, 1938, 4, fig. 3.8.

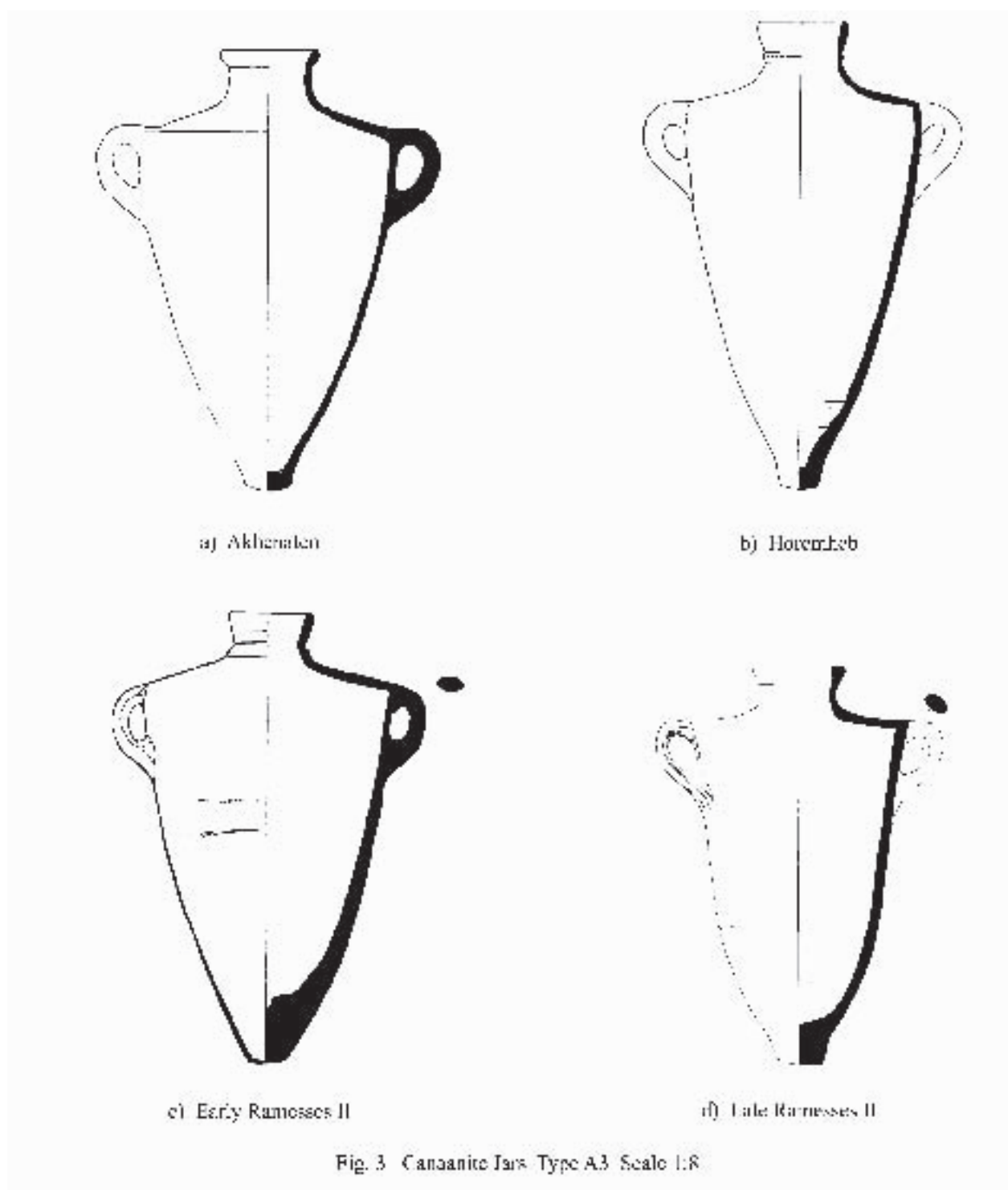
<sup>84</sup> T. DOTHAN, 1979, 14–15.

<sup>85</sup> SEILER, 1996.

<sup>86</sup> HORNUNG, 1990, 182, pl. 139.

<sup>87</sup> Cf. my comments in ASTON, 1996a, 19–20.

<sup>88</sup> SNAPE, 2000, 19 (b–d); THOMAS, 2003, 524, fig. 2 top left and bottom.

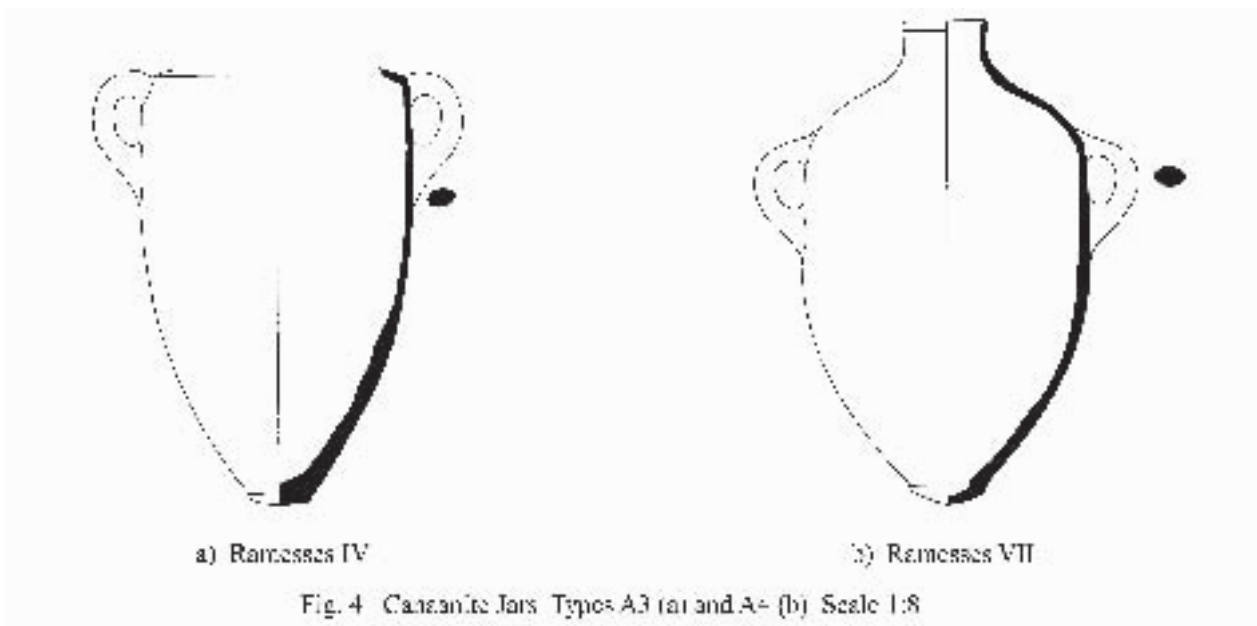


earliest tend to have an everted rim, a high shoulder and a plump body, which clearly relates them to the previous type A2 (a). By the time the Overseer of the Treasury, Maya, who probably died in or around year 9 of Horemheb,<sup>89</sup> was buried, the rims

are no longer so distinctly rolled, the shoulders are more depressed, and the body proportions are taller and slender. By late in the reign of Ramesses II, the shoulders have become practically flat, and the bases wide and heavy. It should be noted that

<sup>89</sup> VAN DIJK, 1988, 14; IDEM, 1990, 25–26; IDEM, 1992, 31.





the apparent type with thin peg-bases as illustrated by Bruyère<sup>90</sup> does not exist. A later photograph of one of these clearly shows a much wider base<sup>91</sup> with the whole vessel typologically falling perhaps between those found in the tomb of Maya, and those from the tombs of Tia and Iurudef, and are thus probably to be dated to the early part of the reign of Ramesses II.

From the evidence provided by Qantir, Memphis, Amarna and the mortuary temple of Merenptah, it is clear that the fabric types utilised in the previous phase continue, that is fabrics P11, P16, P30, P39, P40 and P46. Others may be encountered from time to time, but it is clear, that, as in Egypt, amphorae production had become somewhat centralised.

#### A4. From the reigns of Ramesses IV (?) – Ramesses XI

Canaanite jars which can be assigned to the Twentieth Dynasty are rare. Several fragments come from the tombs of Ramesses IV, VI and VII, but only one could be entirely restored. That vessel, from the tomb of Ramesses VII (Fig. 4b), is clearly Iron I in character and differs markedly from the LB IIB type A3. This vessel has a rolled rim, rounded shoulder, fat body and a distinctly offset base, and as far as I am aware, is only one of three well-preserved examples of this type known to

have been found in Egypt, though from sherds alone it would be hard to tell the difference between jars of LB IIB type (here type A3) and those of the early Iron Age (here type A4). A second example may derive from the River Temple site at Amarna, though that example has a much shorter neck.<sup>92</sup> An example found at Zawiyet Umm al-Rakham in a fortress founded by Ramesses II is somewhat of an enigma.<sup>93</sup> Its plump body, sloping shoulders and offset disc base would appear to indicate that the vessel is of this type, but a dating into the reign of Ramesses II would make this vessel the earliest one known. However, as Snape points out, the fortress was occupied by squatters after it had gone out of use either already during the reign of Ramesses II, or during the reign of Merenptah, and this vessel may have found its way here during this period of squatter occupation. The other example, found in Egypt, which does not preserve the complete profile, comes from Saft el-Henneh, where it was mistakenly dated to the Saite–Ptolemaic periods.<sup>94</sup> Whilst Iron Age Palestinian storage jars have been much discussed in recent years, this discussion has tended, owing to the vagaries both of archaeological chance and, unfortunately, modern politics, to have concentrated on the later stages of the Iron Age,<sup>95</sup> or, for the early periods, on, what

<sup>90</sup> BRUYÈRE, 1929, 137, fig. 79.

<sup>91</sup> NAGEL, 1938, 123, fig. 111.

<sup>92</sup> PEET/WOOLLEY, 1923, pl. liv, type lx/82.

<sup>93</sup> SNAPE, 2000, 19 (a); THOMAS, 2003, 524, fig. 2 upper left.

<sup>94</sup> PETRIE, 1906, pl. xxxixG, no. 207.

<sup>95</sup> Most recently, ZIMHOVI, 1990.

is today Northern Israel.<sup>96</sup> Our vessel, however, clearly comes from Southern Palestine and probably originated in what is today the Gaza Strip, or the Shephelah region of Israel. These jars have been little discussed except by Amihai Mazar, who points out that the type seems to have developed in south Canaan during the thirteenth century BC., possibly at the end of the LB IIB period, but certainly continuing in the Iron I period, going out of use during the late twelfth century BC., and could have either two or four handles.<sup>97</sup> In this respect the body of a jar associated with the tomb of Ramesses IV (Fig. 4a) shows somewhat hybrid traits of both types A3 and A4, in that the overall proportions relate better to type A3, but the less flat shoulder and the distinct offset base is more reminiscent of type A4.

#### A5. Small Bichrome Canaanite Jars

At least three complete small bichrome Canaanite jars have been found in Egypt and Nubia – two from Fadrus (Fig. 5c)<sup>98</sup> and a previously unpublished example from Tell Hebwa IV (Fig. 5a). The latter is of Epstein's type B.1.b with an ovoid body, short wide concave neck, thickened rim and two handles at the mid body.<sup>99</sup> The fabric description of the two examples found at Fadrus is not definite enough to decide whether they are true imports or local imitations, but it is probably fair to assume that they are indeed imports. One example was found in tomb 245, and the other in

tomb 352, both of which are assigned to Fadrus IIc and correlated with the reigns of Amenophis II – Tuthmosis IV.<sup>100</sup> A fragmentary example (Fig. 5b) of unknown origin, has also been found at Ezbet Helmi.<sup>101</sup> The latter differs from the above vessels in having a modelled rim, being narrower in the body, and is more sloppily painted, though in having cross-hatched band decoration, may be slightly later than the example from Tell Hebwa IV, which is painted with simple linear patterns.<sup>102</sup> Fragments of yet another bichrome amphora, – the so-called 'leopard pot' – again of unknown origin, are also known from Ezbet Helmi.<sup>103</sup>

#### NILE VALLEY AMPHORAE

Although New Kingdom Egyptian amphorae are made of a number of fabrics, the majority are made of Marl D, a term which is not clay specific, but rather is used to cover a group of similar fabrics, and its imitations, fabrics G6a and G6b. Bourriau and Nicholson originally included two common New Kingdom fabrics, Bourriau's H1 and H14 fabrics within the Marl D grouping,<sup>104</sup> later reclassifying H14 as a mixed clay.<sup>105</sup> Whilst this may be technically correct, I prefer to classify H14, rightly or wrongly, as a Marl F fabric, since it is most common in the Eastern Delta (Qantir fabric II.F.02), and, whilst it is often used for the same types of vessels as those made in fabric H1, there are some differences in its physical proper-

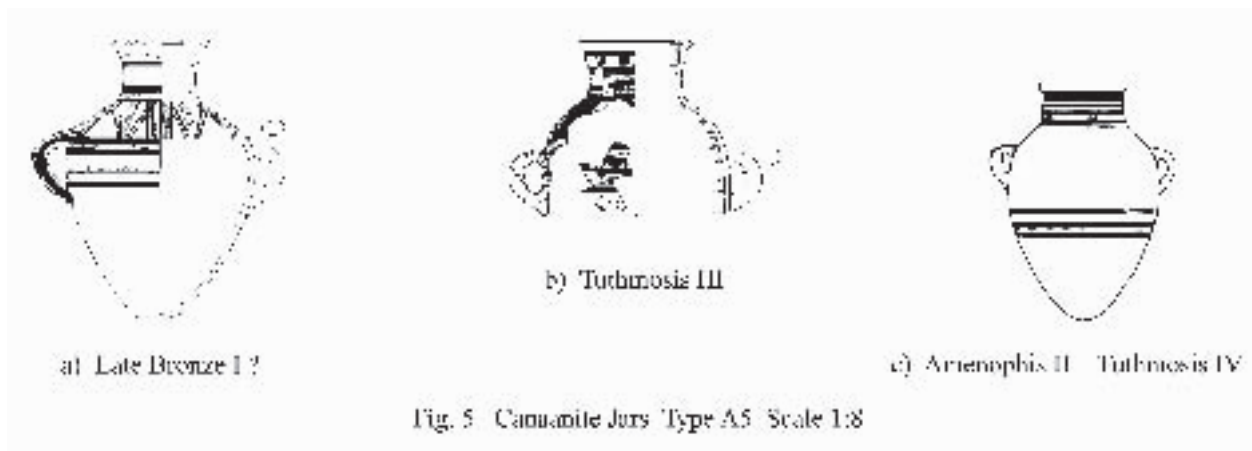


Fig. 5. Canaanite Jars Type A5 Scale 1:8

<sup>96</sup> Cf. BIRAN, 1989.

<sup>97</sup> MAZAR, 1981, 23–27.

<sup>98</sup> HOLTHOER, 1977, pl. 22, type AO 2/1P/3P/f-g.

<sup>99</sup> EPSTEIN, 1966, 17, pl. viii.

<sup>100</sup> TROY, 1991, 223, 231, 267, 272.

<sup>101</sup> HEIN, 2001, 240, 245, no. 8106A.

<sup>102</sup> Cf. BIETAK, 2001, 177.

<sup>103</sup> HEIN, 1994, 261, no. 359; and forthcoming.

<sup>104</sup> BOURRIAU/NICHOLSON, 1992, 51.

<sup>105</sup> BOURRIAU/SMITH/NICHOLSON, 2000, 23–24.

ties which have a great bearing on the coherent strength of the vessels for which it is used. Note, in this respect, that, unlike H1, H14 is never used for the production of meat jars. Fabric H1 clearly evolved during the early Eighteenth Dynasty, had become extremely common by the reign of Amenophis III, and petered out during the late Nineteenth or early Twentieth Dynasty, whence it was seemingly replaced by fabrics G6a and G6b. Marl D, as exemplified by H1,<sup>106</sup> is an extremely hard and dense fabric in which the colour of the section ranges from red 2.5 YR 4/8 to greyish brown 2.5 Y 5/2 to pale olive 5 Y 5/3, but is more often than not dark brown with sometimes bands of red on either side at the inner and outer surfaces.<sup>107</sup> In some examples the entire section is red. The surface colour also seems to vary through the same range of colours and all examples are covered in a thick cream 10 YR 8/3 slip. The most distinctive characteristic of this fabric is the large amount of irregular limestone particles scattered throughout the matrix. These give the surface a gritty texture and show up most clearly within the red bands of the section. Other inclusions are sand, fine mineral particles and sometimes a little fine chaff. There are few air holes and the texture varies from medium to coarse. The outer surface is always covered in a thick cream to pale olive slip which is sometimes burnished. Marl D is very common in the Eastern Delta and Memphis/Fayoum regions from the mid Eighteenth Dynasty until the end of the New Kingdom. Marl D, as represented by fabric H1 may be equated with Hope's fabrics Ba.I from Malkata<sup>108</sup> and Type IV from Amarna,<sup>109</sup> Rose's fabrics III.3 and III.6,<sup>110</sup> and fabrics II.D.01–02 at Qantir.<sup>111</sup> Fabrics G6a and G6b have recently been subject to a detailed examination by Bourriau, Smith and Nicholson,<sup>112</sup> who come to the following conclusions. Firstly fabric G6a dates (principally) from the Nineteenth and Twentieth Dynasties and was utilised most often for the production of amphorae. Visually it looks very similar to Marl D, even to the extent of having limestone particles within the paste, but Neutron Acti-

vation Analysis indicates that this clay ought to be classified as a Nile silt. Memphis fabric G6b, on the other hand, was thought to be an example of a mixed clay, i.e. a mix of both marl and silt clays, though the question must be asked whether this mixing occurred as a deliberate admixture by the potters or as the result of natural processes. Without explicitly stating as much, Bourriau, Smith and Nicholson, imply that this admixture was done by the potters themselves,<sup>113</sup> though the present writer is of the contrary opinion. As Bourriau, Smith and Nicholson state, the visual differences between Marl D and fabrics G6a and G6b are slight – indeed fabric G6 (before it was subdivided into G6a and G6b) was first thought to be a variant Marl clay – the attribution of fabric G6a to a Nile clay only came about as the result of neutron activation, and G6b to a mixed clay as the result of thin section analysis. The point remains that, to the naked eye, all three clays are very similar to each other. Moreover, as the authors themselves also point out, fabrics G6a and G6b were utilised for the same vessel shapes as Marl D, especially in the production of amphorae. In terms of G6a they write, “that they were made in the same workshops as the amphorae made in Marl D. Moreover, amphorae of the same shape were also made in a mixed clay fabric (Memphis G6b). This suggests specialisation in the making of amphorae defined by the vessel shape and function and not by the material” and “we can also see that the manufacturing tradition involved in the production of amphorae belonged to that of Marl clay pottery making even when Nile clays were used.”<sup>114</sup> I would contend that the potters who produced the amphorae in fabric G6a did not even realise that it was a ‘Nile’ clay. Rather I would think that the raw clay behind fabrics G6a and G6b are natural mixtures, which, to all intents and purposes, appeared to the potters to be so similar to Marl D that they were utilised as if they were Marl D. This is not so far-fetched as it may seem. Karl Butzer has long ago pointed out that clays laid down at wadi mouths are naturally mixed as a result of

<sup>106</sup> BOURRIAU/ASTON, 1985, 38–39.

<sup>107</sup> NORDSTRÖM/BOURRIAU, 1993, 181–2.

<sup>108</sup> HOPE, 1978, 67–68.

<sup>109</sup> HOPE/BLAUER/RIEDERER, 1981, 161.

<sup>110</sup> NICHOLSON/ROSE, 1985, 136–37.

<sup>111</sup> ASTON 1998, 65–66.

<sup>112</sup> BOURRIAU/SMITH/NICHOLSON, 2000, 17–24.

<sup>113</sup> BOURRIAU/SMITH/NICHOLSON, 2000, 31.

<sup>114</sup> BOURRIAU/SMITH/NICHOLSON, 2000, 28.

<sup>115</sup> BUTZER, 1974.

flash floods,<sup>115</sup> and this may well be the answer – G6a having more sand and less dissolved limestone in the matrix than G6b. Neither the clay sources of Marl D (and G6a–b), nor any kiln sites have ever been found, but the consensus of ceramicists is that it most likely comes from a single source, located somewhere in the Memphis-Fayoum region. McGovern has suggested that Marl D meat jars were made in Thebes since a number of sherds from such jars found in Thebes bear hieratic docketts which refer to the palace of Malkata or to Theban officials,<sup>116</sup> though such a contention has been heavily criticised on methodological grounds.<sup>117</sup> On the basis of NAA studies McGovern claims that Marl D comes from Thebes; however, his results only proved that all the Marl D samples he sampled from Thebes were indeed similar to one another, thus proving the ‘firm chemical basis’ for Marl D, yet differed to any NAA samples in his databank. Thus, simply because no similar pieces were found in the databank, which as he admits is concerned primarily with sherds of a different age – the Middle Bronze Age – and a different area – the Levant, he concluded that the sherds must have been made in the place where they were found. This is all the more surprising since, as he points out, the docketts on the Marl D amphorae sherds which he sampled are very definite about where most of the wine was produced: the region of the Western River, in the north-western Nile Delta. Thus one is left with the problem of how Delta wine finds its way into locally produced Theban amphorae. There are, as McGovern rightly states, two logical ways of bringing both commodities in contact with one another; either the amphorae are shipped empty to the wine source, or the wine is shipped to the bottling source. Theban tomb scenes depicting ships loading or unloading amphorae would support either interpretation since it is never stated whether the amphorae are empty or full. Since, however, the same Theban tomb scenes show, in McGovern’s own words, “the process of viticulture and viniculture from the trellised vineyards to the treading of the grapes in circular vats to the bottling and storage of the wine in amphoras”, these scenes surely imply that the wine was bottled at the place where

it was produced. Thus if the amphorae were indeed made in Thebes, then the supposition that the amphorae were shipped empty to the wine producing regions is the more likely of the two possibilities. Surprisingly, McGovern rejects this method in favour of transporting the wine to Thebes, and rebottling it there in a “royal pottery producing centre and central registration facility” in “locally made amphoras which were of uniform type, fabric, labelling and sealing.”<sup>118</sup> In postulating such a scenario McGovern has problems to explain how two docketts found at Thebes relating to wine from the oases are not on Marl D sherds, but on oases clay fabrics, and can only conclude that the oases had their own royal pottery centres, producing good amphorae, so that the wine would not need to be rebottled once it arrived in Thebes. The fact, however, that one oasis docket is appended to what he called a Marl D amphora is conveniently overlooked!<sup>119</sup> If, with McGovern, Marl D vessels were made in the Theban region it should follow that all known forms made in this fabric should be overwhelmingly abundant in this area, but this is not the case. With the exception of amphorae, which are found throughout Egypt, the greatest number of shapes, and the largest percentage of Marl D in relation to other Marl clays is to be found in the Eastern Delta and the Memphite/Fayoum region, which strongly implies, as has previously been argued by ceramicists, that the origin of this clay is to be sought in the north from whence finished vessels were exported throughout the Nile Valley. It is perhaps a little strange that, before announcing a Theban origin for Marl D, McGovern did not sample any material from the Memphite/Fayoum region, which if that was of a different chemical composition may well have proved his point, but on the other hand, if the Memphite/Fayoum sherds had the same composition this would undermine McGovern’s viewpoint that as long as there are no samples in his databank it must follow that the sherds come *a priori* from the place where they were first sampled. However, whilst McGovern is probably wrong in his methodology, there is indeed another, somewhat rare, variant of Marl D which is found at Thebes. This is somewhat coarser than normal Marl D, with the

<sup>116</sup> HAYES, 1951, 91–92; MCGOVERN, 1997, 76, 79.

<sup>117</sup> HOPE, 2002; BOURRIAU, forthcoming.

<sup>118</sup> MCGOVERN, 1997, 89, 92.

<sup>119</sup> MCGOVERN, 1997, 100, no. 28.

noticeable addition of organic temper, and this may indeed have been made locally.<sup>120</sup>

### B1. Marl D amphorae to the reign of Ramesses II

Unfortunately little can be said about Egyptian amphorae before the reign of Tuthmosis I, since very few early New Kingdom amphorae have been published with enough fabric details to know whether the vessels concerned are genuine Egyptian vessels, or whether they are Canaanite imports. Egyptian produced amphorae are certainly known in late Hyksos levels at Tell el-Dab<sup>c</sup>a, where they were made of Nile clay, but the earliest unequivocally dated Egyptian amphorae of the New Kingdom must be those with the stamped cartouches of Tuthmosis I known from Serra East,<sup>121</sup> Deir el-Medineh<sup>122</sup> and East Karnak (Naga al-Tawil). None of these vessels is complete, and in the case of those from Serra East and Deir el-Medineh not enough is preserved to indicate the complete shape, and no indication of the fabric is given. The indisputably Marl D vessel from Naga al Tawil, Fig. 6a, is also incomplete, but enough is preserved to show that a vessel of type B1 is concerned.<sup>123</sup> Amphorae of type B1 have rolled rims, short necks, rounded shoulders and slender bodies tapering down to a slightly carinated base. Generally thrown in at least three parts, the bases tend to be mould made, though some examples from the Memphite tomb of Horemheb have coiled bases, with the body and neck being thrown on the wheel. Bourriau, however, has argued for an earlier introduction of Egyptian made amphorae based on a supposed Marl D amphora handle from Memphis RAT 707, a presumed late Second Intermediate Period context.<sup>124</sup> This deposit comes from the sand layer, Level V, but as neither the clay has been analysed, nor the context published, and moreover, as she admits, “the date and the duration of Level V is still a mat-

ter for discussion and it should be stressed that we have no evidence upon which to hang an absolute date,”<sup>125</sup> this context is best ignored until it can be fully evaluated. An amphora of the type shown in Fig. 6b found in cemetery 185, tomb 196 at Fadrus is dated to the Eighteenth Dynasty before the reign of Hatshepsut by correspondence analysis,<sup>126</sup> but, from the published fabric description it is not clear whether the vessel is of Egyptian or Canaanite origin. Many evidently Egyptian amphorae, since they bear stamped cartouches on the shoulder, are known from the reigns of Hatshepsut and Tuthmosis III, though again no indication of fabric is given. Numerous examples of such amphorae, are known from the “Nécropole de l’Est” at Deir el-Medineh,<sup>127</sup> but the only stamped vessel illustrated by Bruyère<sup>128</sup> is an incomplete one that differs markedly from his other illustrated examples which are distinctly wider.<sup>129</sup> Consequently the complete shape of these Egyptian amphorae cannot be ascertained, nor can it be decided whether the illustrated complete vessels are Egyptian or Canaanite imports. The next datable, indubitably Marl D, amphorae are an incomplete example (Fig. 6c) from Ezbet Helmi, stratum c, currently equated with the reign of Tuthmosis III, those from Theban Tomb 87 (Fig. 6d) which are assumed to belong with the first use of the tomb, i.e. to the time of the original owner, Nakhtmin, who was in high office from the reign of Hatshepsut to at least year 34 of Tuthmosis III,<sup>130</sup> and those from the tomb of the three foreign wives of Tuthmosis III, of which the pottery assemblage found therein is dated to the end of the reign of Hatshepsut or to the beginning of Tuthmosis’ sole reign.<sup>131</sup> Although Helmi stratum c probably dates to the second half of the reign of Tuthmosis III, it is possible that the amphora is an old one since the general shape is closer to the pre-Hatshepsut vessel than to that found in the

<sup>120</sup> ASTON/ASTON/BROCK, 1998, 140–141, ‘Marl G’. Note that in the meantime I have seen the ‘Theban’ sherds analysed by MCGOVERN, and none are of this coarse variety.

<sup>121</sup> HUGHES, 1963, 129; KNUDSTADT, 1966, 172.

<sup>122</sup> NAGEL, 1938, 129, no. 10.

<sup>123</sup> I thank Ted Brock for the possibility to examine this piece and to include a drawing of it here.

<sup>124</sup> BOURRIAU/SMITH/NICHOLSON, 2000, 18; BOURRIAU, forthcoming.

<sup>125</sup> BOURRIAU, forthcoming.

<sup>126</sup> For the vessel see HOLTHOER, 1977, pl. 22, type AO1, and for the date, TROY, 1991, 223, 264.

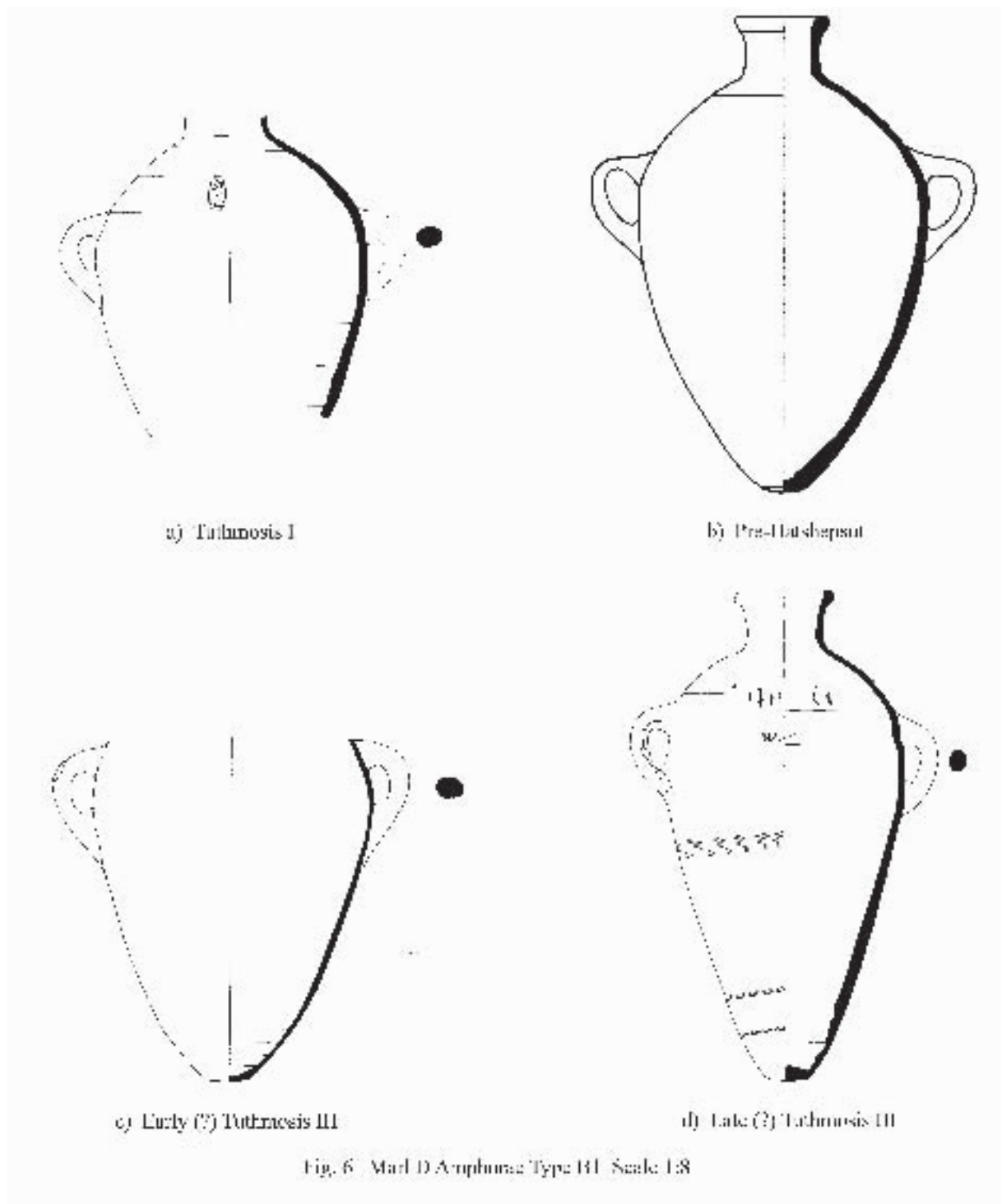
<sup>127</sup> BRUYÈRE, 1937b, 93, with an illustration of a complete vessel on p.95, fig. 48.1, though this one does not appear to be stamped.

<sup>128</sup> BRUYÈRE, 1937a, 51.

<sup>129</sup> Cf BRUYÈRE, 1937a, 51 with BRUYÈRE, 1937a, 15, fig. 6, and BRUYÈRE, 1937b, 95, fig. 48.

<sup>130</sup> GUKSCH, 1995, 82, fig. 36a–d. The vessels were shown to the present writer by Heike Guksch, and it is clear that these are of the coarse (Marl G) variety.

<sup>131</sup> LILYQUIST, 2003, 73, 76, 101–103, figs. 75a–e, 76a–b, 77a–b.

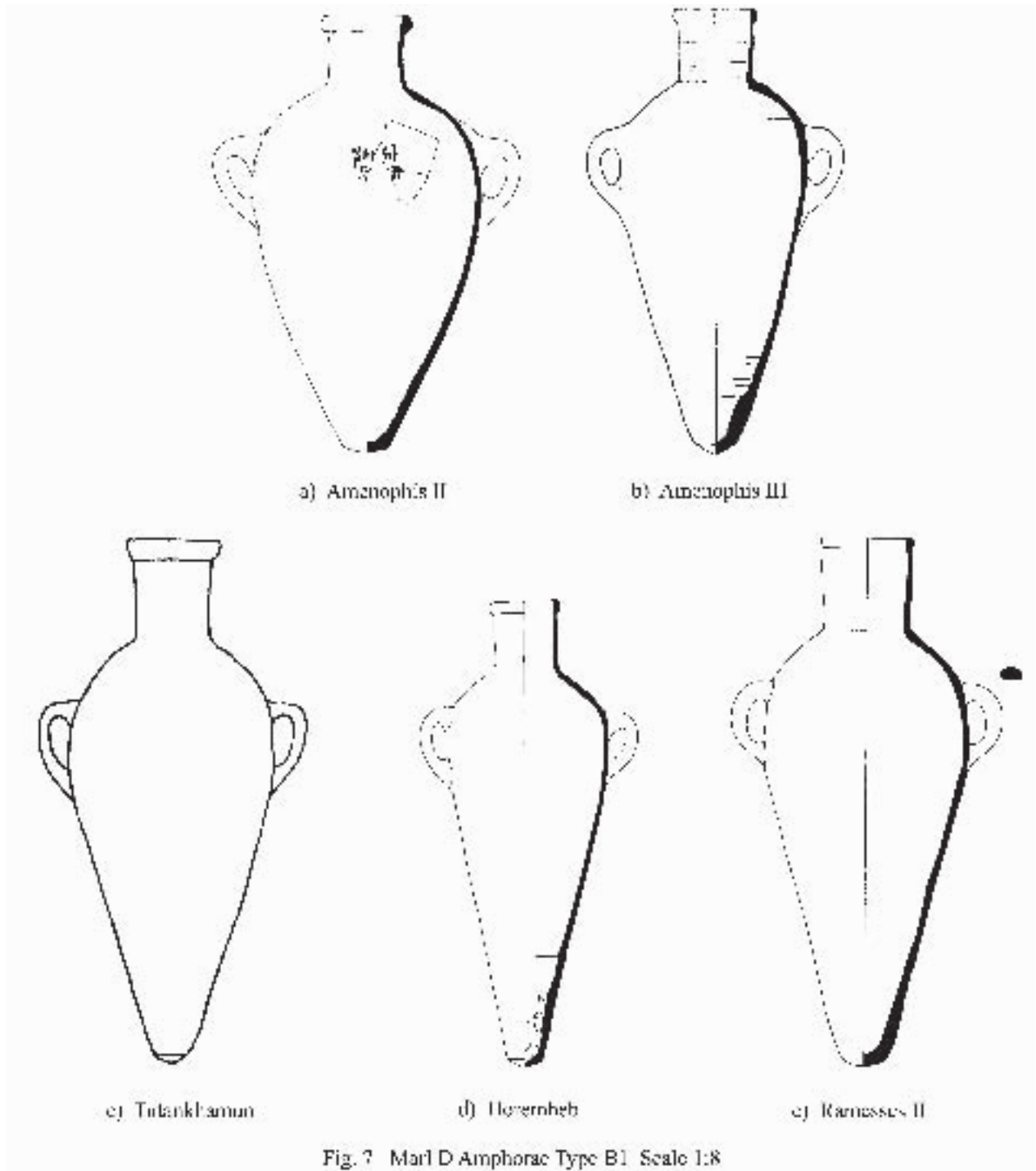


tomb of Nakhtmin. Fragmentary examples with stamped cartouches of Tuthmosis III known from Deir el-Medineh, fabric not stated, are clearly of type B1,<sup>132</sup> whilst Mar D sherds from Level IV at

Memphis are also typed to this sort.<sup>133</sup> Perhaps of similar shape is the fragmentary example with stamped cartouches of Tuthmosis III, found, out of context, in the Scandinavian concession in

<sup>132</sup> BRUYÈRE, 1937a, 51, fig. 25.3.

<sup>133</sup> BOURRIAU, forthcoming.



Nubia.<sup>134</sup> From the reign of Tuthmosis III onwards this kind of amphora becomes extremely common, and many have been found in well dated contexts, or bear docket referring to year dates of given

kings, covering almost every reign up to and including that of Ramesses II, as can be seen in Fig. 7. A representative sample is given in the following Table 1, though this list is far from complete:

<sup>134</sup> HOLTHOER, 1977, pl. 44.3.

REIGN	LOCATION	DATING EVIDENCE
Tuthmosis III	Tomb of Nakhtmin	
Tuthmosis III	Tomb of Three Foreign Wives	
Amenophis II	Tomb of Tjanuni at Thebes	Inscribed docket <sup>135</sup>
Amenophis III	Malkata	Palace of king <sup>136</sup>
Amenophis III	Deir el-Medina	Year 30 docket <sup>137</sup>
Amenophis III	Tomb of Tutankhamun	Year 31 docket <sup>138</sup>
Tutankhamun	Tomb of Tutankhamun	Sealings of king <sup>139</sup>
Horemheb	Tombs 359/360 Deir el Medineh	Year 2 docket <sup>140</sup>
Horemheb	Tomb of king at Saqqara	
Horemheb	Tomb of Maya at Saqqara	Year 9 <sup>141</sup>
Horemheb	Sedment Tomb 406	Year 12 docket <sup>142</sup>
Ramesses II	Tomb of Tia and Tia at Saqqara <sup>143</sup>	
Ramesses II	Tomb of Iurudef at Saqqara <sup>144</sup>	
Ramesses II	Tomb 356 Deir el-Medineh <sup>145</sup>	
Ramesses II	Tomb 1164 Deir el-Medineh <sup>146</sup>	
Ramesses II	Tomb 114 Deir el-Balah <sup>147</sup>	

Table 1

Although no complete example has ever been published from Amarna, Marl D amphora sherds found there would appear to be of this type,<sup>148</sup> and, if dated to the reign of Akhenaten, would fit very well within the above sequence. A number of vessels, which are clearly of this type, and certainly made of Marl D, come from the mixed tomb group Deir el-Medineh tombs 359/360,<sup>149</sup> but unfortunately cannot be used in a typological study, since tomb 359 was made for Inherkha, sometime between years 31 of Ramesses III and year 1 of Ramesses VI, although he himself may not have died until the beginning of the reign of Ramesses IX,<sup>150</sup> whilst tomb 360 was made for his grandfather, Kaha, who presumably died during the reign of Ramesses II. Whilst tomb 360 was burnt, it follows that any burnt pottery can be assigned to tomb 360, but the remaining unburnt pottery cannot be ascribed to either tomb. The amphora with the Horemheb year 2 docket on its shoulder pre-

sumably belongs with tomb 360, though it is clearly an old vessel whilst those with dockets mentioning year dates 36, 40, and 46–49 are presumably to be dated to the reign of Ramesses II, assuming these jars were not reused at the time these dockets were applied. The two vessels with year dates 6 and 19 could refer to any of the Nineteenth or Twentieth Dynasty kings who reigned that long. Thus for dating purposes most of the pottery from this large assemblage is of little chronological value. What is clear, however, from the above, and from a cursory glance at any other provincial New Kingdom cemetery is that no vessel of this slender type and undoubtedly made of Marl D, can be dated later than the reign of Ramesses II. The apparent vessel of this type, dated to year 13 of Ramesses III,<sup>151</sup> therefore does not fit into this sequence of well dated jars, and although I have not seen the vessel concerned, it is probable that it is either an old vessel with a new

<sup>135</sup> BRACK/BRACK, 1977, 70, Taf. 63, nos. 2/28–29.

<sup>136</sup> HOPE, 1989, 27, fig. 7a–b, pl. 7c.

<sup>137</sup> BAVAY/MARCHAND/TALLET, 2000, 81–82, fig. 1a–c.

<sup>138</sup> Amphora no. 563, ČERNÝ, 1965, 3, no. 25; HOLTHOER, 1993, 54, no. 25.

<sup>139</sup> HOPE 1993.

<sup>140</sup> NAGEL, 1938, 15, 17, no. 6.

<sup>141</sup> ASTON, 2001, 187, fig. 10.

<sup>142</sup> MARTIN, 1988, 118–120.

<sup>143</sup> ASTON, 1997a, 91–92, pl. 120, nos. 160–161.

<sup>144</sup> ASTON, 1991, 52, pl. 52, no. 59.

<sup>145</sup> NAGEL, 1938, 4, fig. 2.33.

<sup>146</sup> NAGEL, 1938, 73, nos. 1–5.

<sup>147</sup> T. DOTHAN, 1979, 14, no. 16.

<sup>148</sup> Cf. NICHOLSON/ROSE, 1985, 135, 137, type 21; HOPE, 1991, fig. 19c.

<sup>149</sup> NAGEL, 1938, 14–51.

<sup>150</sup> ČERNÝ, 1973, 308.

<sup>151</sup> SPIEGELBERG, 1923, 27.

<sup>152</sup> FIRTH, 1915, 150, pl. 22b.



inscription, or, more likely, a vessel made of Marl F (cf. below section C1). From the illustrated examples it is clear that Wood's basic theory that Egyptian amphorae become more slender, and taller over time is indeed true when applied to Marl D type B1 vessels.

An interesting aspect of B1 amphorae production is the use of polychrome (post-firing) decoration applied to a number of examples primarily destined for burial in tombs. One of the earliest painted amphorae must be that from grave 102 in Reisner's cemetery 96 in Nubia. This amphora, which by the associated pottery certainly dates to the reign of Tuthmosis III, is decorated with at least two thin downward pointing triangles.<sup>152</sup> The most spectacular polychrome amphorae, however, are those dated to the reigns of Amenophis II/Tuthmosis IV. Two vessels from the tomb of Tjanuni are decorated with representations of vines and grapes,<sup>153</sup> ideal subjects for wine containers. A series of sherds found in Shaft iv of the Memphite tomb of Horemheb, which come from at least nine amphorae of Type B2, were found to bear polychrome decoration. When reconstructed these were seen to bear decoration in red, black and yellow, which clearly represented stylised floral garlands, spanning the pot at shoulder level. In each case the two handles of the vessel had been used to divide the circumference of the vessel into two halves, with the stylised collar being painted only on the 'front' of the pot, with the back showing various ties.<sup>154</sup> The use of a stylised collar is particularly appropriate for vessels placed in a tomb, if, as Bell argues, the floral collar is connected with concepts of rebirth and regeneration.<sup>155</sup> Those found in domestic contexts such as Malkata,<sup>156</sup> Amarna<sup>157</sup> and Memphis<sup>158</sup> may have been used only on festive occasions.<sup>159</sup>

## B2. Marl D Amphorae Ramesses II – Sethnakhte/Ramesses III ?

Whilst the Marl D vessels with slender, tapering bodies do not seem to outlive the reign of Ramesses II, a new type of amphora begins during the same reign. At first, this new type, with its wider body and distinctly carinated base (Fig. 8a), is found alongside the older form, but then gradually replaces it. Good examples of both types are found together in the tombs of Tia and Tia,<sup>160</sup> and Iurudef at Saqqara,<sup>161</sup> both securely dated to the reign of Ramesses II, with less well-dated examples being found at Gurob<sup>162</sup> Riqqeh,<sup>163</sup> Harageh<sup>164</sup> and Deir el-Medineh.<sup>165</sup> At Qantir in area Q I, Marl D amphorae types B1 and B2 are found in equal abundance, again illustrating the fact that both types were current during the reign of Ramesses II. Like type B1, B2 amphorae have mould made bases and separately wheel thrown bodies and necks. Why this change in the morphology of Marl D amphorae should occur is difficult to explain, the more so when the contemporary Marl F vessels (see below) continue the old tapering style. A number of reasons, however, come to mind, and may be worthy of discussion. One possibility is that the wine industry underwent major changes, leading to a decline in the demand for Marl D amphorae, or conversely the ceramic industry itself underwent major changes. If one considers the wine industry itself, it is remarkable that the docketts from Malkata and Amarna indicate that most of the wine comes from the vineyards located on the Western River,<sup>166</sup> and is bottled in Marl D (H1) amphorae, whereas the docketts from the Ramesseum indicate that most of the wine comes from the Eastern Delta, and is bottled in Marl F (H14) amphorae.<sup>167</sup> Whilst this may simply be the result of chance, it is very possible that the moving of

<sup>153</sup> BRACK/BRACK, 1974, 67–68, pls. 15b, 63.

<sup>154</sup> EYRE, 1996, 12–13, pls. 50–52, nos. 25a–b, 27b–d, 29; BOURRIAU/ASTON/RAVEN/VAN WALSEM, in press, figs. 33–34. Fragments of at least one more were discovered in the surface debris over the tomb of the Overseer of the Treasury, Maya, in 1987, whilst sherds of another have been found, out of context, in the area of the Anubeion (P.G. French, personal communication).

<sup>155</sup> BELL, 1987, 56–7.

<sup>156</sup> HOPE/BLAUER/RIEDERER, 1981, 145 (Malkata '73/K5); HOPE, 1989, 124, pl. 7a.

<sup>157</sup> HOPE/BLAUER/RIEDERER, 1981, 143 (UC.24662); ROSE, 1987, 120–122; BELL, 1997, 71–72, n.87; HOPE, 1989, 124, pl. 7b.

<sup>158</sup> Unpublished EES excavations at Kom Rabi'a, 1986.

<sup>159</sup> As suggested by HOPE, 2001, 26.

<sup>160</sup> ASTON, 1997a, 92, pl. 120, no. 162.

<sup>161</sup> ASTON, 1991, 52, pls. 50–51, nos. 56–58.

<sup>162</sup> PETRIE, 1890, pl. xxi.42; IDEM, 1891, pl. xix (top) 2; LOAT 1905, pl. ii.27; BRUNTON/ENGELBACH, 1927, pl. xxxviii, type 46o.

<sup>163</sup> ENGELBACH, 1915, pl. xxxvii.46h–j.

<sup>164</sup> ENGELBACH, 1923, pl. xlv.46j.

<sup>165</sup> NAGEL, 1938, 26, nos. 39–40.

<sup>166</sup> HAYES, 1951; LEAHY, 1978, 1985; MCGOVERN, 1997; TALLEY, 1998, 248–250.

<sup>167</sup> SPIEGELBERG, 1923; KITCHEN, 1992; TALLEY, 1998, 248–250.

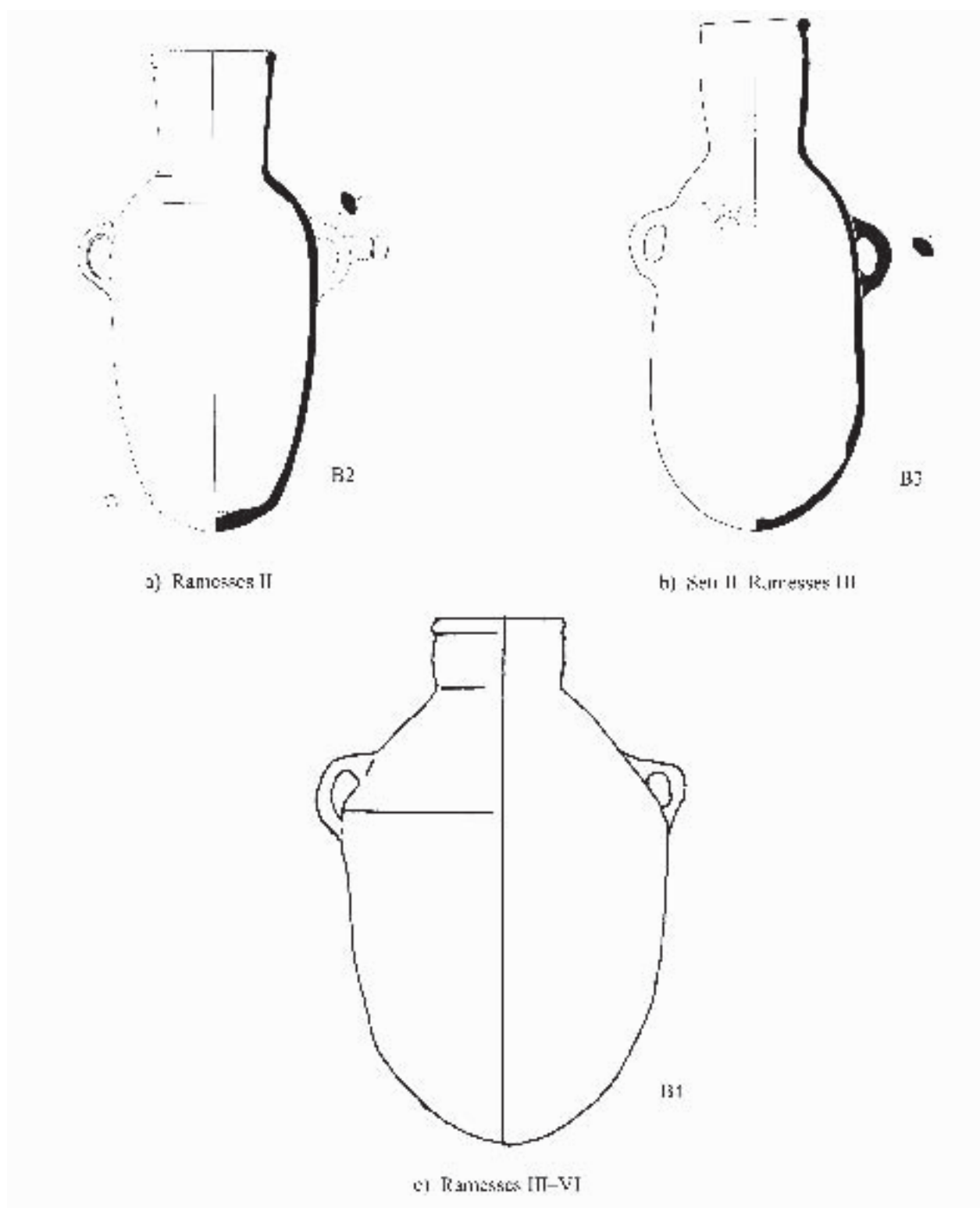


Fig. 8 Marl D Amphorae Types B2B4 Scale 1:8

the Dynastic capital to the Eastern Delta at the beginning of the Nineteenth Dynasty greatly stimulated the local production of wines, and its attendant need for wine bottles which could be locally produced (see below), thus economically squeezing the Marl D

(H1) amphorae producers, whose products, in contrast to the H14 producers, needed to be shipped farther to the vineyards. To counteract this, the H1 producers looking for a new niche to fill, or, if the marl clay pottery industry were state controlled, on orders

from above, began producing amphorae for a different market. In this sense it is perhaps significant that the small number of docketed known to me, all from Saqqara, that have been found on type B2 amphorae refer not to wine, but to water,<sup>168</sup> which considering that they mention water from *P3-tuff*, water from Xoïs, water from *Hwt-jhyt* and water of *Šn-kbh*, all places located in the Delta, must have been brought a considerable distance, and therefore had special significance. Indeed water from Xoïs clearly played a particular sanctifying role during the New Kingdom when it was used in funerary rites,<sup>169</sup> and perhaps this role is also to be extended to the other areas mentioned on the docketed. Van Dijk also points out the connection with a group of spells in the Book of the Dead (chapters 58–63) which refer to the drinking of water in the necropolis, and also makes the alternative suggestion that such water was meant to be drunk by the deceased to replenish the body fluids lost during mummification.<sup>170</sup> Whilst not enough docketed have yet come to light to be able to say anything of importance, perhaps this type of amphora developed for the ancient ‘mineral water’ industry, as a visually distinct *aide-mémoire*,<sup>171</sup> in much the same way as the reader of this article is able to tell whether a modern bottle should contain beer or wine simply by its general shape.

### B3. Marl D Amphorae, Sethnakhte/Ramesses III – Ramesses XI ?

Whatever the case, Marl D amphorae of type B2 were short lived, for by the beginning of the Twentieth Dynasty, they had been replaced by vessels of type B3 (Fig. 8b) which, although sometimes still made of H1, were more often now made of fabrics

G6a and G6b. Type B3 amphorae are characterised by tall necks, a wide, rounded almost pear-shaped body, and a round base. Such vessels can be well dated to the Twentieth Dynasty, since examples of this type have been found in these levels at Qantir in Marl D (II.D.02) and mixed clay fabrics,<sup>172</sup> in the tomb of Ramesses III,<sup>173</sup> at Tell el-Yahudieh in graves dated to the reigns of Ramesses III/VI,<sup>174</sup> at Tanis under the royal tombs,<sup>175</sup> at Hala Sultan Teke in a Late Cypriot IIIA1 context (1190–1175 BC),<sup>176</sup> and, made of Marl A2 and Marl A4, in the tomb of Ramesses VII.<sup>177</sup> Significantly this shape of amphora is not known in closed Nineteenth Dynasty contexts, although a number of such were attributed to this period by Brunton,<sup>178</sup> and this dating was followed by Hope.<sup>179</sup> All Brunton’s examples, however, came from Cemetery W at Gurob, which I have already argued should be better assigned to the Twentieth Dynasty rather than, with Brunton, the reign of Ramesses II,<sup>180</sup> or from a pit at Matmar, which Brunton assigned simply to the New Kingdom, and which should also be dated to the Twentieth Dynasty.<sup>181</sup> As far as I know, no vessel of this type has been found with a docket on its shoulder,<sup>182</sup> and nor has any contents analysis been carried out on any such vessel.

### B4. Large Marl D Amphorae

In addition to the ‘normal’ classes of Marl D amphorae, types B1–3, there also exists a group of very large amphorae, though the only examples I know come from Qantir<sup>183</sup> and Tell el-Yahudieh, (cf. Fig. 8c),<sup>184</sup> where they are dated to the Twentieth Dynasty. Since, however, so few are known, no typological development can yet be postulated.

<sup>168</sup> RAVEN, 1984; IDEM, 1997, 71–72, nos. 51–52; VERNUS, 1989; VAN DIJK, 1992, 29.

<sup>169</sup> VERNUS, 1989, 329.

<sup>170</sup> VAN DIJK, 1992, 30.

<sup>171</sup> Note that the water docketed studied by van Dijk from the tomb of Maya at Saqqara were found on vessels of a different type since amphorae of type B3 had not been developed by the time Maya’s tomb was used.

<sup>172</sup> ASTON, 1989, 30–1, figs. 7–8; IDEM, 1998, 614–615, no. 2498, 616–619, nos. 2511, 2513

<sup>173</sup> ASTON/ASTON/BROCK, 1998, 149, 174–175, nos. 78–91.

<sup>174</sup> GRIFFITH, 1890, pl. xiv.5.

<sup>175</sup> BRISSAUD/CARPANO/COTELLE/MARCHAND/NOUAILLE/VEILLARD, 1987, 98, no. 260.

<sup>176</sup> ERIKSSON, 1995, 201.

<sup>177</sup> ASTON/ASTON/BROCK, 1998, 161, 163. Other amphorae of this shape may be expected in the tomb of Ramesses

VI, but the amphorae from this tomb have not yet been studied.

<sup>178</sup> BRUNTON/ENGELBACH, 1927, pl. xxxviii.46o.

<sup>179</sup> HOPE, 1989, 113, fig. 3.1.

<sup>180</sup> ASTON, 1997b, 43–66.

<sup>181</sup> Pit 1017. The amphora of this type is indicated in *Matmar*, pl. xlvi, but the reference there to H(arageh) should read G(urob). On the dating of this pit cf. ASTON/BADER, 1998, 38–40.

<sup>182</sup> A possible exception is an unpublished fragmentary example from the mortuary temple of Merenptah, which bears a docket mentioning wine. Since, however, the vessel is incomplete the precise type of this vessel is indeterminate.

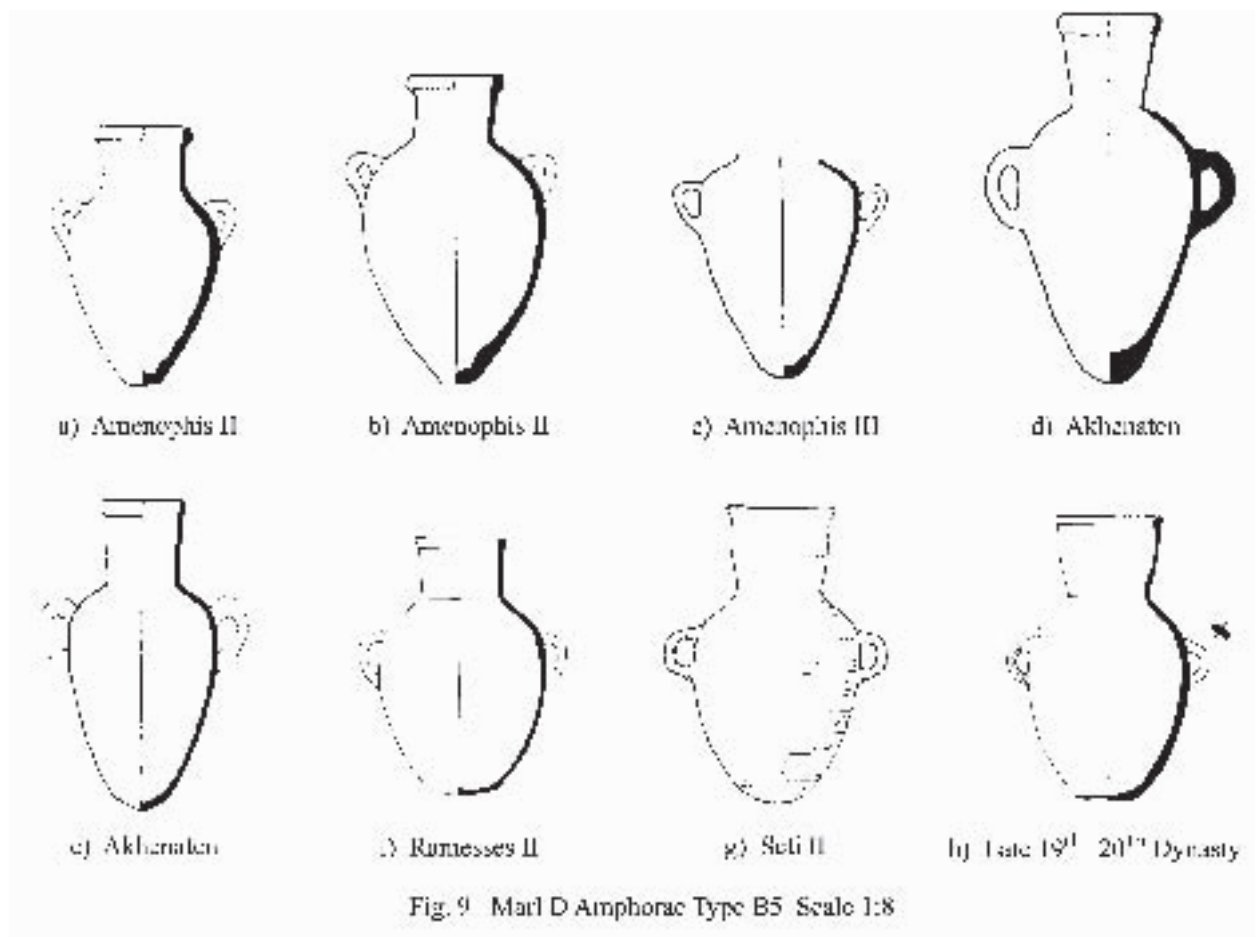
<sup>183</sup> ASTON, 1998, 618–619, no. 2514.

<sup>184</sup> GRIFFITH, 1890, pl. xiv.3; HOPE 1989, 123, pl. 6c.

**B5. Small Marl D Amphorae**

Since Hope wrote his 1989 article, scarcely any more small amphorae (Hope's type 1c, here Fig. 9) have been published, and little can be added to his study.<sup>185</sup> The earliest known examples are those from the tomb of Tjanuni at Thebes, which from the clay description would appear to be of Marl D, and can be dated to the reign of Amenophis II.<sup>186</sup> These would appear to be miniature versions of types A2 or B1. These are replaced during the reign of Amenophis III with small versions of the type B2 amphorae with rounded bases, examples being known from Malkata<sup>187</sup> and Amarna.<sup>188</sup> Also found at Amarna are a number of slender minia-

ture amphorae, with similar proportions to the previous type, but having a distinctly carinated base,<sup>189</sup> and these can be compared to vessels found at Riqqeh<sup>190</sup> and Gurob.<sup>191</sup> These seem to have themselves been replaced by wider bodied examples by the reign of Ramesses II as is proved by the example found in the tomb of Iurudef at Saqqara,<sup>192</sup> and a contemporary date should perhaps be appended to a similar vessel found at Kom Firin.<sup>193</sup> A small number of small Marl D amphorae and sherds of at least three examples in fabric G6a have been found at Qantir, mostly in Nineteenth Dynasty contexts, though at least one had been reused at a later date.<sup>194</sup> An example made from fabric G6a comes from the tomb of Khay at



<sup>185</sup> HOPE, 1989, 95–96, type 1c.

<sup>186</sup> BRACK/BRACK, 1974, 65–66, Taf. 65, nos. 1/34 and 1/41.

<sup>187</sup> HOPE, 1989, 26, fig. 6h.

<sup>188</sup> FRANKFORT/PENDLEBURY, 1933, pl. liii.

<sup>189</sup> PEET/WOOLLEY, 1923, pls. li, liii.

<sup>190</sup> ENGELBACH, 1915, pl. xxxvii.46h.

<sup>191</sup> LOAT, 1905, pl. ii [27].

<sup>192</sup> ASTON, 1991, 52, pl. 50, no. 55. An even smaller vessel was found in the same tomb but this may well be a model pot rather than a true miniature amphora. ASTON, 1991, 52, pl. 50, no. 53.

<sup>193</sup> CHOUKRI, 2003, 128, fig. 4g.

<sup>194</sup> ASTON, 1998, 494–495, nos. 1949–1953; 534–535, nos. 2195–96.

Saqqara, which can be dated to the late Nineteenth or Twentieth Dynasty.<sup>195</sup> A small amphora, which can certainly be dated to the late Nineteenth Dynasty, is the one found at Gurob with a steatite dish inscribed with the cartouches of Seti II,<sup>196</sup> whilst of probable late Nineteenth Dynasty date is the somewhat similar vessel found in tomb 6 at the same site.<sup>197</sup>

As with the normal Marl D amphorae, some of these were decorated with polychrome painting, though the only complete example known to me comes from Gurob.<sup>198</sup>

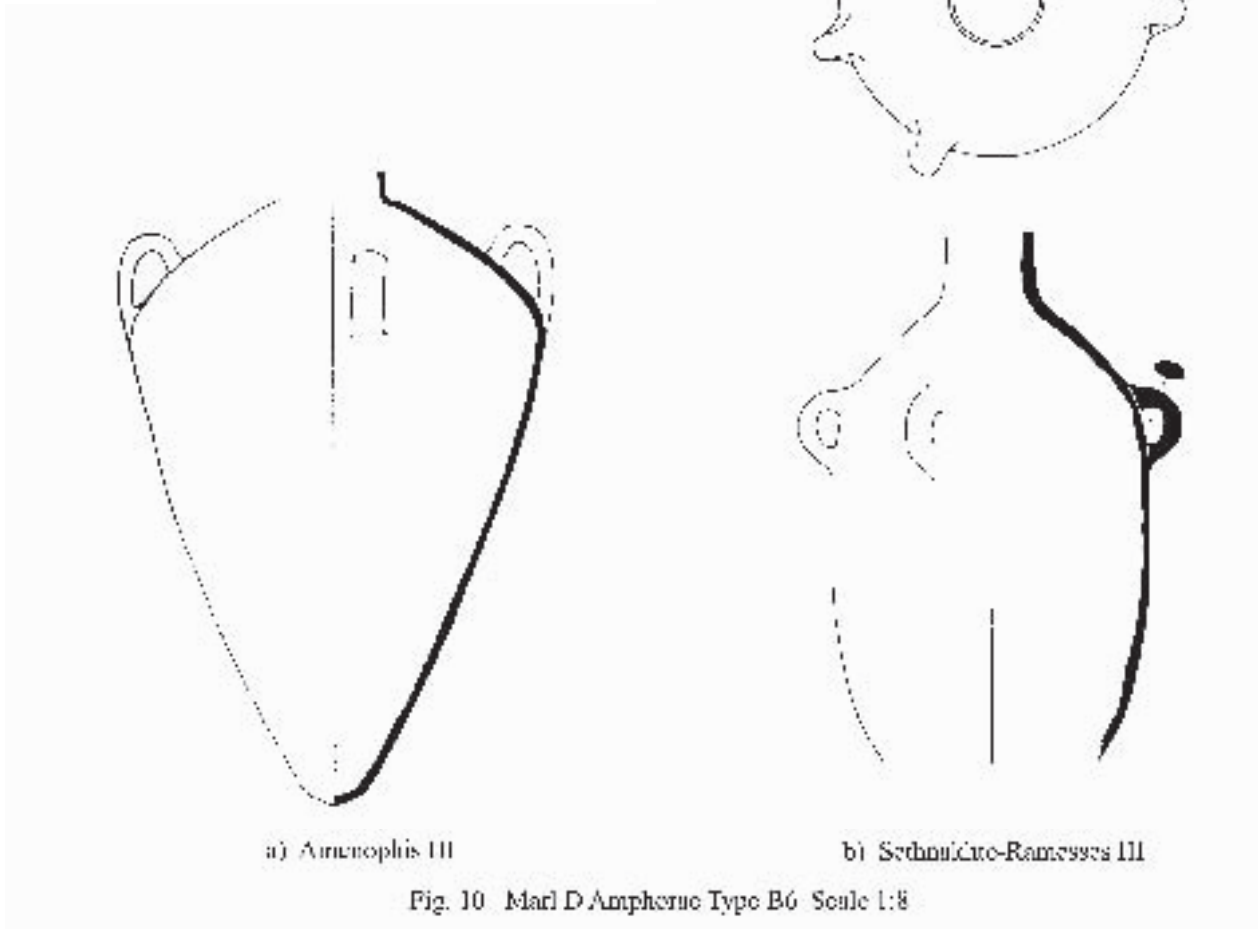
#### B6. Four-Handled Marl D Amphorae

Egyptian amphorae with four, as opposed to two, handles are extremely rare. The only examples, which come to mind, are one from Malkata (Fig. 10a) dated to the reign of Amenophis III,<sup>199</sup> and one from Qantir (Fig. 10b) dated to the reign

of Sethnakhte or Ramesses III.<sup>200</sup> Both are incomplete, but appear to be copies of the contemporary vessels of type B1 and B3 respectively.

#### C1. Slender Marl F (H14) Amphorae

As frequently mentioned in the discussion of the Marl D amphorae, the other fabric most often used for the production of New Kingdom Egyptian amphorae is Bourriau's fabric H14, which, since it is most common at Qantir, I prefer to see as a localised East Delta product, hence my placement



<sup>195</sup> ASTON/ASTON, 2001, 58, pl. 40 no. 31.

<sup>196</sup> PETRIE, 1891, 18, pl. xix.2.

<sup>197</sup> BRUNTON/ENGELBACH, 1927, pl. xxxviii.46h; ASTON, 1997b, 49–50.

<sup>198</sup> PETRIE, 1890, pl. xxi [42].

<sup>199</sup> HOPE, 1989, 27, fig. 7c.

<sup>200</sup> ASTON/PUSCH, 1999, 56, no. 5.

of this fabric within the Marl F group. The most common version of this fabric group during the New Kingdom, and that most often found throughout the rest of the country is the fabric termed II.F.02 at Qantir. In contrast to Marl D, all pots in fabric H14 = II.F.02 tend to be thin walled and somewhat brittle, with the result that vessels made of this fabric rarely survive intact. Fabric II.F.02 ranges in quality from good to poor with

lumps of unmixed marl sometimes found in the break. The section fires a uniform very pale brown 10 YR 7/3–4 with a surface colour of white 5 Y 8/2 to pale yellow 5 Y 8/3. Inclusions within the paste comprise abundant sand, limestone grits, the occasional small pebble and, rarely, ochre or grog. The fabric, which can be compared to fabric III.9 of the Amarna corpus,<sup>201</sup> was utilised in the Eastern Delta for the production of a number of ves-

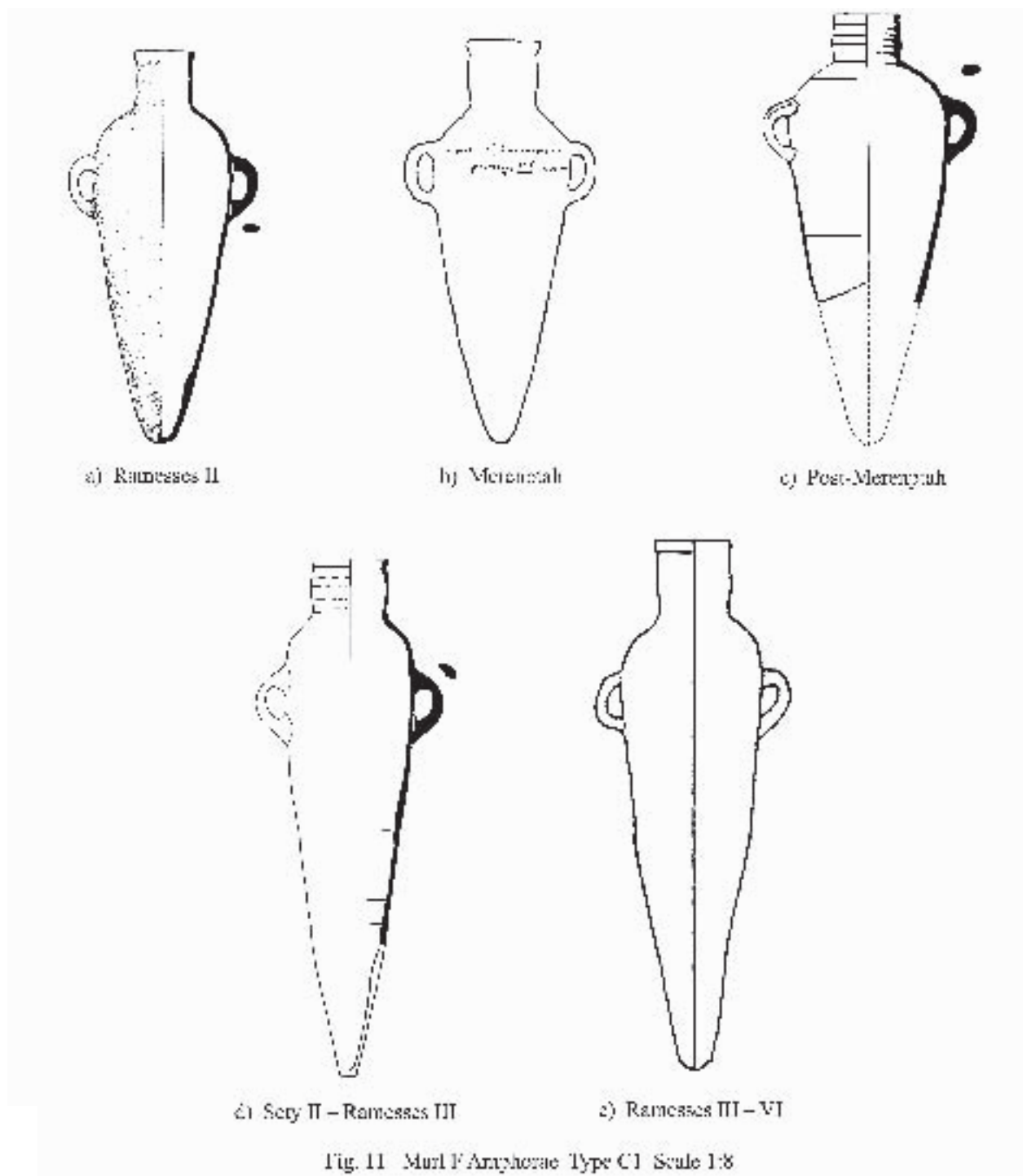


Fig. 11 Marl F Ankyhorae Type C1 Scale 1:8

<sup>201</sup> NICHOLSON/ROSE, 1985, 137–138.

sel types which elsewhere would have been made of Marl D. Outside of the Eastern Delta, pots made of this fabric are rarely found, with the exception of slender wine amphorae with pointed bases, which, from the reign of Ramesses II onwards, are found throughout the entire country. In general they are very similar in shape to the Marl D vessels of type B2, but are generally shorter, thinner walled, usually not cream coated, and invariably have more corrugated necks, (cf. Fig. 11), which often gives away their presence in a number of early publications. The fact that this fabric has been found at Amarna clearly shows that H14 amphorae were probably being made as early as the reign of Akhenaten, but they did not become widespread until the reign of Ramesses II. Such amphorae are well known at Qantir, and an excellent series of well-dated vessels are also known throughout the country, though principally at Thebes (Table 2).

From these it is clear that the overall shape did not alter through time. These wine amphorae remained recognisable as wine amphorae by their slender shape and narrow pointed bodies. It is perhaps worthy of note that most of the above dated wine amphorae were found at Thebes, which, if McGovern's thesis were correct, should have been emptied, the contents being rebottled

into Marl D amphorae, and the 'Marl F' vessels presumably being discarded.

Closely allied to the amphorae of this type are those which I provisionally ascribed to Qantir fabric II.F.04. In area Q I only eighteen diagnostic fragments of this fabric were found, most of which come from slender amphorae of this type, whilst a much better preserved example came from area Q IV,<sup>210</sup> and a complete example (based on shape alone) is known from Tell el-Yahudieh, dated to the reigns of Ramesses III–VI.<sup>211</sup> In the publication of the material from Q I, I suggested that this fabric was imported into Qantir from elsewhere in the Delta, based on the similarity of the vessel forms with the very common II.F.02 fabric.<sup>212</sup> Fabric II.F.04 has been correlated with fabric III.5 at Amarna<sup>213</sup> and with fabric H16 at Memphis,<sup>214</sup> where, at both sites, all sherds in this fabric come from slender amphorae of this type.<sup>215</sup> This, together with the evidence provided by the examples at Qantir, strongly suggests that this fabric should be Egyptian in origin since this slender amphora shape is clearly Egyptian, though the possibility that they were produced in Sinai/Palestine for the Egyptian market cannot be ruled out. It still remains a mystery, however, as to where these amphorae were made.

REIGN	LOCATION	DATING EVIDENCE
Ramesses II	Tomb of Ipy at Thebes	Year 50 inscribed docket <sup>202</sup>
Ramesses II	Tomb 1165, Deir el Medineh <sup>203</sup>	
Merenptah	Gurob	Year 5 docket <sup>204</sup>
Merenptah	Tomb of king <sup>205</sup>	
Sety II	Temple of Siptah	Year 3 docket <sup>206</sup>
Tauseret	Temple of Siptah <sup>207</sup>	
Ramesses III	Ramesseum	Year 13 docket <sup>208</sup>
Ramesses IV	Tomb of king <sup>209</sup>	

Table 2

<sup>202</sup> WOOD, 1987, 79.

<sup>203</sup> NAGEL, 79, fig. 60.

<sup>204</sup> PETRIE, 1890, pl. xx.32.

<sup>205</sup> ASTON/ASTON/BROCK, 1998, 145, 168, nos. 13–16, 146, 170, no. 36.

<sup>206</sup> PETRIE, 1897, 17, 29.

<sup>207</sup> PETRIE, 1897, 17, 29.

<sup>208</sup> SPIEGELBERG, 1923, 27.

<sup>209</sup> ASTON/ASTON/BROCK, 1998, 157, 198, nos. 265–267.

<sup>210</sup> ASTON/PUSCH, 1999, 47, 59, no.15

<sup>211</sup> GRIFFITH, 1890, pl. xiv.8

<sup>212</sup> ASTON, 1998, 67, 521.

<sup>213</sup> P. Rose, personal communication during a visit to Qantir in 1989.

<sup>214</sup> J. Bourriau, personal communication, 1997.

<sup>215</sup> NICHOLSON/ROSE, 1985, 136–7; BOURRIAU/NICHOLSON, 1992, 58–60.

### C2. Marl F (H14) Imitation Canaanite Jars

A peculiarity of this fabric is its use for the copying of LB IIB Canaanite jars. Many fragments of such vessels have been found at Qantir (cf. Fig. 12a)<sup>216</sup> and, judging by the corrugated neck and clay description, also at Deir el-Medineh.<sup>217</sup> Since no complete vessel is known to me, and as all fragments so far discovered are probably to be dated to the reign of Ramesses II, once again no typological development can be postulated.

### C3. Miniature Marl F (H14) Amphorae

Miniature amphorae made of Marl F are rare. A complete example is known from the tomb of Maya at Saqqara (Fig. 12b), which can thus be dated to the reign of Horemheb. Fragmentary examples are also known at Qantir.<sup>218</sup> Somewhat surprisingly these are copies of the contemporary Marl D small amphorae, type B6, rather than miniature versions of the normal Marl F amphorae.

### D. The Marl A4 Amphorae

After the use of Marl D (H1) and its imitators (G6a/G6b), and Marl F (H14) clays, amphorae

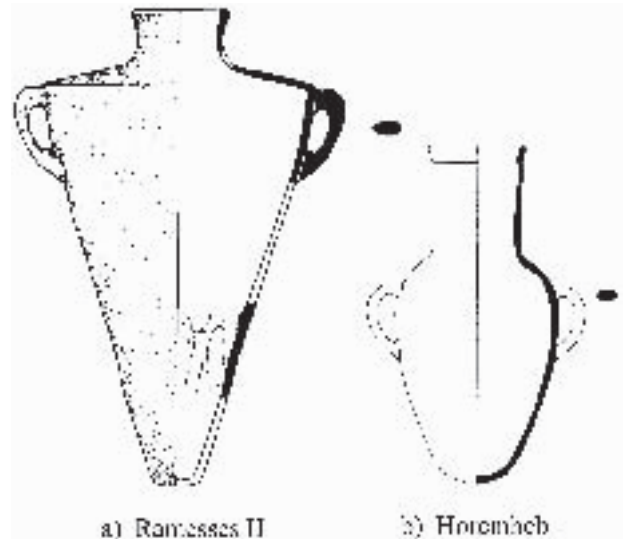


Fig. 12 Marl F Amphorae: Types C.1 (a) and C.3 (b) Scale 1:8

made of other Egyptian clays are very rare. A number of amphorae, principally from Thebes, are made out of Marl A4 (cf. Fig. 13) and to a lesser extent, Marl A2 (cf. Fig. 14). Of all the marl clays described in the Vienna System, Marl A4 is the most confusing and probably contains several

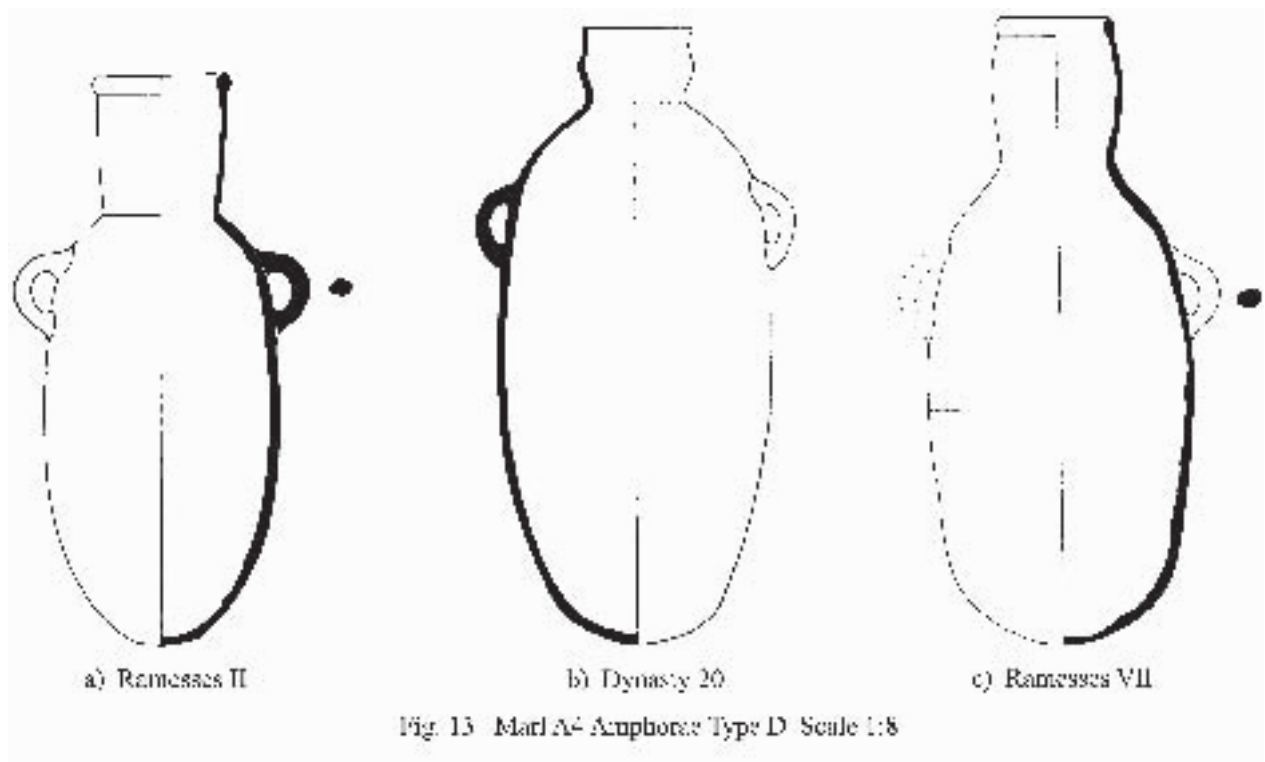


Fig. 13 Marl A4 Amphorae Type D Scale 1:8

<sup>216</sup> ASTON, 1998, 510–511, nos. 2034–2045.

<sup>217</sup> NAGEL, 1938, 24 no. 33.

<sup>218</sup> ASTON, 1998, 516–517, nos. 2074–2079.

<sup>219</sup> NORDSTRÖM/BOURRIAU, 1993, 178.

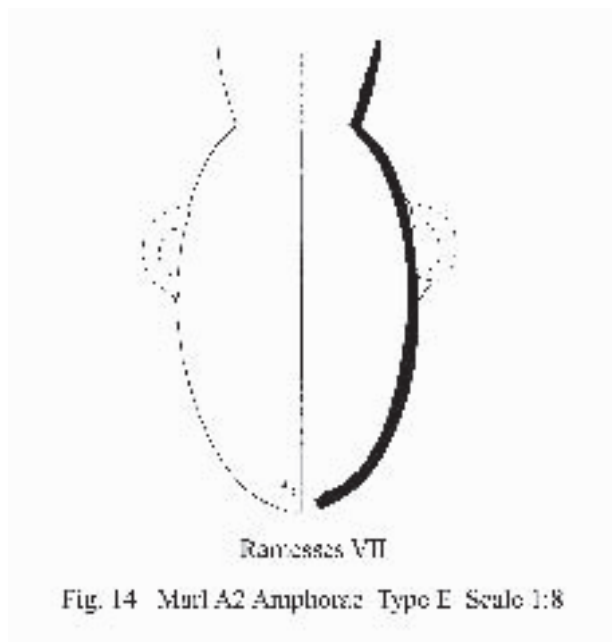


fabric groupings.<sup>219</sup> This is well exemplified by the fact that Marl A4 is supposedly the coarsest variant of the Marl A clays, which reputedly have a conspicuous amount of fine and coarse sand inclusions and show a considerable range of colour, porosity and hardness due to variation in firing conditions. The common New Kingdom version of this clay comprises a finely textured Ballas type clay which fires, usually, from a uniform pink 7.5 YR 7/4 to a uniform light red 2.5 YR 6/6 with the outer surface turning a light grey 2.5 Y 7/2 as a result of naturally occurring salts migrating to the surface during firing. Some examples – fired at a higher temperature – however, fire a uniform greenish colour akin to 2.5 GY 8/4 or 5 GY 8/4. Examples fired at intermediate temperatures show a mixture of pink and green in the break. Inclusions within the clay consist of a medium quantity of very fine sand, mica and the occasional red particle (grog ?). Characteristic of this fabric are the numerous fine pores from burnt out limestone, accounting for the fine, porous texture and the minimal reaction to hydrochloric acid. This fabric may be readily compared with Hope's type V,<sup>220</sup> Amarna fabric III.1,<sup>221</sup> Bourriau's fabric H4<sup>222</sup> and fabric II.A.04 at Qantir.<sup>223</sup> The fabric is most often found in its natural colour, but some examples are known covered with a thick red slip, usually burnished, though this latter form is generally restricted to fine tableware – plates, bowls, jugs, mugs and small amphorae. Whilst such amphorae are known at Thebes, some examples evidently travelled as far north as Qantir, where they are rare.<sup>224</sup> If Marl A4 is a southern clay, as most ceramicists suppose, then its rarity at Qantir would make sense, but it would appear that the same lack of Marl A4 amphorae is paralleled throughout the rest of Egypt. Indeed at Malkata, Hope points out that less than 20% of amphorae sherds were made of any fabrics other than Marl D.<sup>225</sup> From the little information available, it would appear that Marl A4 amphorae slavishly copy the Marl D types, and can thus be dated by the same reasoning.

Also of New Kingdom date is a type with distinctly wavy neck, an oval body and a rounded base (Fig. 13b). Such vessels are known from Deir el-Medineh tombs 359/360, where they are described as being made of a very fine homogeneous pink clay with a white slip,<sup>226</sup> and Tell el-Yahudieh, dated to the reigns of Ramesses III – VI, although the latter is reputedly of Nile clay.<sup>227</sup> An incomplete Marl A4 vessel found at Elephantine may also be of this type, reused at a later date.<sup>228</sup>

### E. The Marl A2 Amphorae

Marl A2 amphorae are even rarer than those made of Marl A4. Marl A2 is a fine marl clay, originating in Upper Egypt, in which fine sand, limestone particles and some fine particles of unmixed marl are all present though no single inclusion dominates.<sup>229</sup> The fabric is very hard and dense without conspicuous pores. The surface tends to fire from pale red to a deep orange. The fabric can be compared with fabrics II.A.02 at Qantir,<sup>230</sup> H9–10 at Memphis/Saqqara,<sup>231</sup> III.4 at Amarna,<sup>232</sup> and Hope's type Ba.II 'Pink Compact.'<sup>233</sup> A few fragmentary examples are known



<sup>220</sup> HOPE/BLAUER/RIEDERER, 1981, 161, 163.

<sup>221</sup> NICHOLSON/ROSE, 1985, 135.

<sup>222</sup> Unpublished, personal communication.

<sup>223</sup> ASTON, 1998, 64–65.

<sup>224</sup> ASTON, 1998, 436–7, nos. 1561–1572.

<sup>225</sup> HOPE, 1989, 89.

<sup>226</sup> NAGEL, 1938, 22, 27, fig. 17, no. 44.

<sup>227</sup> London UC 19153. HOPE, 1989, 123, pl. 6b.

<sup>228</sup> Cf. ASTON, 1999, 82, 87, no. 616.

<sup>229</sup> NORDSTRÖM/BOURRIAU, 1993, 176.

<sup>230</sup> ASTON, 1998, 64–65.

<sup>231</sup> BOURRIAU/NICHOLSON, 1992, 45–49.

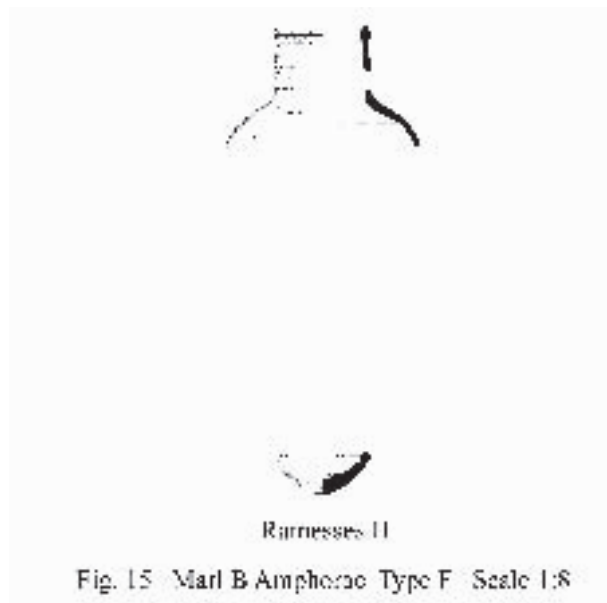
<sup>232</sup> NICHOLSON/ROSE, 1985, 136.

<sup>233</sup> HOPE, 1978, 68–69.

to me from the tombs of Ramesses IV<sup>234</sup> and Ramesses VII (Fig. 14).<sup>235</sup> No typological analysis of these vessels can be made, but those from these two tombs are similar to contemporary Marl D examples.

#### F. Marl B Amphorae

It is not certain whether amphorae of Marl B exist. Marl B is characterised by the fact that the paste contains abundant quantities of sand added as temper. These particles, which give the surface a gritty texture, are angular to sub-angular and fine to coarse. The break is usually greyish white to green, sometimes with a pink core. It is normally hard and firm and most often found in Southern Egypt, in deposits datable to the Second Intermediate Period and the Eighteenth Dynasty,<sup>236</sup> but clearly continued to be produced during the Nineteenth Dynasty as examples from Qantir indicate,<sup>237</sup> whilst its rare presence in deposits found south-west of the tomb of Merenptah, within the tomb of Ramesses III, and in the dump outside the tomb of Ramesses VII, may indicate lingering production even into the Twentieth Dynasty. However, the number of sherds is small and it cannot be



excluded that they derive from much older vessels reused at that time. Sherds found at Qantir (Fig. 15) are certainly reminiscent of contemporary Marl D amphorae,<sup>238</sup> but as only fragments were found, nothing much can be said about such vessels.

#### G. Nile Clay Amphorae

If one leaves aside amphorae made of fabric G6a, Nile clay amphorae are not common. At Tell el-Dab<sup>a</sup> a rare copies of Canaanite jars in a Nile E clay exist in late Hyksos times, though seemingly the idea never really caught on, and the earliest one which can be certainly dated to the New Kingdom, of which I am aware, is a Nile B2 example found at Amarna (Fig. 16a) and presumably datable to the reign of Akhenaten.<sup>239</sup> Fragmentary vessels found at Qantir, including Fig. 16b, should presumably date to the reign of Ramesses II,<sup>240</sup> and an incomplete example was found in the tomb of Ramesses VII (Fig. 16c).<sup>241</sup> All of these vessels differ greatly from one another and are probably the whimsical made-to-order creations of individual potters. During the later Twentieth Dynasty, however, a deliberate Nile clay amphora industry came into being. This was perhaps encouraged by an exhaustion of the Marl D/G6a–b clay beds since these Nile clay amphorae seem to replace the marl vessels of type B4. In essence these vessels are very similar to B4 amphorae, but are more slender in their proportions, with a less pronounced angle between the base of the neck and the shoulder. Such vessels (Fig. 16d) are known at Memphis,<sup>242</sup> Saqqara<sup>243</sup> and Karnak, where a number of examples were found beneath a structure erected by Pinedjem I.<sup>244</sup>

#### H. OASES AMPHORAE

Whilst it has long been known that there was a flourishing wine industry in the oases during New Kingdom times, the study of oases-made amphorae (Fig. 17) has only come to the fore in recent years, at first somewhat speculatively as no

<sup>234</sup> ASTON/ASTON/BROCK, 1998, 157, 198, no. 270.

<sup>235</sup> ASTON/ASTON/BROCK, 1998, 161, 206, no. 336.

<sup>236</sup> NORDSTRÖM/BOURRIAU, 1993, 178–9.

<sup>237</sup> ASTON, 1998, 450–455.

<sup>238</sup> ASTON, 1998, 454–455, nos. 1643–1648.

<sup>239</sup> Cairo 2671. HOPE 1989, 117, fig. 7.3.

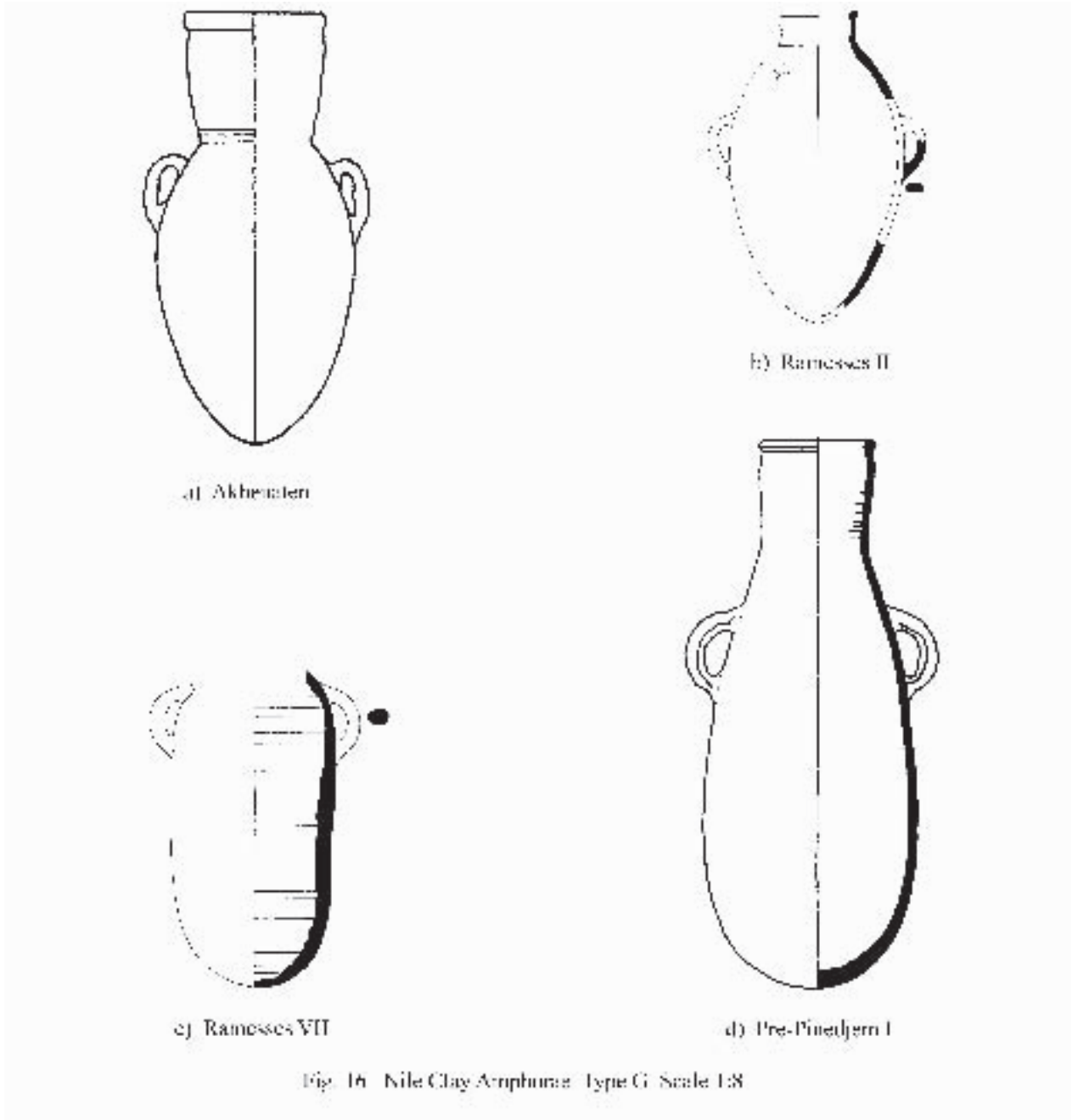
<sup>240</sup> ASTON, 1998, 196–197, nos. 585–586; 426–427, no. 1505.

<sup>241</sup> ASTON/ASTON/BROCK, 1998, 163, 210, no. 380.

<sup>242</sup> ANTHES, 1965, pl. 56, nos. 397–398.

<sup>243</sup> Unpublished.

<sup>244</sup> H. Jacquet-Gordon, personal communication.



examples had been found in the oases themselves,<sup>245</sup> and subsequently on a more secure footing, with amphorae actually found in Dakhleh.<sup>246</sup> A number of different fabrics have been attributed to the oases, though all appear to be variants of Hope's fabric B23.<sup>247</sup> This is a dense bodied medium textured fabric, of which the exterior and interior surface colours include light brown,

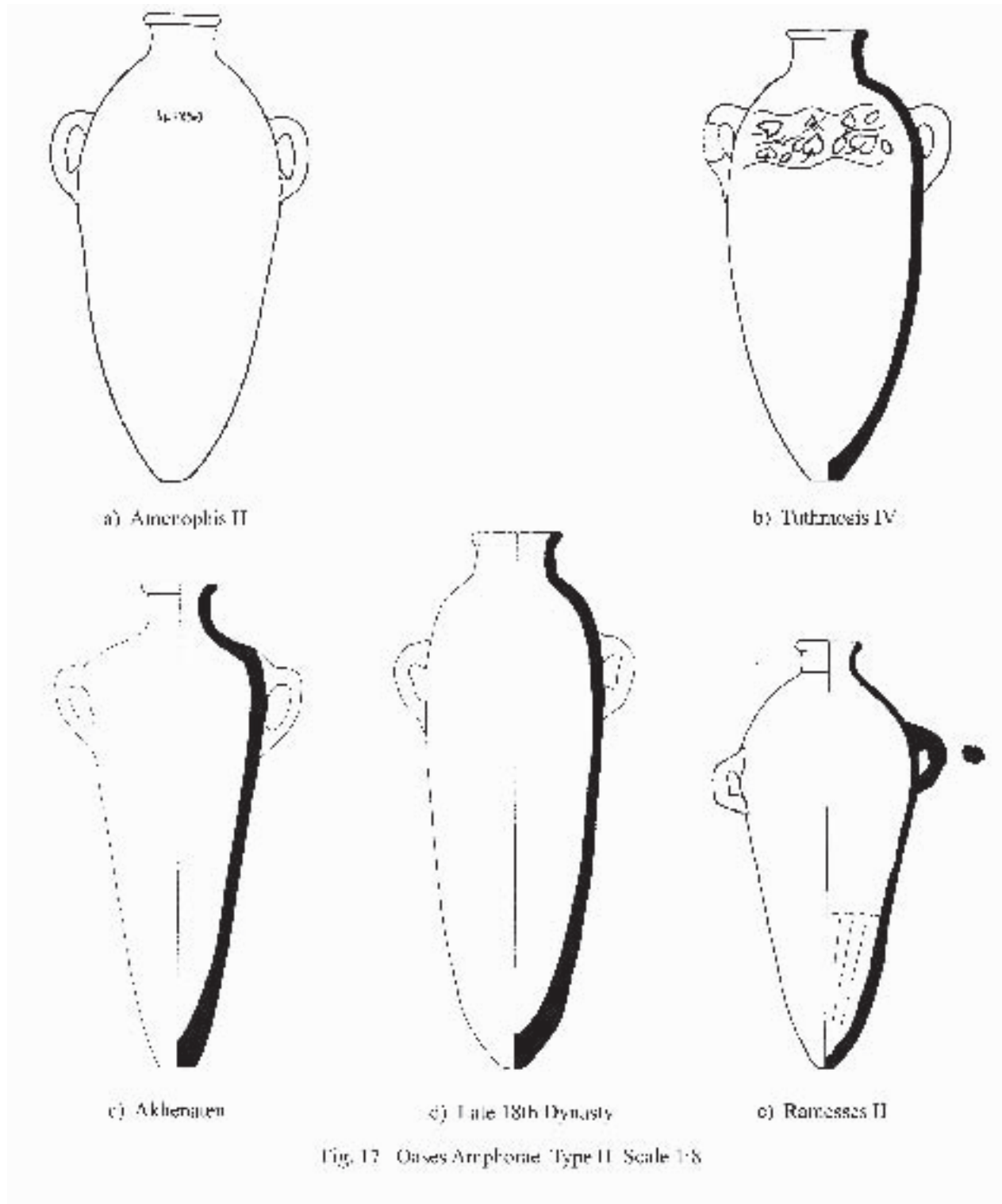
orange/pink, orange brown, yellow and grey in various combinations. The groundmass generally has a central light blue/grey core with orange-brown margins. Within the paste are found a number of limestone inclusions, some of which have often fired out, leaving characteristic reaction rims. This fabric may be equated with Bourriau's fabrics P25, P44, P45 and P92,<sup>248</sup> Rose's fab-

<sup>245</sup> ASTON, 1991, 48; 1992, 77; 1998, 73; HUMMEL/SCHUBERT, 1994, 33–34, 73.

<sup>246</sup> MARCHAND/TALLET, 1999, 318–320; HOPE, 2002.

<sup>247</sup> ECCLESTON, in: HOPE 2002, 106.

<sup>248</sup> ASTON, 1991, 48; BOURRIAU, in: HOPE, 2002, 114–115.



ric IV.<sup>249</sup> and my fabrics V.01 and V.02.<sup>250</sup> Since this clay, once it has been recognised, is very distinctive, it is already possible to produce a typology for known oases amphorae, though, owing to

the infancy of the study of oases amphora fabrics, this is certainly not complete. In general oases amphorae tend to be thick walled, distinctly slender and usually have a flat base, which makes it

<sup>249</sup> NICHOLSON/ROSE, 1985, 139; ROSE, in: HOPE, 2002, 109.

<sup>250</sup> ASTON, 1998, 73.

quite easy to recognise such vessels in older publications. There appears to be two sub-families, one having horizontal handles and the other vertical handles. Since this article, however, is concerned solely with amphorae with vertical handles the sub-family with horizontal handles is omitted. Of those with vertical handles the earliest closely dated examples can be dated to the reign of Amenophis II,<sup>251</sup> followed by examples from the reign of Tuthmosis IV.<sup>252</sup> Of approximately this same date must be the examples from Theban Tomb 253.<sup>253</sup> Fragmentary examples are known from Malkata, presumably dating to the reign of Amenophis III,<sup>254</sup> and complete vessels are known from Amarna, where they presumably date to the reign of Akhenaten.<sup>255</sup> An example from Medinet Habu is dated to the period before the reign of Ay.<sup>256</sup> Vessels from Karnak North are dated to the late Eighteenth Dynasty,<sup>257</sup> whilst vessels from Saqqara<sup>258</sup> and Qantir<sup>259</sup> can be dated to the reign of Ramesses II. After the reign of Ramesses II no more complete vessels are known, although sherds of such vessels are found in the tombs of Merenptah, Ramesses IV and Ramesses VI.

At least one vessel, shown as Fig. 17b, from the mortuary temple of Tuthmosis IV is decorated postfiring with representations of vine leaves.<sup>260</sup>

### I. AMPHORAE FROM SINAI ?

Whilst the study of oases amphorae is in its infancy, the study of amphorae made on the Sinai is practically non-existent. Kiln sites are certainly known at Haruba,<sup>261</sup> and numerous amphorae sherds were found during the North Sinai survey undertaken by Eliezer Oren on behalf of the University of the Negev at Beer Sheva.<sup>262</sup> In addition to sherds which were clearly of Egyptian or Palestinian origin, a number of amphorae were made of two clay fabrics which were deemed to

be of local Sinaitic manufacture. The first of these is labelled Haruba clay,<sup>263</sup> and vessels made of this fabric were clearly produced in the kilns at Haruba since several unfired vessels were found there. In essence Haruba clay, which tends to fire a light reddish brown, is characterised as a very calcareous, silty (usually >10%) marl, rich in iron oxide grains, and tempered by coastal sand grains. Amphorae made of this clay were found only within a close radius of Haruba itself, and were probably made only for the local market. The second 'Sinaitic' clay, however, is that labelled Bir el-*c*Abd clay.<sup>264</sup> This clay is named after the assembly of sites in which it dominates the ceramic assemblage. Apparently very similar to the Egyptian Marl C compact clay of the Vienna System, it is distinguished from it by (a) the presence of large (greater than 1 mm) ferruginous shale particles appearing in this fabric in significant quantities, and (b) the obvious high firing temperature which has caused reshaping and melting of the shale particles. Amphorae made of this fabric are widespread throughout the Sinai, and, in the absence of kiln sites, it is possible that these were indeed made elsewhere and brought to the Sinai, but the sheer presence of considerable numbers would indicate that this is indeed a local product. Personal observation of examples found at Tell Hebwa IV show that the section normally fires red, with a greyish white surface, and this Bir el-*c*Abd clay is certainly reminiscent of the clay fabric Bourriau has termed P90. In many ways P90 is reminiscent of Marl C, in that the section normally fires red, with a greyish white surface, and is dominated by abundant particles of limestone, many of which decompose as a result of the firing process. Other inclusions comprise scattered coarse and medium red-brown and black particles. At Memphis, where sherds of P90 are found throughout

<sup>251</sup> PETRIE, 1897, pl. v.3.

<sup>252</sup> GUIDOTTI, 1981, 97, fig. 1; IDEM, 1998, 493, no. dep 86.

<sup>253</sup> ROSE, 1996, 176, pl. 68, nos. 124–125.

<sup>254</sup> HOPE, 2002, 123, fig. 6.

<sup>255</sup> PEET/WOOLLEY, 1923, pl. li, no. xliii/1015; HOPE, 2002, 128–129, figs. 11–12; Note too that one of the amphorae in the tomb of Tutankhamun – Amphora no. 500, ČERNÝ 1965, 3, no. 24; HOLTHER, 1993, 54, no. 24, pl. 27; TALLET, 1996, 375–376; HOPE, 2002, 103–104 – is dated to Year 10 of Akhenaten. That vessel, however, is one with horizontal handles.

<sup>256</sup> HÖLSCHER, 1939, pl. 57 middle.

<sup>257</sup> HOPE, 2002, 103, 124, fig. 7.

<sup>258</sup> ASTON, 1991, 53, pl. 51, no. 62.

<sup>259</sup> ASTON, 1998, 536–539.

<sup>260</sup> GUIDOTTI, 1981, 97, fig. 1.

<sup>261</sup> OREN, 1987, 99–106; IDEM, 1993, 1391; GOREN/OREN/FEINSTEIN, 1995, 107–109.

<sup>262</sup> Unpublished. I thank Eliezer Oren for access to the north Sinai records, and for allowing me to refer to them in this section.

<sup>263</sup> GOREN/OREN/FEINSTEIN, 1995, 110.

<sup>264</sup> GOREN/OREN/FEINSTEIN, 1995, 110.

the entire New Kingdom, Bourriau has classified this fabric as an oasis clay,<sup>265</sup> but the only complete shapes in this fabric which I have seen are more closely akin to typical LB I–IIA Canaanite jars and bear no relation to the shapes of the oases amphorae, Class H listed above, and as such, P90 is, to my mind, more likely to originate either from Canaan, or, perhaps more probably, the Sinai. In this respect the relationship between P90 and Bir el-<sup>c</sup>Abd clay needs to be examined, and it is indeed possible that both the so-called Bir el-<sup>c</sup>Abd clay and P90 are the same. P90 is also visually related to fabric P23, a dense, hard fabric which fires in section a uniform red 2.5 YR 5/6 whilst the surface is covered in a light grey 2.5 Y 7/2 slip. It is characterised by numerous inclusions which fill the eye, with translucent pebbles and white particles, the latter breaking through the surface, being especially noticeable. This fabric has been identified in small quantities at Deir el Ballas,<sup>266</sup> Saqqara/Memphis<sup>267</sup> and Qantir,<sup>268</sup> whilst vessels from the tomb of the Foreign wives of Tuthmosis III in Wadi D at Thebes,<sup>269</sup> were also made of this fabric, as are two incomplete examples found in the Valley of the Three Pits.<sup>270</sup> Like the vessels made of Bir el-<sup>c</sup>Abd clay these resemble contemporary Egyptian Marl clay amphorae and Canaanite jars, with no connection to the oases vessels. This is more in keeping with Bourriau's original contention that fabric P23 is Levantine in origin.<sup>271</sup> It should also be noted that in her description of presumed oasis clays found at Memphis Bourriau also describes a fabric, P93, the oasis origin of which is apparently uncertain, but is assigned to the oases since it can be visually related to fabrics P23 and P90.<sup>272</sup> Significantly this implies that the group P23/P90/P93 is not visually close to the definite oasis fabrics P25, P44 and P45. As such it is extremely probable that the group P23/P90/P93 do, in fact, have a common origin, which I would suggest, should be looked

for in the Sinai, or perhaps Southern Canaan, although the latter is perhaps less likely since in a Neutron Activation Analysis examination of some P90 sherds, al-Dayal concluded that it was not chemically comparable with any Canaanite fabrics known to him.<sup>273</sup>

If it is accepted that the fabric group P23/P90/P93, is related to, or is the same as, Bir el-<sup>c</sup>Abd clay, and comes from the Sinai, the following remarks concerning Sinaitic amphorae can be established. There would appear to be two shape groups. The first, group I.1, to which the earliest known vessels belong, would then be the fabric P23 vessels from the tomb of the 'Foreign wives of Tuthmosis III', the Valley of the Three Pits, and the P90 vessel from Theban Tomb 99 (Fig. 18a), of which significantly "the interior does not show the finger scoring known from other oasis amphorae",<sup>274</sup> all of which can be dated to the reign of Tuthmosis III. Vessels from Tell Hebwa IV (Fig. 18b) which are dated to the reigns of Tuthmosis IV or Amenophis III are similar to that from TT 99 but have a more slender lower body. A somewhat different type, I.2, is seen in the examples from Hebwa IV<sup>275</sup> and Ezbet Helmi stratum b Locus 4706 (Fig. 18c–d). The latter is certainly made out of P90 fabric and its similarity to the complete vessel found on the Sinai probably indicates that that vessel should also be assigned to this clay fabric, rather than the Canaanite fabric which I had originally assigned to it.<sup>276</sup> This type differs from type I.1 in being much plumper and having a shorter neck. Whilst sherds of later vessels, types not certain, abound – they are relatively common on the Sinai in contexts datable from the reign of Tuthmosis III to Seti I, at Ezbet Helmi in contexts datable from the reign of Tuthmosis III and Amenophis III, and at Memphis in levels attributable to the late Eighteenth to early Nineteenth Dynasties,<sup>277</sup> no more complete vessels are known to me, and only fragmentary examples

<sup>265</sup> BOURRIAU, in: HOPE, 2002, 114–115.

<sup>266</sup> BOURRIAU, 1990b, 22.

<sup>267</sup> BOURRIAU, 1990a, 22–23.\*

<sup>268</sup> ASTON, 1998, 69, fabric IV.07.01.

<sup>269</sup> LILYQUIST, 2003, 104, figs. 78a, d.

<sup>270</sup> LOYRETTE, 1997, 187, 190, fig. 8i.

<sup>271</sup> BOURRIAU, 1990a, 22–23.\*

<sup>272</sup> BOURRIAU, in: HOPE, 2002, 115.

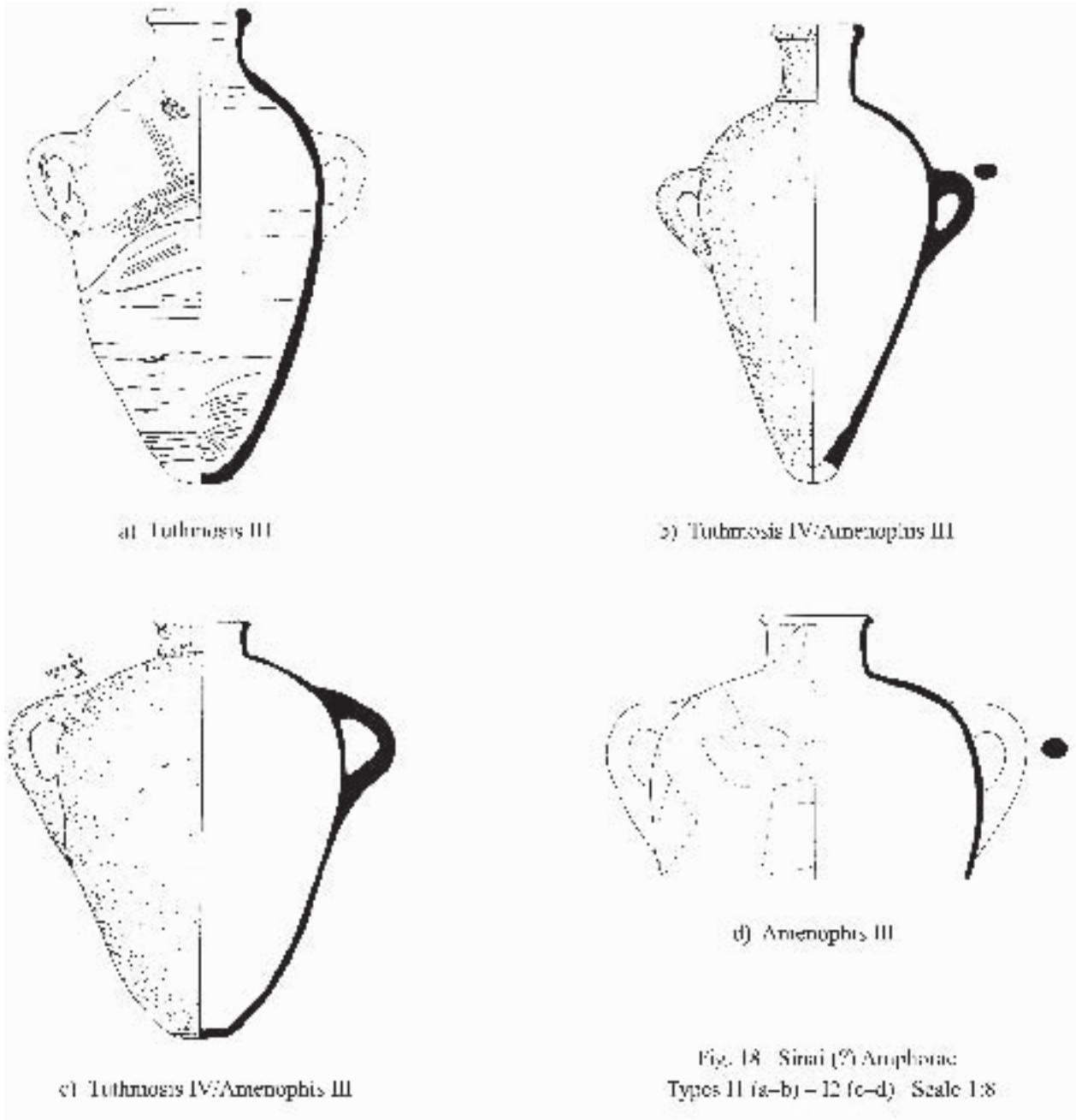
<sup>273</sup> Unpublished Ph.D. dissertation, quoted by ECCLESTON in: HOPE, 2002, 108.

<sup>274</sup> HOPE, 2002, 104, 126, fig. 9.

<sup>275</sup> ASTON, 1996b, 196, no. 48.

<sup>276</sup> ASTON, 1996b, 186. Note also that no Canaanite amphorae of this shape are known, which thus makes its attribution to fabric P90, like the incomplete example from Ezbet Helmi, all the more probable.

<sup>277</sup> BOURRIAU, in: HOPE, 2002, 115.



can be added to Fig. 18. Whilst it is thus impossible to produce any typological history for Sinaitic amphorae, it would, pending further discoveries, seem, at least in the case of the I.1 group that they copy the lines of development seen in contemporary Marl D amphorae. As such this would be further evidence for the view that pottery produced in Sinai is more closely related to Egyptian, rather than Canaanite typologies.<sup>278</sup> The fact that this P23/P90/P93 fabric group is found neither on

the Sinai in contexts past the reign of Seti I, nor at Memphis in contexts later than the early Nineteenth Dynasty, and nor for that matter at Qantir, probably indicates that the production of such vessels was discontinued, at the latest, during the reign of Ramesses II.

#### CONCLUSIONS

From the above it can be seen that Wood's pioneering statement that New Kingdom Egyptian

<sup>278</sup> Cf. GOREN/OREN/FEINSTEIN, 1995, 116.

amphorae develop from early examples that are generally oval with a round base and short neck, thence gradually becoming more slender, developing a tapering lower body, more pronounced shoulder and taller neck, so that the latest amphorae were the tallest and most slender, is not entirely correct as it stands. Paradoxically, however, this is probably true for vessels specifically designed to hold wine, if it is assumed that the Canaanite jars of type A1 were first replaced by Marl D (H1) amphorae of type B1, probably late in the reign of Tuthmosis I, but certainly by the joint reign of Hatshepsut and Tuthmosis III, which in turn were generally replaced by the Marl F (H14) amphorae of type C1 during the reign of Ramesses II. This assumption has consequences which are worthy of speculation. A general evolution from vessels of type A1 to B1 must indicate that there was suddenly a need for Egyptian produced amphorae, which was not there, or at least was not there in large numbers, before the reigns of Hatshepsut and Tuthmosis III. This, in itself, suggests that there was not a great demand for wine in New Kingdom Egypt before the mid-Eighteenth Dynasty, and this does seem to be borne out by other evidence. Although wine was clearly a favourite of the Hyksos Eastern Delta, being both imported – witness the large number of Canaanite jars found at Tell el-Dabca, – and home grown, since Kamose specifically refers to the vineyards of Avaris,<sup>279</sup> – surprisingly few wine jars (that is Canaanite jars) or fragments thereof, have been found outside of the Delta in early Eighteenth Dynasty contexts. Those that have been found were probably appreciated more for their practicality than their contents, since even those found in royal tombs had been reused for holding beer.<sup>280</sup> The conquest of the Eastern Delta, and subsequent raids into Palestine, certainly brought the Eighteenth Dynasty elite not only into contact with wine as a drink, but also into acquaintance with vintners able to produce it, the latter clearly being persuaded to ply their trades for their new Egyptian masters.<sup>281</sup> At this time it is probable that new vineyards were planted ‘on the

Western River’, i.e. somewhere in the Western Delta, since this is where most of the wine came from that supplied Malkata, Amarna, and the tomb of Tutankhamun. During the early years of the Eighteenth Dynasty, wine was probably both imported, principally from Canaan, in jars of type A1, and, to a lesser extent, locally produced. Some time later, and certainly by the reign of Amenophis III, the situation was reversed in that more wine was now produced in Egypt, than imported, and indeed from the time of Amenophis III onwards, it is clear that the majority of the products being imported from Syro-Palestine in the Canaanite jars of types A3–4 comprised various oils and resins, but not wine. The wine industry, be it Canaanite or Egyptian, clearly needed wine jars (amphorae) and necessity being the mother of invention the growth of the Egyptian vineyards led to the production of Egyptian amphorae.

During the Eighteenth Dynasty most of the wine labels found at Malkata, Amarna, and in the tomb of Tutankhamun refer to vineyards ‘on the Western River’, i.e. somewhere in the Western Delta, and are generally on Marl D (H1) amphorae, whereas most of the Nineteenth Dynasty dockets found at the Ramesseum refer to vineyards located in the Eastern Delta,<sup>282</sup> and occur on Marl F (H14) amphorae. Moreover the docket on the undoubted oases amphora dated to year 10 of Akhenaten, found in the tomb of Tutankhamun, indicates that that vessel contained wine from *Ḥty* in the Southern Oasis (El-Kharga). Leaving aside the vexed question of whether amphorae were shipped empty around the country from their place of manufacture to the places where they were wanted,<sup>283</sup> it would seem that most amphorae were indeed produced where they were needed, thus Marl D (H1) was probably produced somewhere close to the Western Delta, and Marl F (H14) somewhere close to the Eastern Delta. This point can be advanced further when one considers amphorae made of Marl A2 and Marl A4 clays. These are rare, but, from the evidence provided by the royal tombs at

<sup>279</sup> SMITH/SMITH, 1976, 60, 74.

<sup>280</sup> Note that an analysis of the residue remaining in the Canaanite jar found in the tomb of Meryetamun, revealed the contents to have been beer, WINLOCK, 1932, 32.

<sup>281</sup> Cf. the clear reference to the vintner Khor, ‘the Syrian’, HAYES, 1951, 102.

<sup>282</sup> SPIEGELBERG, 1923, KITCHEN, 1992, TALLET, 1998a, 1130.

<sup>283</sup> HOPE, 1989, 16.



Thebes, are apparently relatively more common in the tombs of the Twentieth Dynasty kings, and one is immediately reminded of Ramesses III's declaration in the Great Harris Papyrus (I.7.10f), in which he points out that he 'made vineyards without limit for Amun in both the southern and northern oases, together with others in great numbers in the southern region, and that he multiplied the vineyards in the north by the hundreds of thousands.'<sup>284</sup> If a series of vineyards were established in the south, these would have needed wine jars, which would then have been made from the local (southern) clays. If such amphorae do not show up in the archaeological record as much as the Marl D (H1) and Marl F (H14) amphorae this could possibly be explained by the fact that the southern vineyards were much smaller than those located in the Delta and/or produced an inferior product unworthy of being put in one's tomb for consumption in the afterlife. It is perhaps also worthy of note that during the time when most wine was produced near the 'Western River', the royal residence was almost certainly Memphis, whereas, during the period when most wine came from the Eastern Delta, the royal residence was at Per-Ramesses, and these factors are probably not unconnected.

However, the growth of the East Delta vineyards did not immediately spell the end of the Marl D (H1/G6a/G6b) amphora production, since it is likely some wine was still produced in the west, and moreover the potters seem to have moved to supply amphorae for the bottled water industry. This evolution may have inspired the change in shape to amphorae of types B2 and B3, which were themselves copied by the potters supplying amphorae for the southern vineyards. Under Tuthmosis III, attempts may also have been made to establish vineyards in both the Sinai

and in the southern oases. However the absence of any fabric P23/P90/P93 sherds in Ramesside contexts would suggest that all attempts at wine production in Sinai were short-lived, being abandoned before the end of the Eighteenth Dynasty. On the other hand, the establishment of vineyards in the oases was clearly more successful, since oases amphorae continue to be found well into the Twentieth Dynasty.

This leaves only the question of the Canaanite wine industry itself, since presumably it did not peter into oblivion once its export market to Egypt had been reduced. Whether or not Canaanite wine was also bottled in jars of types A2–4 is unclear, but, in the light of recent research by Margaret Serpico, unlikely. Canaanite wine then was possibly bottled in Amiran's so-called 'Decorated Jars',<sup>285</sup> or, more likely, in two or four-handled jars – Wood's 'Tapered Store Jars,' (Fig. 3.3–4), – which are clearly developments of the slender A2 jars. These differ from A3 jars in retaining the distinctly rounded shoulder of the A1 jars and have more slender proportions. Tapered store jars are clearly recognisable when they are found complete, but would be hard to identify from sherds. One may assume that such vessels, and their contents, were imported, though in much smaller numbers than the jars of type A3, but are difficult to trace in the archaeological record.

Whilst the above may suggest that Egypt imported oils, resins and wine only from Canaan, this is, of course, not a complete picture. Oil, particularly olive oil, also seems to have been imported from Crete, but Cretan olive oil was shipped not in amphorae, but in large coarse ware stirrup jars,<sup>286</sup> fragments of which have been found at Zawiyet Umm al-Rakham,<sup>287</sup> Sedment,<sup>288</sup> Amarna,<sup>289</sup> and Deir el-Medina.<sup>290</sup>

<sup>284</sup> After LESKO, 1977, 37; IDEM, 1995, 227.

<sup>285</sup> AMIRAN, 1969, 142–43.

<sup>286</sup> HASKELL, 1981, 234–37; HALLAGER, 1987; WATROUS, 1992, 178–80; NEGBI/NEGBI, 1993.

<sup>287</sup> THOMAS, 2003, 525–26.

<sup>288</sup> PETRIE/BRUNTON, 1924, 25, pl. lix.5

<sup>289</sup> BOURRIAU, 1981, 124–125; HANKEY, 1995, 117.

<sup>290</sup> BELL, 1982, 151.

**Sources of Illustrations****Fig. 1**

- a) Ezbet Helmi 8969O, previously unpublished.
- b) Thebes, Tomb of Ahmose Meryetamun, WINLOCK 1932, 31, fig. 17e.
- c) Tomb of Amenemhet, HOLTHOER 1977, pl. 22 type AO1

**Fig. 2**

- a) Malkata, HOPE, 1989, 28.
- b) Amarna, PEET/WOOLLEY 1923, pl. lii.
- c) Deir el-Balah, DOTHAN 1979, 13, 16 no. 22.
- d) Ashdod stratum XIII, WOOD 1985, pl. 47.

**Fig. 3**

- a) Amarna, PEET/WOOLLEY 1923, pl. lii.
- b) Saqqara, Tomb of Maya, ASTON 2001, 187.
- c) Zawiyet Umm al Rakham, SNAPE 2000, 19.
- d) Saqqara, Tomb of Iurudef, ASTON 1991, pl. 53.

**Fig. 4**

- a) Thebes, Tomb of Ramesses IV, ASTON/ASTON/BROCK 1998, 200.
- b) Thebes, Tomb of Ramesses VII, ASTON/ASTON/BROCK 1998, 214.

**Fig. 5**

- a) Tell Hebwa IV, previously unpublished.
- b) Ezbet Helmi 8106A, HEIN 2001, 240.
- c) Fadrus, HOLTHOER 1977, pl. 22 type AO2.

**Fig. 6**

- a) Naga al Tawil, previously unpublished.
- b) Fadrus, HOLTHOER 1977, pl. 22 type AO1.
- c) Ezbet Helmi 8945K, previously unpublished.
- d) Thebes, Tomb of Nakhtmin, GUKSCH 1995, 82, Abb. 36.

**Fig. 7**

- a) Thebes, Tomb of Tjanuni, BRACK/BRACK 1977, pl. 63.
- b) Malkata, HOPE, 1989, 27.
- c) Thebes, Tomb of Tutankhamun, HOLTHOER 1993, fig. L.
- d) Saqqara, Tomb of Maya, ASTON 2001, 187.
- e) Saqqara, Tomb of Tia and Tia, ASTON 1997, pl. 120.

**Fig. 8**

- a) Saqqara, Tomb of Iurudef, ASTON 1991, pl. 53.
- b) Qantir, ASTON/PUSCH 1999, 64.
- c) Tell el Yahudieh, GRIFFITH 1890, pl. xv.

**Fig. 9**

- a) Thebes, Tomb of Tjanuni, BRACK/BRACK 1977, pl. 65.
- b) Thebes, Tomb of Tjanuni, BRACK/BRACK 1977, pl. 65.
- c) Malkata, HOPE 1989, 26.

- d) Amarna, FRANKFORT/PENDLEBURY 1933, pl. liii.
- e) Amarna, PEET/WOOLLEY 1923, pl. li.
- f) Saqqara, Tomb of Iurudef, ASTON 1991, pl. 50.
- g) Gurob, PETRIE 1891, pl. xix.
- h) Saqqara, Tomb of Khay, ASTON/ASTON 2001, pl. 40.

**Fig. 10**

- a) Malkata, HOPE 1989, 27.
- b) Qantir, ASTON/PUSCH 1999, 56.

**Fig. 11**

- a) Qantir, ASTON 1998, 506–507.
- b) Gurob, PETRIE 1890, pl. xx.
- c) Zawiyet Umm al Rakham, SNAPE 2000, 19.
- d) Qantir, ASTON/PUSCH 1999, 59.
- e) Tell el Yahudieh, GRIFFITH 1890, pl. xv.

**Fig. 12**

- a) Qantir, ASTON, 1998 510–511.
- b) Saqqara, Tomb of Maya. Cf. ASTON 1998 516.

**Fig. 13**

- a) Qantir, ASTON 1998, 436–437.
- b) Deir el-Medineh, NAGEL 1938, fig. 17.
- c) Thebes, Tomb of Ramesses VII, ASTON/ASTON/BROCK 1998, 205.

**Fig. 14**

- Thebes, Tomb of Ramesses VII, ASTON/ASTON/BROCK 1998, 206.

**Fig. 15**

- Qantir, ASTON 1998, 454–455.

**Fig. 16**

- a) Amarna, HOPE 1989, 117.
- b) Qantir, ASTON 1998, 426–427.
- c) Thebes, Tomb of Ramesses VII, ASTON/ASTON/BROCK 1998, 210.
- d) Memphis, FISCHER 1965, pl. 56.

**Fig. 17**

- a) Thebes, Temple of Amenophis II, PETRIE 1897, pl. v.
- b) Thebes, Temple of Tuthmosis IV, GUIDOTTI 1981, 97.
- c) Amarna, PEET/WOOLLEY 1923, pl. lii.
- d) Karnak, HOPE 2002, 124.
- e) Qantir, ASTON 1998, 536–537.

**Fig. 18**

- a) Thebes Tomb of Senneferi, HOPE 2002, 126.
- b) Tell Hebwa IV, ASTON 1996b, 148.
- c) Tell Hebwa IV, ASTON 2000, 148.
- d) Ezbet Helmi, L4706. Previously unpublished.

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