

TORONE I

THE EXCAVATIONS OF 1975, 1976, AND 1978

TEXT : PART 2



ATHENS 2001

TORONE I

THE EXCAVATIONS OF 1975, 1976, AND 1978

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10. THE STAMPED BLACK-GLAZED POTTERY

Ann Steiner

INTRODUCTION*

The first three seasons of excavation at Torone have produced a wealth of black-glazed pottery with stamped and incised decoration. While the majority is Attic, our material includes some provocative examples of non-Attic fabrics as well. The aims of this report are to present representative examples of both Attic and non-Attic wares, to make preliminary comments on the significance of the material, and to frame questions for subsequent studies.

SELECTION AND ARRANGEMENT OF THE MATERIAL

The material selected for publication here includes representative samples of the full range of Attic shapes and decorative arrangements exported to Torone. The analysis and dating of the stamped black-glazed pottery relies entirely on the sequence established for this type of pottery from the Athenian Agora.¹ To facilitate comparison, the organization of the Torone material follows that of the Agora publication as closely as possible.

The number of examples included of each shape varies. For the earlier evidence, which is more sparse, most diagnostic examples that have been inventoried are included; for the 4th century pieces, the number of examples either shows the full range of Attic shapes or provides the reader with an adequate basis for comparing non-Attic imitations. In both cases, the comments introducing each shape make clear the principles of selection.

RANGE

The earliest stamped wares in the Attic repertory appear at Torone. Mugs and cups dating *ca.* 450-400 B.C. are present in small numbers, with the bulk of the evidence, including bolsals, kantharoi, bowls and plates, dating to the 4th century and

* I would like to thank Alexander Cambitoglou and Olwen Tudor Jones for checking many details of this manuscript for me at Torone and for correcting many infelicities. I lay full claim to any errors that remain.

¹ See *Agora* XII.

mostly before 325 B.C. Thus far, the following shapes in the Attic stamped repertory have not appeared with certainty at Torone: the phiale, the cup-skyphos, the one-handler, the lekythos, and the askos. It is noteworthy that a considerable quantity of Attic stamped black-glazed wares continues to be imported throughout the period of the Peloponnesian War, despite the vagaries of the occupation of the city and its alliances.² Unfortunately, no material from Torone fills gaps, such as the hiatus in the Agora sequence of *ca.* 390-380 B.C., in the existing evidence for the development of stamped Attic shapes.³

STAMPED DESIGNS

All the varieties of stamped designs appearing at Torone are presented here. Some are unusual and expand the attested repertory of the less common stamped and incised motifs.⁴ The appearance of the same stamps used on more than one piece is unusual, but it does seem to occur on several small Attic bowls with broad base and on two different shapes in at least one non-Attic fabric. The Torone material does not lend itself to a detailed consideration of the problems of identifying stamps and workshop preferences in decorative schemes.⁵

GRAFFITI

All fragments with an incised inscription are included in the catalogue: the graffiti include single letters, ligatures of two and possibly three letters, and words or names, although none of the latter can be easily reconstructed. Several examples are only partially preserved. Some of those which are complete preserve inscriptions parallel to those on red and black-figured pottery.⁶ There is at least one clear parallel to an Agora inscription, that on **10.96**, evidently a price (see Catalogue).

² See B. R. MacDonald, "The Import of Attic Pottery to Corinth and the Question of Trade During the Peloponnesian War," *JHS* 102 (1982) 113-123, for an interesting discussion of a similar phenomenon observed at Corinth.

³ *Agora* XII, p.12.

⁴ For example, **10.8**, recumbent "s" spirals with pendent and upright palmettes; **10.9** meander with pendent lotuses; **10.131** an unusual maeander on the interior; **10.83** an unusual "cross" made of irregular ovules; **10.132** olive leaves on the interior.

⁵ P. E. Corbett, "Palmette Stamps from an Attic Black-glaze Workshop," *Hesperia* 24 (1955) 172-186, pioneered the work identifying black-glazed pottery workshops through stamps and patterns; see also a recent attempt to describe bolsal workshops by means of profile, treatment of underside, and stamped patterns: D.W.J. Gill, "The Workshops of the Attic Bolsal," *Ancient Greek and Related Pottery* (Amsterdam 1984) 102-106.

⁶ See A.W. Johnston, *Trade Marks on Greek Vases* (1979) for a discussion and organisation of trademarks on clas-

NON-ATTIC FABRICS⁷

A number of certainly non-Attic pieces exist among the stamped and incised wares at Torone. Non-Attic pieces appear as early as 450 (10.6) and continue throughout the 4th century B.C. Most are bowls, although one mug, bolsals and kantharoi also appear. Some skyphoi may be associated with the shapes with stamped decoration as well. Most imitations are fourth century, and the shape most frequently imitated is the small bowl. I have had no success in assigning these non-Attic fabrics to a particular provenience; surely some, at least, are local products.⁸

Non-Attic pieces are integrated into the catalogue with the Attic pieces, under appropriate shape headings; relatively few fabrics preserve more than one example. For those examples not included in the list below, with a few of the better represented non-Attic fabrics, the reason for a non-Attic designation should be clear in its entry, either from clay colour and clay description or from shape or decorative anomalies. Unfortunately, no precise correlations with non-Attic red-figure fabrics found at Torone are clear at this point, nor are obvious connections with the unstamped black glaze numerous. Anyone familiar with the very wide range of clay colours and glaze types of Attic black-glazed pottery can appreciate the difficulties of identifying the range of appearance in a provincial fabric, especially one of lower quality, with lower standards of uniformity than in Attic work.⁹ Clay analysis has not been absolutely reliable in determining either provenience or groups; further excavation and further study may permit consolidation of some examples into fewer groups. In this preliminary stage, it seems most helpful to present a taxonomy which suffers from over-refinement rather than to risk obscuring differences. A few fabrics are represented by a number of samples, and descriptions of these follow:

sical painted pottery. Compare especially 10.93 to his fifth century type 7D, 34, 206-7 and 10.98 to his fifth-century type 9E, 212-213.

⁷ See *Agora* XII, p. 16 for non-Attic fabrics found in the Athenian Agora.

⁸ A.J.N.W. Prag, "Neutron Activation Analysis of Black-glazed Pottery" in *Ancient Greek and Related Pottery* (1984) 54-58 discusses the difficulties of assigning provenience to both Attic and Italic black-glazed fabrics. His work, using neutron activation analysis on pottery of both Attic and Peloponnesian provenience, suggests the potential rewards and the complexities in using such data.

⁹ The following range of Munsell readings, in order of frequency, for the Attic black-glazed pottery treated in this chapter gives an idea of the diversity in colour of Attic clay: 5YR 7/6; 5YR 6/6; 2.5YR 6/6; 2.5YR 6/8; 5YR 7/8; 5YR 7/4; 2.5YR 5/6; 2.5YR 5/8; 5YR 6/6; 10YR 5/2; 5YR 6/8; 5YR 6/4; 7.5YR 7/6; 7.5 YR 6/6; 7.5YR 6/4; 10YR 7/3; 5YR 6/4. A.J.N.W. Prag, *supra* n. 8, p. 58, emphasizes a less obvious variety in Attic clay in his discovery of the varying proportions of particular elements in Athenian pottery from the 6th through the 2nd centuries B.C.

1. The best represented non-Attic fabric is extremely fine, with numerous small flecks of silver and silvery gold mica both in the breaks and on the surface. There are very small white granular inclusions. Clay colour ranges in the following ways: 1) grey to orange, with orange core and outer layer grey, or vice-versa; 2) brown-grey; 3) pure grey throughout. Clay is fired hard and is brittle. Glaze is thin, with a very shiny metallic lustre. A very noticeable red wash appears on some samples. This fabric appears in three shapes: bowls, bolsals, and skyphoi. The stamp used on **10.35** and **10.104** seems to be very similar, and the designs parallel Attic preferences closely. Pieces in this fabric seem to imitate Attic examples which date *ca.* 420-380 B.C. Examples include **10.33**, **10.34**, **10.35**, **10.100**, **10.101**, **10.102**, **10.103**, **10.104** and **10.105**.

2. Another well-represented fabric is fairly well-levigated, is very light in weight, and is hard-fired. The colour is distinctly yellow and it is uniform throughout. Paint is matt and ranges in colour from red-brown to black. It is thin in some places. Two and possibly three shapes appear in this fabric: a bowl and two kantharoi. Attic parallels date to the middle quarters of the 4th century B.C. Examples include **10.43**, **10.45**, and **10.106**.

3. A third fabric is very light and grainy and has the feel of stone. There is abundant silver and silvery-gold mica and there are some tiny white inclusions. The clay is light grey with pink either at the core or at the edges. The grey-black paint is matt; some fragments preserve a very obvious red wash. At least two shapes appear in this fabric, a kantharos, **10.64**, and bowls, **10.108** and **10.109**. Attic parallels date to the 4th century B.C.

4. In the final "group," the pinkish-yellow clay is lightweight and relatively coarse; it feels almost mud-like. The paint is dull and pitted. Red wash is apparent. All examples are bowls and have dated Attic parallels in the first half of the 4th century B.C.: **10.111**, **10.112**, **10.113**. Two of these examples preserve dissimilar graffiti.

Elsewhere in Greece, fieldwork reveals that Attic and local stamped black-glazed pottery exists in widely varying proportions to one another, even in regions situated relatively close together. At Elean Pylos, virtually all black-glazed pottery with shapes and stamped designs closely paralleled in Athens was locally produced.¹⁰ In Arcadia, a surface survey in the Megalopolis area produced four different fabrics of black-glazed pottery, with Attic the most sparsely represented.¹¹ Somewhat closer to

¹⁰ J. Coleman, *Excavations at Pylos in Elis* (*Hesperia Suppl.* XXI, 1986) 106-115.

¹¹ H.W. Catling, "Archaeology in Greece 1981-82," *AR* 1981-82 (1982) 24 and "Archaeology in Greece 1982-83," *AR* 1982-83 (1983) 28-29.

the Chalkidike, the sanctuary-related pottery from Samothrace produced fewer varieties of shape and decorative scheme, and fewer fabric varieties.¹² There is a combination of Attic and "local" wares of uncertain provenience, some inscribed in the local language. Stamped designs and shapes are very close to those from Athens as well as to the non-Attic ones at Torone.

Ideally, the study of the Torone material should also be considered as part of a regional study of the distribution pattern and relative proportions of Attic and local wares in the Chalkidike. Indeed, an appropriate body of comparative material exists at Olynthos; a reconsideration of that pottery in conjunction with the Torone pottery would undoubtedly prove fruitful.¹³ Further, comparison with the finds from ancient Akanthos will help to provide a clearer picture of the extent of Attic import, the extent of imitation of Athenian wares, and an opportunity to compare the civic finds from Torone with tomb-pottery.¹⁴

SHAPES

MUGS (10.1-10.9)

Fragments of mugs are scarce and small. The majority are of the Pheidias type and can be dated only roughly to the last half of the fifth century B.C.. The mugs with petal ribbing (10.5 and 10.6) date to a narrower span, 450-425 B.C., as does the two-handled mug 10.7 ca. 430 B.C. While vertical ribbing is standard, only one, 10.1, preserves impressed palmettes as well. Notable as a non-Attic product is 10.6; it closely parallels Attic models and is among the earliest non-Attic pieces of the stamped black-glazed wares at Torone.

Fragments of uncertain shape with Exterior Stamping

Particularly noteworthy are the elaborate impressed and incised motives and especially the unusual appearance of the lotus on 10.9.

¹² I. C. Love, "Ceramics from the Fills of the Altar Court" and "Ceramics from the Black Pit," *Samothrace* 4, II, 149-189; *eadem* "Ceramics," *Samothrace* 3, II, 143-236. M.B. Moore, "Black-glazed Pottery," *Samothrace* 5, 383-394.

¹³ Information on the black-glazed pottery with stamped decoration excavated at Olynthos is published in the following volumes: *Olynthus* V and *Olynthus* XIII.

¹⁴ For Ierissos (ancient Akanthos), see the preliminary reports in *AD 26 Chron B'2*, 1971 (1975) 393-5 and *AD 29 Chron B'3*, 1973-1974 (1980), 678.

STEMLESS CUPS (10.10-10.19)

Most fragments of cups are so small as to prohibit accurate classification. The majority are probably Rheneia cups, although the designs preserved on them are more commonly paralleled on other types of stemless cups, according to published examples from the Agora. Despite this, a date at the transition between the third and fourth quarters of the fifth century is certain. Some relatively unusual features appear on pieces imported to Torone. Reddening of reserved areas, by means of a thin wash, is visible on several examples. Two other decorative features are uncommon: exterior ribbing, as on **10.19** and the use of the meander on an interior, as on **10.16** (*Agora* XII, p. 26).

BOLSALS (10.20-10.35)

Bolsals are well represented at Torone; the Torone fragments are small, however, and close parallels with Agora examples are difficult to find. Yet sufficient diagnostic features are preserved to place the bolsals in rough chronological divisions: the majority date before *ca.* 380 B.C., and only a few show later features, such as painted underside, grooved resting surface, and rouletting, which provide a date *ca.* 380-350 B.C. Decorative patterns are not distinctive. As with other shapes, the appearance of a red wash to heighten the colour of reserved areas is common. The non-Attic pieces are discussed in detail above. **10.33**, **10.34** and **10.35** are particularly noteworthy as representative of one distinct non-Attic ware. **10.32** is only tentatively placed with the bolsals. The profile of the foot lacks concavity on the top, and the lower wall is only slightly concave. The simple incised circle on the interior is also unusual.

KANTHAROI (10.36-10.65)

Kantharoi are numerous at Torone. Here the selection of pieces is intended to illustrate varieties in fabric, shape, decoration and size.

Among the imported Attic pieces, variety in glaze, fabric, and thin red washes covering reserved areas is great. From piece to piece within this fabric group, exterior glaze varies from a deep, thick blue-black to a thin brown. At the thickest parts of the shape, such as the moulded rim or the join of foot to base, the clay ranges in colour from a consistent red orange to a variegated red-orange and green. A thin red wash of varying hue appears on some pieces (**10.57**), but much less frequently than on reserved areas on other shapes. Some kantharoi can be assigned to specific non-Attic fabric groups, while others are less easily separated from the Attic imports. For

instance, **10.38** is an example where the clay is well levigated and typically Attic in colour, but the glaze is unusually thick and metallic.

Stamped and incised decorations are not elaborate. The elements consist of rouletting and palmettes, either arc-linked or arranged in a cross. A few unusual shapes appear, such as **10.36**, a "miscellaneous 5th century shape" (*Agora* XII, p.117) and **10.50**, a rare example of a plain-rimmed kantharos with ribbing on the lower body. The latter is also represented at Olynthos. **10.60** may be a miniature kantharos; especially large kantharoi are **10.47**, **10.57** and **10.63**. Two different types of rim profiles are illustrated by a comparison of **10.61** and **10.62**. With one exception, all examples are fourth century B.C.

SMALL BOWLS : BROAD BASES (**10.66-10.83**)

Broad-based bowls are well represented at Torone. The very earliest type found at the Athenian Agora, with reserved underside, is lacking at Torone, but the two later types, with reserved or scraped band at junction of foot and wall, are amply attested. Only two examples, both probably non-Attic, seem to be completely glazed, **10.78** and **10.79**. All date to the fourth century B.C.

Stamped designs are monotonous: all are palmette crosses, with the exception of one bowl decorated by rouletting alone, **10.66**, and one with a cross of ovules (?) at the centre, **10.83**. At least one group might be from the same Attic workshop: **10.69**, **10.70**, **10.71**, **10.74**; palmettes are arranged similarly, and all appear to have been decorated with a similar stamp. In general, among these bowls there is greater use of a red wash to heighten clay colour than on other shapes. Where pieces are broken revealing the junction of foot and wall, clay of variegated colours, similar to that noticed in the kantharoi, appears.

Two examples seem to be non-Attic: **10.78** and **10.79**. These can be assigned tentatively to Robinson's "native Olynthian" fabric group. A third, **10.80**, is doubtful. The fabric is somewhat too pink for Attic clay, the glaze is thick and fired a lustrous brown, and the palmettes have peculiar circular volutes and spiky petals.

BOWLS (**10.84-10.123**)

Fragments of bowls are numerous at Torone, but only a few are well enough preserved to provide full profiles. Both types with incurving and outturned rims appear. As with the kantharoi, there is a great range in glaze among single fabric groups. A thin red wash appears often, visible on reserved areas. Stamped designs are orthodox. **10.91** is included because the design is more elaborate than usual. At least one exam-

H. 0.021; D. base (est.) 0.060.

Clay red 2.5YR 6/8.

Glaze fired red.

Ring foot. Vertical ribbing with groove at junction of foot and wall.

Attic.

Ca. 450-400 B.C.

10.4 (76.854)

Fig. 73

Gate Area TR4 Ext 1 (4).

Single base and wall fragment.

H. 0.01; D. base (est.) 0.052.

Clay red 2.5YR 5/8.

Ring foot. Closely spaced vertical ribbing with groove at junction of foot and wall.

Cf. Agora P23849, *Agora* XII, no. 216, pl. 11.

Attic.

Ca. 450-400 B.C.

10.5 (78.640)

Fig. 73

Isthmus TR3 tr2 (3) B13.

Single base and wall fragment.

H. 0.014; D. base (est.) 0.06.

Clay reddish yellow 5YR 7/6.

Low ring foot with rounded resting surface. Petal ribbing with three light grooves at junction of foot and wall.

Cf. Agora P18288, *Agora* XII, no. 215, pl. 11;

Agora P10123, *Agora* XII, no. 224, pl. 11.

Graffito on underside.

Two-handled mug ?

Attic.

Ca. 450-425 B.C.

10.6 (75.21)

Fig. 73

Structure 1 TR1 tr1 topsoil.

Single base and wall fragment.

H. 0.014; D. base 0.05.

Clay pink 7.5YR 7/4, moderately well-levigated with no inclusions, a uniform pink-buff in colour. Paint is dull black, and underneath it is a thin red wash.

Low disc foot. Petal ribbing with groove at junction of foot and wall.

Cf. Agora P8063, *Agora* XII, no. 206, p. 250, pl. 47 for flat bottom; Agora P18288 *Agora* XII, no. 215, pl. 11 for petal ribbing.

Non-Attic.

Ca. 450-425 B.C.

Two-handled Mug

10.7 (78.357)

Fig. 73

Isthmus TR2 tr1 (3).

Single wall fragment, broken on all sides.

H. 0.043; W. 0.043; Th. (max.) 0.003.

Clay reddish yellow 5YR 7/6.

Convex body, concave neck. Vertical ribbing.

Cf. Agora P4858, *Agora* XII, no. 228, p. 252, pl. 11.

Attic.

Ca. 430 B.C.

Fragments of Mugs of Uncertain Shape with Exterior Stamping

10.8 (78.1182)

Fig. 73

Isthmus TR1 tr2 (6b).

Single wall fragment of open vessel, broken on all sides.

0.031 x 0.036; Th (max.) 0.005.

Clay reddish yellow 5YR 6/6-7/6.

Cylindrical wall.

Incised recumbent "s" spirals below an incised horizontal line; above it, two stamped palmettes, one large and upright, the other small and pendent.

Cf. Agora P19431 and P9199, *Agora* XII, nos. 207 and 209, pl. 47 for decoration.

Attic.

Ca. 450-430 B.C.

10.9 (75.102)

Fig. 73

Gate Area TR2 tr2 (3).

Single wall fragment from near the base, broken on all sides.

H. 0.023; W. 0.025.

Clay reddish yellow 5YR 7/6.

Interior reserved. Horizontal band of impressed meander above horizontal band of lotuses.

Cf. Agora P5276, *Agora* XII, no. 1150, pl. 39 for shape; private (*Agora* XII, no. 1159, pl. 48 for shape and decoration.

Amphoriskos ?

Attic.

Ca. 430 - early fourth century B.C.

STEMLESS CUPS

Class of Agora P10359

10.10 (78.1286)

Fig. 73

Hill 2 TR2 Ext (2).

Single base fragment.

Clay very pale brown 10/YR 7/4.

H. 0.023; D. base 0.055.

Low disk foot; centre of underside lightly recessed.

Underside reserved, except for two concentric bands at centre.

Cf. Agora P16001, *Agora* XII, no. 453, pl. 21;

Agora P18505, *Agora* XII, no. 454, fig. 5.

Attic.

Ca. 480 B.C.

Rheneia Cups

10.11 (75.475)

Fig. 73

Gate Area TR1 tr2 (2).

Single base fragment.

H. 0.009; W. 0.056.

Clay light red 2.5YR 6/6.

Low ring foot.

Underside and band at junction of foot and wall reserved.

Interior: incised central rosette inscribed in incised circles.

Cf. Agora P 5332, *Agora* XII, no. 484, pls. 23, 50 for interior decoration.

Attic.

Ca. 450 B.C.

10.12 (75.740)

Fig. 73

Gate Area TR4 (2a). Cutting of robber's mound.

Three joining fragments preserving nearly complete base and part of lower wall.

H. 0.018; D. foot 0.047.

Clay light red 2.5YR 6/6; red wash 10R 5/8.

Low ring foot. Covered with red wash.

Reserved: band at junction of foot and wall, resting surface and underside, except for two con-

centric circles around central dot.

Attic.

Ca. 430-420 B.C.

10.13 (76.629)

Fig. 73

Isthmus TR1 tr1 (3).

Single base fragment.

H. 0.011; D. base 0.050.

Clay reddish yellow 5YR 7/8.

Low ring foot. Covered with red wash.

Underside and resting surface reserved (?).

Cf. Agora P15015, *Agora* XII, no. 456, pl. 21; fig. 5, for shape only.

Attic.

Ca. 480-470 B.C.

10.14 (78.87)

Fig. 73; Pl. 70

Isthmus TR2 tr1 (3a).

Single base fragment.

0.26 x 0.019.

Clay pink 5YR 7/4.

Low ring foot.

Interior: circle of ovules surrounded by linked palmettes.

Cf. Agora P16468, *Agora* XII, no. 462, pl. 21, fig. 5, for shape and Agora P18940, *Agora* XII, no. 458, pl. 49, for decoration.

Attic.

Ca. 425 B.C.

10.15 (78.701)

Fig. 73; Pl. 70

Hill 2 TR2 Area3 (1).

Single base fragment.

H. 0.007; D. base (est) 0.050.

Clay pink 5YR 7/4; light red wash 10R 6/6.

Low ring foot with rounded resting surface. Covered with red wash.

Underside and junction of foot and wall reserved.

Interior: incised circle surrounded by palmettes.

Cf. Agora P2290, *Agora* XII, no. 460, fig. 5.

Attic.

Ca. 430-420 B.C.

10.16 (78.1162)

Fig. 74; Pl. 70

Isthmus TR1 tr3 (3).

Single base fragment.

H. 0.008; D. base (est.) 0.048.

Clay reddish yellow 5YR 7/6; red wash 10R 5/8.

Low ring foot with rounded resting surface. Covered with red wash.

Reserved: underside and junction of foot and wall.

Interior: circle of enclosed stopt meander.

Cf. Agora P2290, *Agora* XII, no. 460, fig. 5 for shape and the bolsal Agora P2308, *Agora* XII, no. 544, pl. 53 for meander.

Attic.

Ca. 430-420 B.C.

10.17 (75.488)

Fig. 74; Pl. 70

Structure TR1 tr1/3 Baulk (6).

Single base fragment.

0.028 x 0.038.

Clay reddish yellow 5YR 7/6; red wash 7.5R 5/6.

Raised ring on underside.

Reserved: underside, except for central dot and circle.

Interior: incised rosette.

Cf. the cup-skyphos Agora P9438, *Agora* XII, no. 583, pls. 26 and 54 for interior decoration and Agora P 9448, *Agora* XII, no. 493, pl. 22, fig. 5 for raised ring on underside.

Attic.

Ca. 430 B.C.

Delicate Class

10.18 (75.220)

Fig. 74

Structure 1 TR1 tr1 (7).

H. 0.017; D. foot 0.1.

Clay reddish yellow 5YR 7/6.

Moulded ring foot in two degrees.

Interior: two circles of incised tongues with clumsy arcs.

Cf. Agora P5332, *Agora* XII, no. 484, pls. 23 and 50, fig. 5 and Agora P9201, *Agora* XII, no. 500, pls. 23 and 51 for decoration.

Attic.

Ca. 430-420 B.C.

10.19 (76.205)

Fig. 74; Pl. 70

Gate Area TR4(4).

Single wall fragment.

0.019 x 0.0165

Clay reddish yellow 5YR 6/6.

Convex lower wall with vertical ribbing above ridge on exterior.

Interior: central rosette or tongue patterns within incised circle.

Cf. Agora P9448, *Agora* XII, No. 493, pls. 22 and 50, fig. 5 for shape.

Acro cup ?

Attic.

Late 5th century B.C.

BOLSALS

10.20 (75.419)

Fig. 74

Structure 1 TR1 tr3 (7).

Single base fragment.

H. 0.099; D. foot 0.065.

Clay reddish yellow 5YR 7/6; red wash 10R 5/6.

Flaring ring foot with rounded resting surface.

Underside reserved and covered with red wash.

Interior: palmette cross.

Cf. Agora P423, *Agora* XII, no. 541, fig. 6 and pl. 24.

Attic.

Ca. 420 B.C.

10.21 (75.648)

Fig. 74

Structure 1 TR1 tr1/3 Baulk (5).

H. 0.011; D. foot 0.065.

Clay light red 2.5YR 6/8; red wash 2/5YR 5/6.

Flaring ring foot with rounded resting surface.

Underside reserved and covered with red wash.

Interior: part of one palmette above incised circle.

Cf. Agora P423, *Agora* XII, no. 541, fig. 6.

Attic.

Ca. 420 B.C.

10.22 (75.485)

Fig. 74

Structure 1 TR1 tr1 (9).

Single base fragment.

H. 0.013; D. base 0.085.

Clay reddish yellow 5YR 7/6; red wash 10R 4/6.

Flaring ring foot with rounded resting surface.

Reserved: band at junction of foot; interior and underside except for wide band, upon which are

two scraped circles. Red wash applied over scraped circles.

Cf. Agora P6514, *Agora* XII, no. 554, pl. 53, fig. 6 for profile of foot.

Attic.

Ca. 425-400 B.C.

10.23 (75.664)

Fig. 74

Structure 1 TR1 tr1/3 Baulk (8).

Single base fragment.

H. 0.017; D. foot 0.08.

Clay light red 2.5YR 6/8; red wash 10R 4/8.

Flaring ring foot with rounded resting surface; concave lower wall.

Underside reserved and covered with red wash, except for wide band and circle. Interior part of palmette cross preserved

Attic.

Ca. 420-380 B.C.

10.24 (75.701a,b and 75.490)

Fig. 74

Gate Area TR4 (2).

Three non-joining base fragments.

H. 0.032; D. foot (est.) 0.070.

Clay reddish yellow 5YR 7/6; red wash 10R 5/6.

Flaring ring foot with rounded resting surface; concave lower wall; sharply articulated convex upper wall. Groove below junction of upper and lower wall.

Underside reserved and covered with red wash, except for three concentric bands.

Interior: palmette, roughly stamped.

Cf. Agora P14242, *Agora* XII, no. 558, fig. 6 and pl. 24 for lower wall and exterior of foot.

Attic.

Ca. 380-350 B.C.

10.25 (76.361)

Fig. 74

Isthmus TR2 tr1 (2).

Single base fragment.

H. 0.013; D. base 0.074.

Clay reddish yellow 5YR 6/6. Fabric fine, with much mica. Colour ranges from bright orange at the core to grey at the edges.

Glaze is black and shiny, although very thin.

Flaring ring foot with rounded resting surface;

groove at junction of resting surface and interior of foot and two grooves at junction of foot and wall. Band at junction of foot and wall.

Underside reserved except for broad band circle and central circle with dot.

Interior: palmette cross around incised circle.

Cf. Agora P23918, *Agora* XII, no. 551, pl. 53 for an Attic parallel to the decoration.

Non-Attic.

Ca. 420-380 B.C.

10.26 (78.1099)

Fig. 73

Isthmus TR1 tr2 (4b).

Single base fragment.

H. 0.025; D. base 0.11.

Clay red 2.5YR 5/8.

Flaring ring foot with rounded resting surface; concave lower wall, convex upper wall. Groove at junction between upper and lower wall and in resting surface, both reserved.

Interior: palmette within rouletting.

Cf. Agora P14242, *Agora* XII, no. 558, fig. 6 and pl. 53.

Attic.

Early fourth century.

10.27 (78.1262)

Fig. 74

Isthmus TR1 tr2 (6a).

Three joining base fragments.

H 0.033; D. foot (est.) 0.78.

Clay light red 2.5YR 6/6; fabric is very close to Attic, though slightly more orange-pink in colour.

Paint is unusually thick and slightly metallic.

Flaring ring foot, central nipple on underside. Concave lower wall, convex upper wall.

Interior: part of palmette cross attached to circle with double short stems.

Non-Attic ?

Ca. 380-350 B.C.

10.28 (78.1371)

Fig. 74; Pl. 70

Isthmus TR4 tr1(3) B8.

Single base and foot fragment.

H. 0.016; D. base 0.06.

Clay reddish yellow 5YR 6/6.

Flaring ring foot with rounded resting surface.

Concave lower wall, convex upper wall.
 Underside reserved and covered with red wash except for painted band, circle, and central circle.
 Interior: part of palmette cross around incised circle.
Cf. Agora P23918, *Agora* XII, no. 551, pl. 53.
 Attic.
Ca. 420-380 B.C.

10.29 (78.1440) Fig. 74
 Hill 2 TR2 ext. (3).
 Single base fragment.
 H. 0.015; D. (est.) 0.09.
 Clay reddish yellow 5YR 7/6; red wash 2.5YR 5/8.
 Flaring ring foot with rounded resting surface.
 Underside reserved and covered with red wash except for two bands, one wide and one narrow, with three incised lines, two of which are reserved.
 Interior: arc-linked palmette.
 Attic.
Ca. 420-380 B.C.

10.30 (78.1737) Fig. 74
 Lower City TR1 S (4).
 Single base fragment.
 H. 0.015; D. base (est.) 0.07.
 Clay reddish yellow 5YR 6/8; red wash 10R 4/8.
 Flaring ring foot with rounded resting surface.
 Concave lower wall.
 Underside reserved and covered with red wash except for band with circles on either side and central dot.
 Attic.
Ca. 420-380 B.C.

10.31 (78.1719) Fig. 74
 Lower City TR1 S (3).
 Single base fragment.
 H. 0.015; D. base (est.) 0.06.
 Clay yellowish red 5YR 5/6 with mica; red wash 2.5YR 5/8.
 Flaring ring foot with rounded resting surface and groove on upper surface; groove at junction of foot and wall.

Underside reserved and covered with red wash except for two circles at centre. Interior: palmette cross.
 Non-Attic: thick dull brown glaze.
Ca. 420-380 B.C.

10.32 (78.1249) Fig. 74
 Isthmus TR1 tr2 (6).
 Four joining base fragments, restored in plaster.
 H. 0.021; D. foot 0.070.
 Clay reddish yellow 5YR 6/6.
 Flaring ring foot with rounded resting surface.
 Convex underside with central depression and slight nipple. Groove at junction of upper and lower wall. Interior: grooved circle.
 Bolsal ? : top of foot slants down sharply, lower wall is convex and grooved rather than incised, circle on interior is unusual.
 Attic.
Ca. 400 B.C.

10.33 (78.1144) Fig. 74
 Isthmus TR1 tr3 (3) SW.
 Single base fragment.
 H. 0.025; D. foot (est.) 0.075.
 Clay yellowish red 5YR 5/6; red wash 7.5R 5/6.
 Flaring ring foot with rounded resting surface, groove at junction of foot and wall. Concave lower wall, convex upper wall.
 Underside reserved and covered with red wash except for circle and band at center.
 Interior: palmette cross on circle.
Cf. **10.34**, **10.35**.
 Non-Attic.
Cf. Agora P23918, *Agora* XII, no. 551, pls. 24 and 53 for an Attic parallel to arrangement of palmettes.
Ca. 420-380 B.C.

10.34 (78.1503) Fig. 74; Pl. 70
 Isthmus TR3 tr1 (3) B7.
 Single base fragment. Foot missing.
 H. 0.020; D. base (est.) 0.064.
 Clay yellowish-red 5YR 5/6.
 Slightly convex underside with very slight central nipple. Concave lower wall, convex upper wall.

Underside reserved except for circle and central band around nipple.

Interior: palmette cross on circle.

Graffito on underside.

Cf. 10.33, 10.35.

Non-Attic.

Cf. Agora P23918, *Agora* XII, no. 551, pl. 53 for an Attic parallel to the arrangement of palmettes.

Ca. 420-380 B.C.

10.35 (78.1245)

Fig. 74

Isthmus TR1 tr3 (4) SW.

Two joining base and wall fragments.

H. 0.033 D. base(est.) 0.06.

Clay reddish yellow 5YR 6/6 - 5YR 5/1; red wash 10R 4/6.

Concave lower wall, convex upper wall.

Underside reserved and covered with red wash except for two painted bands and central dot.

Interior: palmette.

Cf. 10.104 for similar stamp and 10.33, 10.34.

Non-Attic.

Ca. 420-380 B.C.

KANTHAROI

Special 5th century shape

10.36 (78.1091)

Fig. 75

Lower City TR1 S (3).

Single base fragment.

H. 0.03; D. foot 0.07.

Clay reddish yellow 5YR 7/6.

Moulded foot in two degrees.

Underside and line at junction of foot and wall reserved.

Cf. Agora P16909, *Agora* XII, no. 647, fig. 7.

Attic.

Ca. 420 B.C.

Cup-Kantharoi

10.37 (78.88)

Fig. 75

Isthmus TR2 tr1 (3a).

Two joining wall and handle fragments.

H. 0.051.

Clay pink to light brownish grey 5YR 7/4-10YR 6/2.

Convex body; double horizontal upswept handle, rising from wall, immediately below lip.

Interior: rouletting.

Attic.

Cf. Agora P26063, *Agora* XII, no. 652, pl. 28, fig. 7.

390/80-350 B.C.

10.38 (78.1305)

Fig. 75; Pl. 69

Isthmus TR4 tr1 (3) B8.

Three joining body fragments.

H. 0.067.

Clay reddish yellow 5YR 7/6.

Deep pointed body with narrow horizontal shoulder, double horizontal upswept handle.

Glaze fired to metallic sheen.

Cf. Agora P19259, *Agora* XII, no. 680, pl. 28.

Non-Attic ?

Ca. 350-325 B.C.

10.39 (76.740)

Fig. 75

Gate Area TR6 tr2 W (3).

Four joining body and foot fragments and one non-joining foot fragment.

H. 0.042.

Clay reddish yellow 5YR 6/6.

Pointed body; moulded foot with groove on resting surface. Groove at junction of foot and wall.

Irregularly spaced vertical ribs on lower body.

Cf. Agora P8286, *Agora* XII, no. 679, pl. 28, *Olynthus* XIII, no. 520, pls. 190-191 and *Olynthus* V, nos. 526 and 528, pl. 150.

Attic.

Ca. 350 B.C.

10.40 a and b (78.113 and 78.541)

Fig. 75

Isthmus TR1 tr2 (4).

Two joining and one non-joining fragments of foot, body, and handle.

H. 0.0375.

Clay pink 5YR 8/4, fabric well-levigated, walls of fragments very thin.

Glaze colour ranges from red-brown to dark brown.

a. Pointed body, moulded foot in three degrees with nipple on undersurface. b. Vertical handle with spool shaped rotelle near rim. Groove above junction of foot and wall. Irregularly spaced vertical grooves on lower body.

Interior: two incised lines around lower body.

Cf. Agora P18542, *Agora* XII, no. 719, pl. 29, fig. 7.

Non-Attic.

Ca. 325 B.C.

10.41 (78.716)

Fig. 75

Isthmus TR2 tr1 (5a).

Two joining body fragments.

H. 0.024.

Clay red 2.5YR 5/6.

Pointed body; groove above junction of foot and wall. Irregular vertical grooves on lower body.

Cf. **10.39**.

Attic.

Ca. 350 B.C.

10.42 (78.100)

Fig. 75

Isthmus TR2 tr1 (3).

Single body fragment.

H. 0.028.

Clay reddish yellow 5YR 7/8.

Attic.

Ca. 390/80-350 B.C.

10.43 (78.1746)

Fig. 75

Isthmus TR1 tr2 (4).

Three joining foot and body fragments.

H. 0.027.

Clay very pale brown 10YR 8/4.

Totally glazed.

Moulded foot in two degrees; very irregular groove between upper and lower member; flat resting surface with groove. Pointed body.

Cf. **10.45** and **10.106**.

Non-Attic.

Ca. 350 B.C.

10.44 (76.683)

Fig. 75

Isthmus TR2 tr1 (3).

Single handle fragment.

H. 0.089; D. 0.011.

Clay reddish yellow 5YR 6/6.

Horizontal upswept handle.

Cf. Agora P11796, *Agora* XII, no. 672, p. 284, pl. 28.

Attic.

Calyx-cup ?

Ca. 375-325 B.C.

10.45 (78.1431)

Fig. 75

Lekythos TR2 (7).

Single foot and body fragment.

H. 0.044.

reddish yellow Clay 7.5YR 7/6.

Moulded foot in two degrees; broad, flat resting surface. Convex lower wall.

Cf. **10.43** and **10.106**.

Non-Attic.

Fourth century B.C.

10.46 (76.107)

Fig. 75; Pl. 69

Gate Area TR6 tr1 S (2).

Fourteen fragments, most joining. Restored in plaster.

H. .0.112; D. foot 0.03; D. rim 0.101.

Clay reddish yellow 5YR 7/6.

Moulded foot in two degrees; central nipple and grooved resting surface. Convex lower body, concave upper body. Moulded rim. Vertical spur handles attached at lip and just below junction of upper and lower wall.

Band at top of lower degree of the foot and possibly groove on resting surface reserved.

Cf. Agora P2552, *Agora* XII, no. 703, p. 286, pl. 29.

Attic.

Ca. 320 B.C.

10.47 (76.690 and 76.572)

Fig. 76

Isthmus TR2 tr1 (3).

Two non-joining rim and handle fragments.

H. 0.09; D. rim (est.) 0.14.

Clay reddish yellow to light red 5YR 6/6 - 2.5YR 6/8.

Concave upper body, moulded rim, vertical spur handle: spurs rise above rim.

Cf. Agora P20460, *Agora* XII, no. 702, p. 286, pl. 29 for size.

Attic.

Ca. 350-325 B.C.

10.48 (78.1619)

Fig. 76

Hill 2 TR3 (4).

Single rim, body, and handle fragment.

H. 0.055; D. (est.) 0.08.

Clay reddish yellow 5YR 6/6.

Concave upper body, convex lower body, moulded rim, vertical handle.

Attic.

Ca. 350-325 B.C.

10.49 (78.396)

Fig. 76

Isthmus TR1 tr1 (4a).

Two joining rim and handle fragments.

H. 0.05; D. (est.) 0.078.

Clay reddish yellow 5YR 7/6.

Convex lower body, moulded rim, vertical spur handle.

Incised line inside rim.

Attic.

Ca. 350-325 B.C.

10.50 (76.469)

Fig. 76; Pl. 69

Isthmus TR2 tr1 (3a).

Complete profile preserved; intact except for handles.

H. 0.082; D. foot 0.051; D. rim 0.095.

Clay 2.5YR 6/8.

Moulded foot in two degrees with groove at junction of members. Shallow groove in resting surface. Convex lower body, concave upper body. Plain rim. Vertical ribbing on lower body.

Totally glazed.

Cf. Agora P3783, *Agora* XII, no. 711, pl. 29.

Attic.

Ca. 350-325 B.C.

10.51 (78.1113)

Fig. 76

Isthmus TR1 tr3 (3).

Four joining body and handle fragments.

H. 0.066; D. (est.) rim 0.09.

Clay red 2.5YR 5/6.

Convex lower body; concave upper body. Plain rim. Vertical handle with spurs rising slightly above rim.

Cf. Agora P1828, *Agora* XII, no. 709, pl. 29.

Attic.

Ca. 350-325 B.C.

Kantharos with Special Handles

10.52 (78.151)

Fig. 76

Isthmus TR3 tr1 (2).

Single body fragment preserving handle attachments.

H. 0.0485; D. rim (est.) 0.088.

Clay reddish yellow 5YR 7/6.

Convex lower wall, concave upper wall, vertical oval handle attached below rim and at junction of upper and lower wall.

Cf. Agora P26735, *Agora* XII, no. 721, pl. 29, fig. 7.

Attic.

Ca. 325-310 B.C.

Fragments of various types

Stamped decoration

10.53 a and b (75.493, 496, 678, 682) Fig. 77

Gate Area TR2 tr4 (2).

Four non-joining fragments of body and rim.

H. (of decorated fragment) 0.029.

Clay reddish yellow 5YR 7/6.

Convex lower body, concave upper body. Moulded rim.

Interior: arc-linked palmettes within circle of rouletting.

Attic.

Ca. 375-325 B.C.

10.54 (78.307)

Fig. 77

Isthmus TR2 tr1 (4a).

Single foot fragment.

H. 0.021; D. 0.05.

Clay light red 2.5YR 6/6.

Moulded foot in two degrees, groove between members.

Interior: circle of rouletting.

Attic.

Ca. 375-325 B.C.

10.55 (78.1096)

Fig. 77

Isthmus TR1 tr2 (4b).

Single foot and base fragment.

H. 0.035; D. 0.11.

Clay reddish yellow 5YR 6/8.

Moulded foot with fillet. Concave undersurface.

Interior: circle of rouletting.

Attic.

Ca. 375-325 B.C.

10.56 (78.829)

Fig. 77

Isthmus TR3 tr2 (3) B14.

Single foot fragment.

H. 0.018; D. 0.053.

Clay light red 2.5YR 6/6.

Moulded foot in two degrees, groove in lower member, groove in resting surface. Concave underside.

Reserved: resting surface and groove on foot exterior.

Interior: palmette cross.

Attic.

Ca. 375-325 B.C.

10.57 (78.619)

Fig. 77

Isthmus TR3 tr1 (3) B8.

Single foot and base fragment.

H. 0.035; D. 0.068

Clay very pale brown 10YR 7/3; light red wash 10R 6/6.

Moulded foot in two degrees with groove between members. Concave underside with central nipple. Stepped groove in resting surface.

Reserved: grooves on exterior and resting surface.

Interior: arc-linked palmettes within rouletting.

Attic.

Ca. 375-325 B.C.

10.58 (78.20)

Fig. 77

Isthmus TR1 tr1 (4a).

Single body fragment.

H. 0.028; D. 0.092.

Clay reddish yellow 5YR 6/6.

Convex lower body. Groove above junction with foot. Vertical ribs on lower body.

Interior: circle of rouletting.

Cf. Agora P8285, *Agora* XII, no. 674, pl. 28;Agora P3778, *Agora* XII, no. 704, pl. 29.

Attic.

Ca. 375-320/10 B.C.

10.59 (78.1212)

Fig. 77

Isthmus TR1 tr2 (6).

Single foot and body fragment.

H. 0.023; D. 0.043.

Clay reddish yellow 5YR 6/6.

Moulded foot in two degrees with groove (?) between members, groove at junction of foot and wall. Vertical ribbing.

Interior: palmette cross.

Attic.

Ca. 375-325 B.C.

10.60 (78.1625)

Fig. 77

Hill 2 TR3 (4).

Single foot and base fragment.

H. 0.037; D. foot 0.038.

Clay red 2.5YR 5/6.

Moulded foot in two degrees, groove at top of lower degree. Convex lower body. Miniature?

Attic.

Ca. 375-325 B.C.

10.61 (78.495)

Fig. 77

Isthmus TR2 tr1 (5a).

Single rim fragment.

H. 0.035; D. rim (est.) 0.127.

Clay light reddish-brown 5YR 6/4.

Moulded rim.

Attic.

Ca. 375-325 B.C.

10.62 (78.607 and 78.1414)

Fig. 77

Isthmus TR3 tr1 (3) B8; TR4 tr1 (3) B7.

Two joining rim fragments.

H. 0.038; D. rim (est.) 0.100.

Clay light reddish brown 5YR 6/4.

Moulded rim.

Attic.

Ca. 375-325 B.C.

10.63 (78.1148)

Fig. 77

Isthmus TR1 tr2 (6).
Foot and part of wall.
H. 0.037; D. 0.061.
Clay red 2.5YR 5/6.
Moulded foot in two degrees. Reserved groove between upper and lower members.
Ca. 375-325 B.C.

10.64 (78.442) Fig. 77
Isthmus TR2 tr1 (4).
Single foot fragment.
H. 0.022; D. 0.056.
Clay pink to light red 5YR 7/4 - 2.5YR 6/8; light red wash 10K 6/6.
Moulded foot in two degrees, shallow groove at top of lower member, groove in resting surface. Grooves reserved and covered with red wash.
Cf. **10.109** and **10.110** for the fabric.
Non-Attic.
Ca. 375-325 B.C.

10.65 (78.1189) Fig. 77
Isthmus TR1 tr2 (6).
Single foot fragment.
H. 0.017; D. foot 0.044.
Clay reddish yellow 7.5YR 6/6; fabric is a uniform light yellow colour, well fired.
Moulded foot in two degrees with deep groove between upper and lower member. Shallow groove in resting surface.
Reserved: groove between upper and lower members and resting surface (?).
Non-Attic ?
Fourth century B.C.

SMALL BOWLS: BROAD BASES

10.66 (78.1334) Fig. 77; Pl. 69
Lower City TR1 S (4).
Complete profile, part of rim missing. Deep scratch and accidental reserved area on interior.
H. 0.026; D. foot 0.064; D. rim (est.) 0.085.
Clay red 2.5YR 5/6.
Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside. In-turned rim.

Reserved: band at junction of foot and wall and resting surface.
Interior: rouletting.
Cf. Agora P12820, *Agora* XII, no. 887, fig. 9.
Attic.
Ca. 350-325 B.C.

10.67 (78.24) Fig. 77; Pl. 71
Isthmus TR1 tr2 (4).
Single bowl fragment, complete profile preserved; chipped.
H. 0.028; D. foot 0.06; D. rim (est.) 0.085.
Clay reddish yellow 5YR 7/6.
Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.
Reserved: line at junction of foot and wall and resting surface.
Interior: palmette cross.
Cf. Agora P12820, *Agora* XII, no. 887, fig. 9.
Attic.
Ca. 350-325 B.C.

10.68 (78.558) Fig. 77; Pl. 71
Isthmus TR2 tr1 (5a).
Single base fragment.
H. 0.014; D. foot 0.060.
Clay reddish yellow 7.5YR 6/6.
Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.
Reserved: band at junction of foot and wall and resting surface.
Interior: palmette cross, carelessly arranged.
Cf. **10.67**.
Attic.
Ca. 350-325 B.C.

10.69 (78.611) Fig. 78
Isthmus TR3 tr1 (3) B8.
Single base fragment.
H. 0.016; D. foot (est.) 0.068.
Clay reddish yellow 5YR 7/8.
Ring foot with broad resting surface, light groove at junction of wall and foot. Central nipple on underside.
Band at junction of foot and wall and resting surface reserved and covered with red wash (?).

Interior: palmette cross.

Cf. **10.70**, **10.71** and **10.74** for stamp and arrangement of palmettes.

Attic.

Ca. 350-325 B.C.

10.70 (78.298)

Fig. 78

Isthmus TR2 tr1 (4).

Single base fragment.

H. 0.014; D. foot (est.) 0.065.

Clay reddish yellow 5YR 7/6.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside. Light groove at junction of foot and wall

Reserved: band at junction of foot and wall and resting surface.

Interior: palmette cross.

Cf. **10.69**, especially for stamp and arrangement of palmettes.

Attic.

Ca. 350-325 B.C.

10.71 (76.648)

Fig. 78

Isthmus TR2 tr1 (3a).

Single base fragment.

H. 0.016; D. foot 0.062.

Clay reddish yellow 5YR 6/6.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.

Reserved: band at junction of foot and wall and resting surface.

Interior: palmette cross.

Cf. **10.69** and **10.74** for stamp and arrangement of palmettes.

Attic.

Ca. 350-325 B.C.

10.72 (78.1111)

Fig. 78

Isthmus TR2 tr2 (2).

Three joining bowl fragments preserving complete profile.

H. 0.025; D. foot 0.055; D. rim (est.) 0.076.

Clay reddish yellow 5YR 7/8.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside. In-turned rim

Reserved: band at junction of foot and wall and resting surface.

Interior: faint palmette cross.

Attic.

Ca. 350-325 B.C.

10.73 (78.1534)

Fig. 78

Isthmus TR3 tr2 ext. 2 (3).

Single base fragment.

H. 0.014; D. foot (est.) 0.065.

Clay reddish yellow 7.5YR 6/6, light red wash 2.5YR 6/6.

Ring foot with broad resting surface.

Band at junction of foot and wall and resting surface reserved and covered with red wash.

Interior: palmette cross.

Attic.

Ca. 375-350 B.C.

10.74 (78.26)

Fig. 78; Pl. 71

Isthmus TR1 tr2 (4).

Single base fragment.

H. 0.015; D. foot 0.06.

Clay reddish yellow 5YR 6/6.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.

Reserved: line at junction of foot and wall and resting surface.

Interior: palmette cross.

Cf. **10.69**, **10.70** and **10.71** for stamp and arrangement of palmettes.

Attic.

350-325 B.C.

10.75 (78.662)

Fig. 78

Isthmus TR3 tr2 (3) B18.

Single base fragment.

H. 0.015; D. foot (est.) 0.055.

Clay reddish yellow 5YR 7/8.

Ring foot with broad resting surface, very light groove at inner edge.

Resting surface and scraped line at junction of foot and wall reserved and covered with red wash.

Interior: palmette cross.

Cf. Agora P63, *Agora* XII, no. 886, pl. 33.

Graffito on underside.

Attic.

Ca. 350 B.C.

10.76 (78.1118)

Fig. 78

Isthmus TR1 tr2 (5).

Single base fragment.

H. 0.014; D. foot 0.063.

Clay reddish yellow 5YR 6/6, red wash 2.5YR 5/6.

Ring foot with broad resting surface, light groove at inner edge.

Resting surface and scraped line at junction of foot and wall reserved and covered with red wash.

Interior: palmette cross.

Cf. Agora P12820, *Agora* XII, no. 887, fig. 9.

Attic.

Ca. 350-325 B.C.

10.77 (76.701)

Fig. 78

Isthmus TR2 tr1 (3).

Four joining bowl fragments, restored; complete profile preserved.

H. 0.026; D. foot (est.) 0.062; D. rim (est.) 0.085.

Clay reddish yellow 5YR 6/6.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.

Resting surface reserved and covered with red wash.

Interior: palmette cross on incised circle.

Cf. Agora P19361, *Agora* XII, no. 889, p. 299, pl. 33.

Attic.

Ca. 325-310 B.C.

10.78 (76.880)

Fig. 78; Pl. 69

Structure 3 TR7 (4), TR11 S Ext. (5).

Five joining bowl fragments preserving complete profile.

H. 0.024; D. foot 0.062; D. rim 0.094.

Clay reddish yellow 5YR 7/6. Fabric similar to Attic, but more pink in colour.

Glaze thick and lustrous, but brown.

Low ring foot with broad resting surface, shallow groove at inner edge. Inturned rim.

Glazed; piece too worn to determine reservation.

Non-Attic.

Cf. "Native Olynthian saucers," *Olynthus* V, pl. 176.

Ca. 375-325 B.C.

10.79 (76.434)

Fig. 78

Structure 3 TR 11/7 Baulk (4).

Three joining bowl fragments preserving complete profile.

H. 0.028; D. foot (est.) 0.065; D. rim (est.) 0.10.

Clay reddish yellow 5YR 7/6; red to light red wash 10R 6/8 - 5/8. Fabric same as **10.78**.

Low ring foot with broad resting surface; inturned rim.

Glazed; piece too worn to determine reservation.

Non-Attic.

Cf. "Native Olynthian saucers," *Olynthus* V, pl. 176.

Ca. 375-325 B.C.

10.80 (75.01)

Fig. 78; Pl. 71

Lekythos Surface.

Two joining foot and wall fragments.

H. 0.017; D. foot (est.) 0.058.

Clay pink 7.5YR 7/4.

Ring foot with broad resting surface. Central nipple on underside.

Reserved: resting surface.

Interior: palmette cross, the volutes turned into circles.

Graffito on underside.

Non-Attic ?

Ca. 375-350 B.C.

10.81 (78.362)

Fig. 78

Isthmus TR2 tr1 (3).

Single base fragment.

H. 0.014; D. foot 0.065.

Clay reddish yellow 5YR 7/6 - 7/8; red wash 10R 4/6.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.

Resting surface reserved and covered with red wash. Scraped groove at junction of foot and wall.

Interior: palmette cross.

Graffito on underside.

Cf. Agora P12820, *Agora* XII, no. 887, fig. 9.

Attic.

Ca. 350-325 B.C.

10.82 (78.460)

Fig. 78; Pl. 71

Isthmus TR1 tr1 (5a).

Single base fragment.

H. 0.018; D. foot 0.06.

Clay light red 2.5YR 6/6.

Ring foot with broad resting surface, light groove at inner edge. Central nipple on underside.

Reserved: resting surface and line at junction of foot and wall.

Interior: palmette cross.

Graffito on underside.

Cf. **10.67**.

Attic.

Ca. 350-325 B.C.

10.83 (78.1383)

Fig. 78; Pl. 71

Isthmus TR3 tr1 (3) B7.

Single base fragment.

H. 0.014; D. foot (est.) 0.062.

Clay reddish yellow 5YR 7/6; red wash 10R 5/8.

Ring foot with broad resting surface, slight central nipple on undersurface.

Reserved: resting surface.

Interior: irregular ovule cross ?

Cf. Agora P3709, *Agora* XII, no. 697, pl. 56, for a similar but not identical motif.

Attic.

Ca. 375-350 B.C.

BOWLS

Out-turned Rim

10.84 (78.395)

Fig. 79; Pl. 71

Isthmus TR1 tr 1 (4a).

Ten joining bowl fragments; complete profile preserved.

H. 0.046; D. foot 0.098; D. rim (est.) 0.164.

Clay light red 2.5YR 6/8.

High ring foot, angled wall, out-turned rim.

Reserved: band at junction of foot and wall, resting surface and underside, except for broad band, circle, and central circle.

Interior: palmette at center around which is palmette cross.

Cf. Agora P14646, *Agora* XII, no. 803, pl. 32 and fig. 8.

Attic.

Ca. 380 B.C.

10.85 (75.470)

Fig. 79; Pl. 69

Structure 1 TR1 tr2 (4). Below "B".

Fifteen joining bowl fragments; complete profile preserved.

H. 0.042; D. foot 0.075; D. rim 0.129.

Clay reddish yellow 5YR 7/8.

High ring foot; central nipple on underside.

Angled wall, out-turned rim.

Reserved: band at junction of foot and wall.

Interior: rouletting.

Graffito on underside.

Cf. Agora P14646, *Agora* XII, no. 803, pl. 32, fig. 8 and **10.87** for graffito.

Attic.

Ca. 380 B.C.

10.86 (75.84)

Fig. 79; Pl. 69

Structure 1 TR1 tr1 (5).

Single bowl fragment; complete profile preserved.

H. 0.025; D. foot (est.) 0.032; D. rim (est.) 0.071.

Clay reddish yellow 5YR 7/8; light red wash 7.5YR 6/6.

High flaring ring foot; shallow echinus-shaped bowl; out-turned rim with three grooves on upper surface.

Rim, line at junction of wall and rim, band at junction of foot and wall, junction of foot and underside reserved and covered with red wash.

Interior: palmette (cross ?).

There are no obvious parallels for this piece. Among small bowls, at least two have fancy rims, although other details differ: Agora P18938, *Agora* XII, no. 852, fig. 9; P16380, *Agora* XII, no. 853, pl. 59, fig. 9.

Attic.

425-375 B.C.

Incurving Rim

10.87 (75.05)

Fig. 79; Pl. 69

Wall C Surface.

Single bowl fragment; complete profile preserved.

H. 0.039; D. foot (est.) 0.067; D. rim (est.) 0.125.
Clay pink 7.5YR 7/4.

Ring foot with groove in resting surface; central nipple; shallow echinus-shaped bowl with incurving rim.

Band at junction of foot and wall and groove in resting surface reserved and covered with red wash.

Interior: alternating arc-linked palmettes within rouletting.

Graffito on underside.

Cf. Agora P6148, *Agora* XII, no. 828, pl. 33, fig. 8; Agora P6955, *Agora* XII, no. 833, pl. 33 and **10.85** for graffito.

Attic.

375-325 B.C.

10.88 (78.265)

Fig. 79

Isthmus TR3 tr2 (2).

Twelve joining bowl fragments restored in plaster; complete profile preserved.

H. 0.043; D. foot (est.) 0.078; D. rim (est.) 0.144.
Clay reddish yellow 5YR 7/6.

Ring foot with groove in resting surface; shallow echinus-shaped bowl with incurving rim.

Reserved: band at junction of foot and wall and resting surface.

Interior: rouletting.

Cf. Agora P16375, *Agora* XII, no. 827, pl. 33.

Attic.

Ca. 375-325 B.C.

10.89 (78.105)

Fig. 79; Pl. 72

Isthmus TR2 tr1 (3).

Single bowl fragment; complete profile preserved.
H. 0.042; D. foot (est.) 0.085; D. rim (est.) 0.144.
Clay reddish yellow 5YR 7/6; light red wash 5YR 7/6.

Ring foot with groove in resting surface; shallow echinus-shaped bowl, incurving rim.

Band at junction of foot and wall and groove on resting surface reserved and covered with red wash.

Interior: arc-linked palmettes within rouletting.
Attic.

Ca. 375-325 B.C.

10.90 (78.364)

Fig. 79

Isthmus TR2 tr1 (3).

Two joining bowl fragments; complete profile preserved.

H. 0.049; D. foot test.) 0.095; D. rim (est.) 0.165.
Clay reddish yellow 5YR 7/6.

Ring foot with groove in resting surface; shallow echinus-shaped bowl, incurving rim. Scraped groove at junction of foot and wall.

Reserved: resting surface and scraped groove.

Interior: rouletting.

Cf. **10.87**.

Attic.

Ca. 375-325 B.C.

10.91 (78.930)

Fig. 80; Pl. 72

Lower City TR3 (1) S.

Single foot and base fragment.

H. 0.0165; D. foot (est.) 0.084.

Clay reddish yellow 5YR 6/6; light red wash 2.5YR 6/6.

Ring foot.

Resting surface, junction of foot and base, and underside, except for band and circle, reserved and covered with red wash.

Interior: arc-linked palmettes within circle of ovules bounded by two circles.

Cf. Agora P2837, *Agora* XII, no. 799, pl. 58 and Agora P14646, *Agora* XII, no. 803, pls. 32 and 58 for ovules.

Attic.

Ca. 410-380 B.C.

Note: The following examples are included here because each preserves a graffito. All dates range from ca. 375-325 B.C.

10.92 (76.268)

Fig. 80

Isthmus TR1 tr1 (2).

Four joining foot and base fragments.

H. 0.025; D. base 0.064.

Clay reddish yellow 5YR 7/6.

Ring foot with groove in resting surface; central nipple on underside.

Graffito on underside.

Cf. Agora P 23037, *Agora* XII, no. 1192, pl. 39, fig. 22 for graffito.

Attic.

Ca. 375-325 B.C.

10.93 (78.96)

Fig. 80

Isthmus TR2 tr1 (3).

Single foot and base fragment.

H. 0.017; D. base 0.07.

Clay reddish yellow 5YR 7/8.

Low ring foot with groove in resting surface; central nipple on underside.

Reserved: band at junction of foot and wall and resting surface (?).

Interior: band of rouletting with palmette cross at centre.

Graffito on underside.

Attic.

Ca. 375-325 B.C.

10.94 (78.205)

Fig. 80

Isthmus TR2 tr1 (3).

Single base fragment.

H. 0.016; D. foot (est.) 0.08.

Clay reddish yellow 5YR 7/8.

Ring foot; central nipple on underside.

Interior: rouletting with palmettes at centre.

Graffito on underside.

Attic.

Ca. 375-325 B.C.

10.95 (78.222)

Fig. 80; Pl. 72

Isthmus TR2 tr1 (3).

Single foot and base fragment.

H. 0.039; D. foot (est.) 0.12.

Clay reddish yellow 5YR 7/6.

High ring foot with groove in resting surface.

Resting surface (?) and line at junction of foot and wall reserved and covered with red wash.

Interior: palmettes (arc-linked ?) at centre of lightly incised circle and band of rouletting.

Graffito on underside.

Attic.

Ca. 375-325 B.C.

10.96 (78.304)

Fig. 80; Pl. 72

Isthmus TR2 tr1 (4a).

Three joining foot and base fragments.

H. 0.18; D. foot (est.) 0.81.

Clay light red 2.5YR 6/8.

Ring foot with stepped groove in resting surface; central nipple on underside.

Reserved: fine groove at junction of foot and wall and groove in resting surface.

Interior: alternately linked palmettes around central circle within rouletting.

Graffito on underside.

Cf. Agora P11798, *Agora* XII, no. 759, pl. 56 for the decoration, and *Agora* P7441 (?), *Agora* XII, no. 559, p. 275 for the graffito.

Attic.

Ca. 375-325 B.C.

10.97 (78.827)

Fig. 80

Isthmus TR3 tr2 (3) B14.

H. 0.019; D. foot (est.) 0.77.

Clay light brown 7.5YR 6/4.

Ring foot with groove in resting surface.

Reserved: groove in resting surface and line at junction of foot and wall.

Interior: alternately arc-linked palmettes around central circle within rouletting.

Graffito on underside.

Attic.

Ca. 375-325 B.C. ?

10.98 (78.949)

Fig. 80

Isthmus TR2 tr1 (3-4).

Single base fragment.

H. 0.016; D. base 0.08.

Clay reddish yellow 5YR 7/6.

Ring foot; central nipple on underside.

Groove at junction of foot and wall reserved and covered with red wash.

Interior: four arc-linked palmettes around central circle.

Graffito on underside.

Cf. Agora P12302, *Agora* XII, no. 934, fig. 22 and Agora P22914, *Agora* XII, no. 947, fig. 22 for the graffito.

Attic.

Ca. 375-325 B.C.

10.99 (78.1123)

Fig. 80

Isthmus TR1 tr2 (5).

Single base fragment.

H. 0.016; D. base (est.) 0.065.

Clay reddish yellow 5YR 7/6.

Ring foot with groove in resting surface.

Reserved (?): resting surface.

Interior: rouletting.

Graffito on underside.

Cf. **10.96** and the *Agora* parallel cited there for the graffito.

Attic.

Ca. 375-325 B.C.

Bowls: Non-Attic

10.100 (78.162)

Fig. 81

Isthmus TR2 tr1 (3a).

Single foot and base fragment.

H. 0.019; D. foot 0.065.

Clay grey 10YR 5/1.

Ring foot with concave inner face in continuous line with underside; raised ring on underside. Convex lower wall.

Shallow groove in resting surface, which was originally glazed.

Reserved: uneven areas at junction of foot and wall and underside, except for glazed circle at centre.

Interior: palmette cross around central circle.

Cf. *Agora* P2819, *Agora* XII, no. 1039, p. 309, fig. 10 for raised ring on underside; **10.34** and **10.35** for comparable fabric and similar stamped design and **10.102** for stamp.

Plate (?), due to presence of raised ring on under-surface.

Ca. 375 B.C.

10.101 (78.408)

Fig. 81

Isthmus TR1 tr1 (4).

Two joining foot and base fragments.

H. 0.024; D. foot (est.) 0.06.

Clay red 2.5YR 5/8.

Ring foot with bevelled edge; flaring wall.

Reserved: band at top of inner face of foot, resting surface and underside, except for central dot and circle at centre.

Ca. 375 B.C.

10.102 (78.648)

Fig. 81

Isthmus TR3 tr1 (3) B17.

Single foot and base fragment.

H. 0.012; D. foot (est.) 0.097.

Clay dark grey 10YR 4/1; reddish-brown wash 2.5YR 5/4.

Flaring ring foot with round resting surface.

Underside reserved and covered with red wash.

Interior: arc-linked palmettes.

Cf. **10.100** for stamp.

Bolsal ?

Ca. 375 B.C.

10.103 (78.657)

Fig. 81

Isthmus TR3tr1 (3) B17.

Single foot and base fragment.

H. 0.0135; D. foot (est.) 0.052.

Clay light red 2.5YR 6/8; reddish-brown wash 2.5YR 5/4.

Low flaring ring foot with round resting surface.

Underside reserved and covered with red wash except for large dot surrounded by circle at centre.

Interior: palmette-cross around central circle.

Bolsal ?

Ca. 375 B.C.

10.104 (78.1131)

Fig. 81; Pl. 72

Isthmus TR1 tr3 (3).

Single foot and base fragment.

H. 0.015; D. foot (est.) 0.67.

Clay reddish yellow 5YR 6/6.

Flaring ring foot with round resting surface.

Undersurface reserved and covered with red wash except for three circles around central dot.

Interior: palmette-cross around central circle.

Cf. **10.35** for stamp.

Bolsal ?

Ca. 375 B.C.

10.105 (78.1518) Fig. 81; Pl. 72

Isthmus TR3 tr1 (3) Road Surface B8.

Single base fragment.

H. 0.037 x. 0.039.

Clay light red 2.5YR 6/6; red wash 2.5YR 5/6.

Slightly convex underside.

Underside reserved and covered with red wash except for band and two circles.

Interior: palmette.

Ca. 375 B.C.

10.106 (78.595) Fig. 81

Isthmus TR3 tr2 (2).

Single foot and base fragment.

H. 0.02; D. foot (est.) 0.075.

Clay reddish yellow 5YR 7/6; reddish-brown glaze 2.5YR 4/4.

Ring foot with flat resting surface; flaring wall.

Reserved: band at junction of foot and wall, resting surface and underside, except for glazed band.

Cf. **10.43**; **10.45** for fabric.

Ca. 375-325 B.C.

10.107 (78.1085) Fig. 81

Isthmus TR1 tr3 (3).

Single foot and base fragment.

H. 0.016; D. base 0.072.

Clay pink 7.5YR 7/4; fabric fine and well-fired with a few small inclusions; clay is a uniform light yellow colour.

Glaze black, very shiny.

Moulded ring foot with rounded resting surface; flaring wall.

Reserved: resting surface and underside, except for broad glazed band.

4th century B. C.

10.108 (75.147) Fig. 81

Gate Area TR3 (2).

Single foot and base fragment.

H. 0.015; D. foot (est.) 0.070.

Clay pink 5YR 7/4; light red wash 10R 6/6.

Ring foot with flat resting surface; flaring wall.

Resting surface and underside reserved and covered with red wash.

Cf. **10.64**, **10.109** and an unstamped skyphos base, **9.49**.

Ca. 375 B.C.

10.109 (78.717) Fig. 81

Isthmus TR2 tr1 (5a).

Single foot and base fragment.

H. 0.025; D. foot (est.) 0.090.

Clay light red 2.5YR 6/8; red wash 10R 5/6.

Ring foot with flat resting surface.

Resting surface and underside, except for glazed band around circle and central circle, reserved and covered with red wash.

Interior: palmettes (on circle?).

Cf. **10.108**.

Ca. 375-325 B.C.

10.110 (78.1685) Fig. 81; Pl. 72

Lekythos TR2 (1).

Two joining fragments of foot and base.

H. 0.02; D. foot (est.) 0.085.

Clay brown 7.5YR 5/4; brown fabric is stoney with tiny black inclusions.

Glaze is thin, ranging from shiny black to dull brown.

Ring foot; flaring wall.

Interior: palmettes. Palmette stamp unusual.

Ca. 325 B.C.

10.111 (78.623) Fig. 81

Isthmus TR3 tr1. Feature 1 B7.

Single bowl fragment; complete profile preserved.

H. 0.046; D. foot (est.) 0.064; D. rim (est.) 0.107.

Clay pink 5YR 7/4.

Ring foot with broad, flat resting surface; slight central nipple on undersurface; incurving rim.

Reserved: resting surface, except for thin glazed band around outer edge, and underside, except for glazed central dot.

Cf. **10.112**, **10.113**.

Graffito on underside.

Ca. 375-350 B.C.

10.112 (78.363) Fig. 81

Isthmus TR2 tr1 (3).

Single foot and base fragment.

H. 0.014; D. foot (est.) 0.069.

Clay reddish yellow 5YR 7/6; red wash 10R 5/6.

Low ring foot with broad resting surface; slight central nipple on underside.

Reserved: resting surface and underside, except for glazed central dot.

Cf. 10.110, 10.111.

Graffito on underside.

Small bowl (?): broad base.

Ca. 375-350 B.C.

10.113 (78.870)

Fig. 81

Isthmus TR1 tr3 (2).

Single foot and base fragment.

H. 0.014; D. foot 0.070.

Clay brown 6.5YR 5/4; red wash 10R 4/6.

Ring foot with inward sloping resting surface.

Resting surface and underside, except for thin band around outer edge and central dot, reserved and covered with red wash.

Interior: palmette cross.

Ca. 375-350 B.C.

10.114 (78.1129)

Fig. 82

Isthmus TR1 tr3 (3).

Two joining foot and base fragments.

H. 0.019; D. foot (est.) 0.062.

Clay reddish yellow 7.5YR 6/6; red wash 10R 5/6; fabric brittle and moderately coarse with small air-pockets.

Glaze thick and matt.

Ring foot with broad, flat resting surface; slight central nipple on underside; flaring wall.

Resting surface, band at junction of foot and wall, and underside, except for glazed central dot, reserved and covered with red wash.

Ca. 375-350 B.C.

10.115 (76.183)

Fig. 81; Pl. 73

Isthmus TR2 tr1 (1).

Single foot and base fragment.

H. 0.025; D. foot (est.) 0.09.

Clay reddish-orange 7.5YR 6/4; red wash 10R 4/6; very fine well-levigated clay, uniform in colour, with silver mica, no inclusions.

Glaze thick black, dull and fired orange for the most part.

High ring foot with slightly rounded resting surface; slightly convex underside; outcurving wall.

Resting surface and underside, except for glazed band and circle surrounding central dot, reserved and covered with red wash.

Interior: palmettes (cross [?] or on circle).

Ca. 375 B.C.

10.116 (76.315)

Fig. 81

Isthmus TR2 tr1 (1).

Single foot and base fragment.

H. 0.025; D. foot (est.) 0.08.

Clay light brown 7.5YR 6/4: a fine fabric, with some very small, dark inclusions; slight variation in clay colour, with yellow-grey at the edges, and a pinkish grey at the centre.

Glaze black, thin and matt.

Flaring ring foot with flat resting surface; outcurving wall.

Reserved: lower wall, except for glazed bands, resting surface, except for band along outer edge, and underside, except for glazed bands.

Ca. 375 B.C.

10.117 (76.532)

Fig. 81

Isthmus TR1 tr1 (2).

Single foot and base fragment.

H. 0.015; D. foot (est.) 0.059.

Clay red 2.5YR 5/8; clay fine with few small inclusions; much silver mica. At centre of break, clay is bright orange, while at the edges it is dull orange.

Glaze black, rough and dull.

Flaring ring foot with groove in resting surface.

Interior: palmette.

Ca. 375-325 B.C.

Bowls: Shallow Wall and Convex-Concave Profile

10.118 (78.1439)

Fig. 82

Hill 2 TR2 ext. (3).

Single bowl fragment; complete profile preserved.

H. 0.036; D. foot (est.) 0.08; D. rim (est.) 0.102.
 Clay pink 5YR 7/4; red wash 10R 4/8.
 Broad resting surface; groove at bottom of convex upper wall.
 Resting surface, underside, band over groove at bottom of convex wall reserved and covered with red wash.
Cf. Agora P16544, *Agora* XII, no. 816, pl. 32 and Agora P18839, *Agora* XII, no. 818, fig. 8.
 Attic.
Ca. 450-430 B.C.

10.119 (78.1184) Fig. 82; Pl. 73
 Isthmus TR1 tr2 (6b).
 Single bowl fragment; complete profile preserved.
 H. 0.027; D. foot (est.) 0.085; D. rim (est.) 0.104.
 Clay light red 2.5YR 6/6.
 Narrow resting surface; groove at bottom of convex upper wall.
 Reserved: resting surface and groove at bottom of convex wall.
 Interior: arc-linked palmettes.
Cf. Agora P5260, *Agora* XII, no. 820, pl. 32.
 Attic.
Ca. 425-400 B.C.

10.120 (78.1445) Fig. 82
 Hill 2 TR2 Area 3 (1).
 Five joining bowl fragments; complete profile preserved.
 H. 0.028; D. foot (est.) 0.08; D. rim (est.) 0.091.
 Clay pink 5YR 7/4.
 Narrow resting surface, slightly protruding; groove at bottom of convex upper wall.
 Reserved: resting surface.
Cf. **10.119**. Note, however, that the groove on **10.120** is not reserved.
 Attic.
Ca. 425-400 B.C.

10.121 (78.1536) Fig. 82; Pl. 73
 Isthmus TR4 tr2 (3) B5.
 Single bowl fragment, foot and base
 H. 0.021; D. foot (est.) 0.10.
 Clay yellowish red 5YR 5/8.

Narrow resting surface, concave wall; light groove at bottom of wall. Raised ring at centre of underside.

Reserved: resting surface.

Interior: arc-linked palmettes around central circle within which are ovules.

Attic.

Ca. 425-400 B.C.

10.122 (78.348) Fig. 82
 Isthmus TR2 tr1 (3a).

Single bowl fragment, foot and base.

H. 0.019; D. foot (est.) 0.08.

Clay reddish yellow 5YR 7/6.

Narrow resting surface with groove; concave wall.

Reserved: resting surface.

Interior: palmette within rouletting.

Cf. Agora P22667, *Agora* XII, no. 822, fig. 8.

Attic.

Ca. 375 B.C.

10.123 (78.1008) Fig. 82
 Hill 2 TR1 (3).

Two joining bowl fragments, foot and base.

H. 0.018; D. foot 0.075.

Clay greyish-brown 10YR 5/2; light red wash 2.5YR 6/6.

Narrow resting surface; concave wall.

Resting surface and underside, except for thick glazed band and circle, reserved and covered with red wash.

Cf. **10.119**.

Attic.

Ca. 425-400 B.C.

PLATES: ROLLED RIMS

10.124 (76.641) Fig. 83
 Isthmus TR2 tr1 (3a).

Single plate fragment; complete profile preserved.

H. 0.023; D. foot (est.) 0.09; D. rim (est.) 0.132.

Clay reddish yellow 5YR 6/6.

Ring foot with groove in resting surface; upper

wall concave, lower wall convex; thickened rim with groove and fillet on lower edge.

Resting surface worn.

Interior: palmettes within wide band of rouletting.

Cf. Agora P446, *Agora* XII, no. 1057, pl. 36; fig. 10.

Attic.

Ca. 350 B.C.

10.125 (76.712)

Fig. 83

Isthmus TR2 tr1 (3).

Single plate fragment; complete profile preserved.

H. 0.021; D. foot (est.) 0.08; D. rim (est.) 0.12.

Clay light reddish-brown 5YR 6/4.

Ring foot; convex wall; thickened rim with groove and fillet on lower edge.

Cf. **10.124**; Agora P14649, *Agora* XII, no. 1052, pls. 36, 59.

Attic.

Ca. 350 B.C.

10.126 (78.1006)

Fig. 83

Hill 2 TR2 Area 3 (1).

Single plate fragment; complete profile preserved.

H. 0.0245; D. foot (est.) 0.099; D. rim (est.) 0.14.

Clay red 2.5YR 6/6.

Ring foot; convex wall; thickened rim with groove and fillet on lower edge.

Interior: rouletting.

Cf. **10.124**.

Attic.

Ca. 350 B.C.

10.127 (78.1038)

Fig. 83; Pl. 69

Isthmus TR1 tr2 (4a).

Single plate fragment; complete profile preserved.

H. 0.025; D. foot (est.) 0.099; D. rim (est.) 0.15.

Clay reddish yellow 5YR 6/6.

Ring foot; slightly convex lower wall; concave upper wall; thickened rim with groove and fillet on lower edge.

Interior: rouletting.

Cf. **10.128**.

Attic.

Ca. 350 B.C.

10.128 (78.1097)

Fig. 83

Isthmus TR1 tr2 (4b).

Single plate fragment; complete profile preserved.

H. 0.025; D. foot (est.) 0.11; D. rim (est.) 0.165.

Clay light red 2.5YR 6/6.

Ring foot with faint groove on inner edge of resting surface; slightly convex lower wall; thickened rim with groove and fillet on lower edge.

Interior: palmettes within wide band of rouletting.

Cf. Agora P6964, *Agora* XII, no. 1060, fig. 10.

Attic

Ca. 325-310 B.C.

10.129 (78.444)

Fig. 83; Pl. 73

Isthmus TR2 tr1 (4).

Single plate fragment; complete profile preserved.

H. 0.027; D. foot (est.) 0.099; D. rim (est.) 0.13.

Clay reddish 5YR 7/8.

Ring foot with groove on resting surface; underside slightly concave with central nipple; convex lower wall; concave upper wall; thickened rim with groove on lower edge.

Interior: six alternately linked palmettes and central circle within band of rouletting.

Cf. Agora P89, *Agora* XII, no. 1058, fig. 10.

Attic.

Ca. 350-325 B.C.

10.130 (78.261)

Fig. 83; Pl. 73

Isthmus TR3 tr2 (2).

Single foot and base fragment.

H. 0.020; D. foot (est.) 0.108.

reddish yellow Clay 5YR 7/6.

Ring foot with groove in resting surface; convex wall.

Interior: arc-linked palmettes within wide band of rouletting.

Cf. Agora P14649, *Agora* XII, no. 1052, pl. 36; Agora P89, *Agora* XII, no. 1058, fig. 10.

Attic.

Ca. 350-325 B.C.

FRAGMENTS OF UNCERTAIN SHAPE WITH UNUSUAL STAMPED DESIGNS

10.131 (75.209) Fig. 82; Pl. 73
 Structure 1 TR1 tr1 (8).
 Single fragment of open vessel 0.025 x 0.025.
 Clay light red 2.5YR 6/8.
 Slightly curving fragment.
 Interior: tongues (rosette?) surrounded by circle of meander.s.
Cf. Agora P9448, *Agora* XII, no. 493, pl. 50 for central rosette; Agora P4848, *Agora* XII, no. 491, pl. 51 for circle of meander.s.
 Attic.
 Late 5th century B.C.

10.132 (78.1471) Fig. 82
 Hill 2 TR3 (3).
 Single fragment of open vessel 0.022 x 0.04.
 Clay light red 2.5YR 6/8.
 Slightly curving fragment.
 Interior: incised olive leaves (without rib) radiating from centre.
 Graffito on exterior.
Cf. Agora P23645, *Agora* XII, no. 616, pl. 55 and Agora P21538, *Agora* XII, no. 505, p. 270 and pl. 52 for olive wreath and references to other uses of olive leaves.
 Attic.
Ca. late 5th century B.C.

10.133 (75.318) Fig. 82
 Structure 1 TR1 tr1 (7).
 Five joining fragments of open vessel 0.03 x 0.075.
 Clay reddish yellow 5YR 7/6.
 Slightly curving profile.
 Interior: two circles of ovules surrounded by circle of arc-linked palmettes.
Cf. Agora P9819, *Agora* XII, no. 534, pl. 53 for ovules.
 Attic.
Ca. late 5th century B.C.

10.134 (75.462) Fig. 82; Pl. 73
 Structure 1 TR1 tr1 (7).

Three joining base fragments of stemless cup (?).
 0.027 x 0.068.
 Clay reddish yellow 5YR 7/8.
 Slightly curving fragment.
 Interior: circle of tongues (or rosette?) surrounded by circle of palmettes.
Cf. Agora P13217, *Agora* XII, no. 488, pl. 50.
 Attic.
 Late 5th century B.C.

FRAGMENTS OF UNCERTAIN SHAPE WITH GRAFFITI

10.135 (78.424) Fig. 82
 Isthmus TR2 tr1 (4a).
 Two joining bowl (?) fragments: foot and base.
 H. 0.018; D. foot (est.) 0.070.
 Clay light red 2.5YR 6/6.
 Low ring foot with rounded resting surface.
 Resting surface and underside reserved and covered with red wash.
 Graffito on underside.

10.136 (78.1496) Fig. 82
 Isthmus TR3 tr2 (3) B24.
 Bowl (?) fragment: foot and base.
 H. 0.014; D. foot (est.) 0.065.
 Clay reddish yellow 5YR 6/6.
 Low ring foot.
 Resting surface and underside, except for glazed circle within broad band, reserved and covered with red wash.
 Graffito on underside.

10.137 (78.505) Fig. 82; Pl. 69
 Isthmus TR1 tr1 (4).
 Bowl (?) fragment: foot and base.
 H. 0.015; D. foot (est.) 0.060.
 Clay light red 2.5YR 6/6; light red wash 2.5YR 6/8.
 Low ring foot.
 Underside, except for glazed circle around light groove, reserved and covered with red wash.
 Graffito on underside.

11. THE WEST SLOPE WARE

Ann Steiner

INTRODUCTION

Only a few examples of the West Slope style of pottery have been recovered at Torone during the first three excavation seasons.¹ The intention in this chapter is to present the material in catalogue form without attempting to connect it with similar fabrics found at other sites, except in a very rudimentary way. A more detailed study of West Slope pottery from the site will be presented in the excavation reports to follow *Torone I*.

The difficulties attendant upon an analysis of West Slope ware need no reiteration here.² Unfortunately, no solutions to the vexing problems of dating are forthcoming from the Torone material; contexts yield no independent chronological evidence.³ The Torone pottery represents idiosyncratic regional productions with strong affinities to the "international" West Slope style.⁴

The material excavated at Torone most certainly does not represent a single fabric, and the evidence is too scanty to name any individual fabrics. "West Slope" pottery from nearby sites seems to be as distinct from the Torone material as are more distant productions.⁵

¹ The initial presentation and discussion of this pottery style is by C. Watzinger, "Vasenfunde aus Athen," *AM* 26 (1901) 67-102, followed by H. A. Thompson, "Two Centuries of Hellenistic Pottery," *Hesperia* 3 (1934) 311-477, especially 438-447. Although not properly Hellenistic, 11.1 is included in this chapter because it is the single inventoried example of an imported classical prototype for the examples of West Slope style. Relevant bibliography on the Classical and late fourth century black wares with painted decoration includes *Agora* XII, 18; G. Kopcke, "Golddekorierte Attische Schwarzfirniskeramik des Vierten Jahrhunderts v.Chr.," *AM* 79 (1964) 22-84.

² P. Callaghan, "The Trefoil Style and Second-Century Hadra Vases," *BSA* 75 (1980) 33-47, discusses the difficulties of studying local pottery productions in the Hellenistic period. His methods are exemplary despite the fact that his specific findings have limited application here.

³ S. Miller, "Menon's Cistern," *Hesperia* 43 (1974) 199 n.12 presents the dating problem with clarity. Of particular interest are her remarks dealing with the coordination of the evidence from Korone with that from Thompson's groups in the Agora. S. I. Rotroff *Agora* XXII (1982) 107-110, gives a clear revision of the dates of Thompson's groups based on reassessment of all the relevant material.

⁴ There are no parallels to the groups identified by Rotroff in her recent analysis of the material from the Athenian Agora: "Attic West Slope Vase-Painting," *Hesperia* 60 (1991) 59-102.

⁵ See for example, the material of West Slope style from a complex of Hellenistic tombs near Veroia, S. Drougou and I. Touratsoglou, *Ελληνιστικοί λαξευτοί τάφοι Βέροιας*, AD 28 (Athens 1980) 45f., especially pp. 115-159 and 161-163. The plain rimmed kantharoi PI 2173 and PI 2171, p.152, pl.66 have much cruder painted "necklaces" than any of those from Torone.

The connections with other fabrics which do exist are not especially illuminating; most motives, including ivy, necklaces and garlands are easily paralleled virtually everywhere.⁶ They are rendered in thinned clay, white paint and incision. At least two shapes, baggy and plain rimmed kantharoi, are ubiquitous.⁷ Two Torone fragments preserve slightly unusual decorations, both variations on common floral motives.⁸

An unusual degeneration of the moulded rim appears in one group of five kantharoi (**11.6-11.11**). Although the 4th century proportions, in terms of the height of the neck, persist, the moulding moves down on the neck and becomes perfunctory. This is in contrast to the exaggeration and elongation seen elsewhere.⁹

A catalogue of examples follows. Parallels mentioned in this introduction are not repeated in individual entries. Dates are suggested in the most general terms.

CATALOGUE

KANTHAROI

Sotadean

11.1 (78.1014)

Fig. 84; Pl. 74

Hill 2 TR2 Area 3 (2).

Three joining rim fragments.

H. 0.0295; D. (est) 0.11.

Clay reddish yellow 5YR 7/6.

Decoration reserved and in added white: garland of reserved ivy leaves with stems and berries in

added white, only a ghost of the white remaining in the case of the stems.

Cf. Agora P20696, *Agora* XII, pl.27, no. 632 for the decoration; Agora P2322, *ibid.* no. 641 for the shape.

440-400 B.C.

Plain Rim

11.2 (78.114)

Fig.84

Isthmus TR1 tr2 (4).

⁶ All motifs are paralleled at Athens or Corinth. The terminology here comes from H. A. Thompson, *supra* n.1, and *Corinth* VII, iii, 20-24.

⁷ Baggy and plain rimmed kantharoi appear at the following sites (in addition to many others): Agora- Groups A, B (Thompson, *supra* n.1); Kerameikos- Dipylon Well B-1, K. Braun, "Der Dipylon-Brünnen B-1. Die Funde," *AM* 85 (1970) 166-167, pl.79. For "baggy kantharoi" from Knossos, see P. Callaghan, "The Little Palace Well and Knossian Pottery of the Later Third and Second Centuries B.C.," *BSA* 76 (1981) 40-44 and J. Schäfer, *Hellenistische Keramik aus Pergamon. Pergamenische Forschungen* II (Berlin 1968) 61-62, pls. 14-16.

⁸ See **11.2** and **11.13**.

⁹ On these kantharoi, the moulded rim projects very little from the neck and it is rounded in profile. The decoration consists of ivy leaves, with the exception of **11.9** which preserves an olive branch. One example, **11.10**, stands out as later: the stems of the ivy leaves are incised. A distant parallel to the minimal moulding appears on a Boiotian kantharos from Eretria: Eretria II, 62 no.66, pl. 20. On this piece, the neck is much higher and straighter. At Athens and Corinth the profiles of moulded rims tend to become sharper and flatter. See the cup-kantharoi Agora P739 (Thompson, *supra* n.1, 338 no.B20, fig. 18) and Corinth C-47-77 (*Corinth* VII, iii, 74 no. 376, pls. 14, 51).

Nine joining and three non-joining fragments of neck and root of handle

H. 0.08.

Clay reddish yellow 5YR 7/6.

Concave neck; vertical handle.

Decoration in thinned reddish yellow clay and added white: olive branch garlands with tendrils and dots (olives?). At each end two ribbons with dots below hang from the garlands. Slight traces of added white details.

3rd century B.C.

Baggy (?)

11.3 (78.1570)

Fig. 84; Pl. 74

Lekythos TR2 (2).

Single rim and wall fragment.

H. 0.035; D. rim (est.) 0.11.

Clay reddish yellow 5YR 6/6.

Decoration in white paint, thinned reddish yellow clay and incision: necklace consisting of white painted oblique line and running below it an incised zigzag line with pendants in thinned clay.

Cf. Thompson, *Hesperia* 3 (1934) 374, D25, fig. 59 for the decoration.

2nd century B.C.

11.4

Fig. 84; Pl. 74

Structure 3 TR5 (2) and TR11 (3).

Eighteen rim and wall fragments, some joining.

Hole pierced through wall 0.01 below rim for repair in antiquity.

D. rim (est.) 0.11.

Clay reddish yellow 5YR 7/8.

Decoration: incised horizontal line with scallops below, debased "necklace with pendants" (the pendants in applied clay have flaked off).

Late 2nd century B.C.

11.5 (76.578)

Fig. 84; Pl. 74

Isthmus TR1 tr2 (3).

Two joining rim fragments.

H. 0.025.

Clay pink 7.5YR 7/4.

Decoration in thinned buff clay: garland with

berries and pendants. At left, ribbon hangs from garland.

Late 3rd-early 2nd century B.C.

Moulded rim

11.6 (78.1322)

Fig. 84; Pl. 74

Lekythos TR2 (5).

Single rim and wall fragment.

H. 0.029; D. (est.) 0.062.

Clay pale brown 10YR 6/3.

Decoration in pale brown thinned clay: garland of ivy leaves.

3rd century B.C.

11.7 (78.1323)

Fig. 84; Pl. 74

Lekythos TR2 (5).

Single rim and wall fragment.

H. 0.042; D. (est.) 0.09.

Clay reddish yellow 5YR 6/6.

Decoration in reddish yellow thinned clay: garland of ivy leaves. Clusters of three berries alternate with leaves.

Cf. *Corinth* VII. iii, pl.40, no.536 for the decoration.

3rd century B.C.

11.8 (78.1324)

Fig. 84

Lekythos TR2 (5).

Single rim and wall fragment.

H. 0.036; D. (est.) 0.09.

Clay reddish yellow 5YR 6/6.

Decoration in reddish yellow thinned clay: garland of ivy leaves. Clusters of three berries alternate with leaves.

Cf. **11.7** for shape and decoration.

3rd century B.C.

11.9 (78.1325)

Fig. 84; Pl. 74

Lekythos TR2 (5).

Single wall fragment.

H. 0.027.

Clay reddish yellow 7.5YR 6/6.

Decoration in reddish yellow thinned clay: olive branch.

3rd century B.C.

11.10 (78.998) Fig. 84; Pl. 74
 Lekythos TR2 (1).
 Single rim and wall fragment.
 H. 0.045; D. (est.) 0.08.
 Clay very pale brown 10YR 7/4.
 Decoration in pale brown thinned clay and incision: garland of ivy leaves, stems incised.
 Late 3rd-early 2nd century B.C.

11.11 (78.2801) Fig. 84
 Lekythos TR2 (2).
 Single rim and wall fragment.
 H. 0.039.
 Clay pink 5YR 7/4.
 Decoration in pink thinned clay and incision: ivy leaf with incised stem, probably part of a garland.
Cf. **11.10**.
 Late 3rd-early 2nd century B.C.

UNIDENTIFIABLE SHAPES

11.12 (78.1601) Fig. 84; Pl. 74
 Lekythos TR2 (5).
 Single rim and wall fragment.
 H. 0.028.
 Clay reddish yellow 5YR 6/6.
 Decoration in reddish yellow thinned clay and incision: below the rim two horizontal grooves. From the lower line hangs a necklace with pendants in thinned clay. To the right the end of the necklace hangs vertically and beside it is another vertical line.
 3rd century B.C.

11.13 (78.385) Fig. 84; Pl. 74
 Isthmus TR2 tr1 (4a).
 Single wall fragment.
 H. 0.056.
 Clay reddish yellow 5YR 7/6.
 Decoration in pink thinned clay and incision: three horizontal grooves; horizontal double spirals and lily in thinned clay. Fine incisions for preliminary sketch visible.
Cf. J. Schäfer, *Hellenistische Keramik aus Pergamon* (1968) Abb. 7, 2 of unknown provenance for the lily.

3rd century B.C.

11.14 (78.1321) Fig. 84; Pl. 74
 Lekythos TR2 (5).
 H. 0.04.
 Clay light red 2.5YR 6/6.
 Decoration in light red thinned clay and incision: garland of ivy leaves in thinned clay with long stems deeply incised.
 Probably from a kantharos similar in shape to **11.2**.
 Hellenistic.

11.15 (78.1616) Fig. 84; Pl. 74
 Hill 2 TR3 (4).
 Two joining wall fragments.
 H. 0.063.
 Clay reddish yellow 5YR 6/6.
 Decoration in reddish yellow thinned clay: garland of laurel leaves from which hang two vertical lines (ribbons?).
Cf. J. Schäfer, *Hellenistische Keramik aus Pergamon* (1968) 61, D54, pl. 14 for the leaves.
 Hellenistic.

11.16 (78.456) Fig. 84; Pl. 74
 Isthmus TR1 tr1 (4).
 Two joining wall fragments.
 H. 0.023.
 Clay pink 5YR 7/3.
 Decoration in pink thinned clay: garland with berries above and below. Below the lower row of berries are pendant leaves each with two dots below.
 At left, a ribbon hangs from the garland.
Cf. **11.5** for the decoration.
 Hellenistic.

11.17 (76.610) Fig. 84
 Isthmus TR1 tr1 (3).
 Single wall fragment.
 H. 0.024.
 Clay reddish yellow 5YR 7/6.
 Decoration in reddish yellow thinned clay: part of a garland of leaves.
Cf. **11.9** for the decoration.
 Hellenistic.

12. THE GREEK DOMESTIC POTTERY

Sarah Peirce

INTRODUCTION

AIMS AND METHODS

This chapter concerns what is termed, following the authors of *Agora* XII, domestic pottery, to distinguish it from fine and table wares.¹ The category comprises cooking ware, storage pithoi, and the somewhat finer plain, banded and patterned vessels used for ordinary household purposes. The domestic pottery of Torone published here is all, or virtually all, of local manufacture. In analysing and dating this pottery we are breaking new ground. More than with most other categories of objects from the site, we are thrown back upon our own material for evidence for a typology and chronology of the category as a whole. This isolation from groups of pottery from other sites is in the nature of domestic wares. The role of functional considerations in its design and its production in workshops, normally separate from those producing fine ware, free domestic pottery from the dictates of fashion. Repertories and types thus tend to be both traditional and local. It is necessary to assume that typological correspondences between the Torone domestic pottery and the household wares of other sites will be inexact and hence chronologically unreliable. The evidence for dated sequences of the range of types of the local domestic pottery must come from Torone itself.

It is, however, only comparative material that can make the Torone domestic pottery understandable in a broader context, providing a general typological framework for the specific local variations, defining the region in which the local style developed, and illuminating the traditions that lie behind it. The general types are widespread. The cooking vessel types and the pithoi are universals occurring over a broad geographical and chronological span.² The main types of household wares considered here - the several varieties of lekanai, the lekanides, bowls, amphorae or hydriai and storage amphorae - have approximate parallels with the same types from many

¹ For the classification, see *Agora* XII, p. 33. In the present study I follow the typologies and terminology of *Agora* XII. The manuscript was completed in 1981. It has not been possible for me to take account of material published after that date.

² *Agora* XII, pp. 224-229 for cooking ware; for pithoi *Agora* XII, pp. 193-195.

regions; these parallels are both with the shapes and with the standard form of decorative banding.³ More unusual is the frequent use of wavy lines in the decorative scheme, notably on the necks of amphorae/hydriai, and the floral decoration, especially in the form of petal-shaped strokes of paint. These features tie our domestic ware to the "Pre-Persian" painted wares of Olynthos, which show a number of correspondences with our material in shape and decoration.⁴ The stylistic parallels are reinforced by the close similarity of the fabric of these Olynthian painted wares to that of many of the Torone wares. The dating of the Olynthos painted wares is too uncertain,⁵ and our material as yet too incomplete to permit comparisons of the kind that would make clear the relationship of the pottery of the two sites. We cannot say whether the resemblances indicate the use at both sites of the contemporary products of the same manufacturing centres, or rather the persistence at Torone of earlier traditions of Olynthos. It is at least certain that the two repertoires belong to the same general tradition, one that can be designated, broadly speaking, Chalkidic.

Other parallels for the Olynthos material give this Chalkidic style an early history. Some Olynthos pieces have been considered locally-made versions of East Greek wave-line ware and other common wares, transplanted to the region in the wake of Ionian colonization.⁶ The Torone examples may tentatively be viewed as late expressions of the same tradition and as evidence for the survival down into the 4th century B.C., in this isolated region, of a style brought to its shores in the sixth century, whose roots are in the eighth. To test this hypothesis, we will need the evidence provided by dated sequences of Torone types to bridge the gap between the dated Torone material of the fourth century and the latest archaic versions of the East Greek wares.

The establishment of these dated sequences, the ultimate aim of study of the

³ For the banding, see the Agora amphorae, *Agora* XII, pls. 60-63; storage bin, *ibid.*, pls. 67-68; lekanides, *ibid.*, pl. 69; hydriai, *ibid.*, pl. 70; jug, *ibid.*, pls. 73-78; lekane, *ibid.*, pls. 82-87.

⁴ On the "Pre-Persian" Group III wares, *Olynthus* V, pp. 25-46, 54-63 and pls. 25-41; *Olynthus* XIII, pp. 45-52 and pls. 1-10. Also kindred to the "Pre-Persian" Olynthos pottery and the Torone pottery are the vases of the "Pyrgadikia group," for which see E. Yiouri, *AD* 22, *B2 Chronika* (1967) pp. 403-404 and pl. 307a, Ph. Petsas, *AD* 24, *B2 Chronika* (1969) pp. 310-311 and pl. 325y and E. Yiouri, "Η κεραμική της Χαλκιδικής στον 4^ο αιώνα π.χ.," in M. Andronikos (ed.), *Kernos. Papers in Honor of George Bakalakis* (Thessalonike 1972) pp. 11-14 and pls. 3-6. I am grateful to O. Tudor Jones for bringing Pyrgadikia to my attention.

⁵ *Olynthus* V, pp. 15-16.

⁶ *Olynthus* V, pp. 56-63; K. Rhomiopoulou, "Pottery Evidence from the North Aegean," *Les céramiques de la Grèce d'est et leur diffusion en occident* (Paris 1978) pp. 62-65. For these wares in East Greece, G. M. A. Hanfmann, "On Some Eastern Greek Wares found at Tarsus," *The Aegean and the Near East* (Locust Valley, NY 1956) pp. 176-182.

domestic pottery, has not been undertaken in the present report. This report provides, rather, a conspectus of some attested types with context dates when these are available. Evidence is lacking for a full study. Our assignments to shape-types have been made, and must be treated, with great caution, because of the very fragmentary nature of the material: for most of the shapes to which we are assigning our fragments we do not know the complete profile. We also have no evidence on which to base a reconstruction of the full repertory of shapes. The inventory presented here has not been compiled with reference to the full assemblage of domestic pottery types; the fragments were inventoried on a piecemeal basis by individual excavators in the 1975-1978 seasons, with selection on grounds of preservation, decoration or unusual features. The range of shapes, therefore, is almost certainly incomplete. Moreover, contexts from which the fragments come are not precisely dated and the pottery is by its nature not intrinsically datable. Thus, we cannot undertake an evolutionary study of different shapes.

FABRIC

Two fabrics are employed in the manufacture of domestic pottery: a standard household type, used for most vessels and a cooking fabric, used for vessels placed on a fire, and, in a heavier version, for the barrel cooker and for storage pithoi.

Standard household ware.

This is readily recognizable in its coarser versions as the fabric of the local wine amphorae.⁷ In household vessels, it can vary in texture from the coarseness of these amphorae to a fineness approaching that of glazed tableware. The colour is generally pink-buff to orange-brown (2.5YR 7/6-6/6 to 5YR 7/4-7/6) with a darker red to grey core, and red paint. When fired in a reducing atmosphere the fabric and paint look quite different; abundant examples of the same types of pot fired differently show that despite appearances the fabric is the same. In these reduced versions, the clay is brown to grey-brown or yellow-brown (7.5YR 7/6 to 7.5 YR 7/3), the paint brown to black and less lustrous than its oxidised counterpart. The surface of both types has often fired lighter than the clay, with a rough feel sometimes approaching a chalky texture; this effect has been noted also in the transport amphorae, where it seems to

⁷ See below, chapter 13, p. 502.

occur at random.⁸ In the case of the domestic pottery it sometimes appears to have been deliberately exploited for its decorative potential.

The finest versions of this fabric are smoothly finished, sometimes with a glossy surface (12.16-12.32); a few also have zones of geometric and floral decoration in distinction from the standard bands (12.24-12.25, 12.27-12.32). This class presents evidence that table and household wares were closely allied at Torone, and consequently there is a problem of classification, that of deciding where the boundary between them lies. Evidence from the Athenian Agora sheds light on the problem. Here, Talcott notes, banded fine and household wares were produced together down to *ca.* 480, resulting in the appearance of fine ware features in early lekanai and a class of elaborate painted household lekanides;⁹ these are similar in their mixed character to the Torone fine household wares. The Athenian table ware and household wares subsequently parted company, both types diverging completely, when banded wares were supplanted by black glaze for table ware.¹⁰ At Torone, however, domestic pottery and table ware seem to have continued down the same road together, typologically speaking, well into the 4th century. Thus we see fine ware finishes, ribbon handles and elaborate painted decoration on a category of pottery that in other respects is to be classified as domestic. We can tentatively posit a common source of production for these ornate domestic wares and local table wares. A comparison of their repertoires and evolution should provide a basis for definite conclusions.

Cooking ware¹¹

This too is made of local clay, typically dark brown or red-brown, gritty, with a smooth outer surfacing. In the case of the small cooking vessels the fabric is hard and the walls thin; the fabric resembles that of Athenian examples produced with beater and anvil,¹² although at Torone positive evidence for this technique has not been observed. The barrel cooker 12.65 is a very heavily tempered, heavy-walled version of the cooking ware fabric, with a thick smooth outer surfacing; this fabric, termed pithos/oven ware, is also used in making the storage pithoi.

⁸ See below, chapter 13, p. 502.

⁹ *Agora* XII, pp. 14, 38.

¹⁰ *Agora* XII, p. 38.

¹¹ For cooking ware fabrics in the Athenian Agora, *Agora* XII, pp. 34-36.

¹² *Agora* XII, p. 35.

CATALOGUE

LEKANAI (12.1-12.23)

Lekanai fall into seven types by profile and fabric. These are as follows.

A. Handles turned up to rim

1. Attached to top of rim
2. Attached to top of rim(?); finer walled than A 1
3. Attached below rim (?); variant red fabric
4. Attached below rim; heavy walled, variant red fabric

B. Miscellaneous heavy lekanai

C. Out-and down-curved rim; fine well finished fabric

D. Straight walled or carinated profile with horizontal rim; very well finished fabric

These types will be discussed at the heading to the catalogue section of each.

Type A 1: Lekane with handles attached to top of rim.

We have firm evidence of fourth century context for this type, though it may well go back earlier. This is a substantial household lekane; examples catalogued here range in their estimated diameters from 0.35 to 0.43 m. The fabric is a fairly heavy, hard-fired version of the standard household ware; the paint is the typical glossy red. The type of base is uncertain. The wall is fairly heavy and curves outward to a horizontal broad out-turned rim with its lip squared off vertically. The loop handles are turned up and attached to the top of the rim. None of these lekane fragments preserves more than traces of the decoration, which was likely to have been composed of bands, with bars or lines on the rim.

12.1 (78.490)

Fig. 85; Pl.75

Isthmus TR2 tr1 (5a).

Rim and body fragment with one handle preserved.

M.P.H. 0.064.

D. (est.) 0.43.

Standard local household ware.

Clay fairly fine with calcareous inclusions, gold mica; clay is pink (5YR 7/4) with grey core; surfacing is yellow-buff (7.5 YR 8/6).

Wall of lekane flares out toward rim and is slightly curved. Broad out-turned horizontal rim, thickened at outer edge; square lip; horizontal round loop handle turned up and attached at top surface of rim.

Context 4th century B.C.

Rim and body fragment with part of one handle preserved.

M.P.H. 0.051.

D. (est.) 0.37.

Standard local household ware.

Clay fairly fine with calcareous inclusions and gold and silver mica; clay is pink (5YR 7/4) without core; surfacing buff (7.5YR 8/6)

Flaring sides, slightly curved. Broad out-turned rim, slightly down-turned rather than horizontal; square lip. Horizontal round loop handle turned up and attached to top of rim.

Context 4th century B.C.

12.3 (78.120)

Fig. 85

Isthmus TR1 tr1(4).

Rim and body fragment with one handle preserved.

M.P.H. 0.029; D. base (est.) 0.35.

12.2 (78.353)

Fig. 85

Isthmus TR2 tr1 (3).

Standard local household ware.

Clay fairly fine with calcareous inclusions and gold and silver mica. Pink clay (5 YR 7/6) without core; surfacing rough-textured, buff, almost greenish (10 YR 8/6).

Paint is red.

Wall flares and is slightly curved. Broad out-turned horizontal rim, thickened at outer edge; square lip; round horizontal loop handle turned up and attached to top of rim.

Traces of paint on rim.

Context 4th century B.C.

12.4 (75.635)

Fig. 85

Structure 1 TR1 tr1/3 Baulk (5).

M.P.H. 0.084.

D. (est.) 0.39.

Standard local household ware.

Clay medium textured with fairly large calcareous inclusions; gold mica; clay is brownish-red (2.5YR 5/6) with red core (2.5 YR 5/8); surface is worn off.

Paint is red.

Flaring wall; broad out-turned rim; horizontal round loop handle turned up and attached to top of rim.

Traces of paint on handle and rim.

Context yielded 5th and 4th century pottery; latest identifiable material dated to *ca.* 325-320 B.C.

Type A 2. Lekane with handles attached to top of rim(?); finer-walled than type A 1.

This type seems to be a finer-walled, though not necessarily smaller, version of type A 1; the developmental relationship of the two types is unclear. The fragments of type A 2 represent a somewhat finer version of the local household fabric. A flaring, straight or slightly curved wall rises to a horizontal out-turned rim with square or rounded lip. There is no evidence for the way in which the upturned handles were attached to the rim, but the breadth of the rim and the general type indicate that they were probably attached to the top of the rim as in type A 1. The interior and exterior may be banded and on the rim there is a wavy line, and, in one case, bars.

12.5 (78.1537)

Fig. 85

Isthmus TR3 tr1 (3) B7.

Rim and wall fragment with part of one handle attachment.

M.P.H. 0.032.

D. (est.) 0.30.

Standard local household ware.

Clay fairly fine; calcareous inclusions; silver mica; clay is pinkish-buff (7.5YR 6/6) surfacing yellow-buff (7.5YR 8/6).

Paint red.

Flaring wall with slight outward curve. Broad horizontal out-turned rim, with outer edge thickened; square lip; horizontal loop handle, originally turned up and attached to the rim, probably to the top surface.

Interior: a band from the rim down.

Exterior: on the out-turned rim, a wavy line.

Context Classical, but not precisely dated.

12.6 and **12.7** are tentatively assigned to type A 2.

12.6 (75.267)

Fig. 86

Structure 1 TR1 tr1 (7).

Rim and wall fragment.

M.P.H. 0.081.

D. (est.) 0.42.

Standard local household ware.

Clay medium texture with fine sandy inclusions; silver mica; clay pale orange (5YR 7/6); surfacing yellow-buff (7.5YR 8/6).

Paint red.

Probably very like **12.5** above. Wall straighter and more vertical than in preceding examples; two parallel grooves on exterior wall. Broad out-turned rim, slightly down-turned from the horizontal; lip square.

Interior: Band of paint from rim down.

Exterior: on rim wavy line of paint.

Context yielded 5th and 4th century pottery and a

sprinkling of earlier material; latest identifiable material dated to *ca.* 325-320 B.C.

12.7 (78.593)

Fig. 85

Isthmus TR1 tr3 (1).

Rim and wall fragment.

M.P.H. 0.031.

D. (est.) 0.29.

Standard local household ware, well finished.

Clay medium-texture, pink-brown (5YR 6/4) with yellow-buff surfacing (7.5YR 8/4).

Paint is dark brown.

Sides of lekane quite steep and straight as far as preserved. Horizontal out-turned rim with rounded lip.

Exterior: on rim, group of thick bars.

Context: topsoil.

Type A 3. Lekane with handles attached below rim (?); variant red fabric.

A variant fabric occasionally occurs in these and other shapes. This is generally dark red, hard-fired and with a rough and porous texture, giving the illusion of coarseness, though the inclusions are small and the fabric is not gritty. The surface tends to develop thin greeny-white patches. This fabric is likely to be the local clay subjected to different firing conditions than those that produce the standard fabric, or with an admixture of salts.¹³

One example of this type of lekane comes from a 4th century context; the others are less precisely dated. These lekanai have a fairly straight steep wall, and an out-turned rim, not very broad, which may have rough grooves. Standard decoration consists of bands on the interior and exterior and a wavy line along the exterior wall.

12.8 (75.262)

Fig. 86

Structure 1 TR1 tr1 (7).

Rim and wall fragment with part of one handle preserved.

M.P.H. 0.067.

D. (est.) 0.35.

Variant rough-finished household ware.

Clay medium, calcareous with sandy grit; clay is reddish brown (5YR 6/8), without core; no surfacing or surfacing not preserved.

Paint dark red.

Fairly narrow horizontal out-turned rim; horizontal round loop handle turned up and attached, probably, to underside of rim.

Interior: Band of paint below rim (not indicated in drawing).

Exterior: band on rim; horizontal line across wall and over handle.

Context yielded 5th and 4th century pottery, and a sprinkling of earlier material; latest identifiable material dated *ca.* 325-320 B.C.

Tentatively assigned to type A 3:

12.9 (76.625)

Fig. 86

Isthmus TR2 tr1 (3a).

Rim and wall fragment without handle.

M.P.H. 0.091.

D. (est.) 0.39.

Variant rough-finished household ware.

Fabric like that of 12.8; calcareous inclusions; silver and gold mica; clay is reddish-brown (5YR 7/4) without core or surfacing.

Paint red.

Wall is straight with only slight flare outward to rim; rim is partly broken off, but the preserved portion shows it to be out-turned and horizontal.

Interior: band of paint below rim (not indicated in drawing).

Exterior: on the wall, wavy bands.

Context 4th century B.C.

Tentatively assigned to this type:

¹³ See above, pp. 475-746 and below, chapter 13, p. 502 with n.11.

12.10 (75.22)

Fig. 86

Structure 1 TR1 tr1 topsoil.

Rim and wall fragment, without handle.

M.P.H. 0.061.

D (est.) 0.37

Variant rough-finished household ware.

Clay medium textured; sandy and calcareous grit; gold mica. Clay is dark red-brown (2.5YR 4/6).

Paint red.

Horizontal out-turned rim with grooved surface.

Exterior: wavy band on wall (not indicated in drawing).

Context yielded 5th and 4th century material, with a sprinkling of earlier pottery; latest material *ca.* 320 B.C.**12.11** (75.428)

Fig. 86

Structure 1 TR1 tr1 (8).

Rim and wall fragment, without handle.

M.P.H. 0.087.

D. (est.) 0.40.

Variant rough-finished household ware.

Clay medium textured with sandy and calcareous grit; gold and silver mica; clay is red-brown (5YR 6/6) with grey core; surface is pinkish (7.5YR 8/3) in uneven patches.

Paint is red.

Wall quite straight; out-turned horizontal rim.

Interior: irregular band of paint close to rim.

Exterior: wavy band on wall, with band below.

Context yielded predominantly 5th and 4th century pottery, with a sprinkling of earlier wares; latest material dated *ca.* 380-340 B.C.*Type A 4. Lekane with handles attached below the rim; heavy wall; variant red fabric.*

Another lekane shape in the variant fabric described above under lekane type A 3 is heavy-walled, smaller in diameter (*ca.* 0.30) and uncompromisingly utilitarian. One comes from a fourth century context. In this type a round loop handle is turned up vertically to adhere to the wall, with the top of the handle tucked in below the narrow out-turned rim. The examples are undecorated. This type is suitable for cooking, though there is no evidence that these pots were so used, and this is not the standard local cooking ware.

12.12 (76.900)

Fig. 86

Isthmus TR2 tr1 (3a).

Rim and wall fragment, with part of handle.

M.P.H. 0.049.

D. (est.) 0.24.

Variant rough-finished household ware. Clay medium textured, with a rough surface; hard-fired; fairly fine grit, large particles of gold and silver mica. Colour dark red (2.5YR 5/6) uniformly.

Wall flares slightly to rim; out-turned rim; round horizontal loop handle turned up and attached to underside of rim.

Context 4th century B.C.

12.13 (78.1470)

Fig. 86

Hill 2 TR3 (3).

Rim and wall fragment with handle.

M.P.H. 0.042.

D.(est.) 0.29.

Variant rough-finished household ware. Fabric like 12.12 above, but with a greeny-yellow surface in patches on the exterior and covering the interior.

Wall flares to out-turned rim; round horizontal loop handle turned up and attached to underside of rim.

Context mostly Classical, some Archaic; nothing clearly later than Classical/Early Hellenistic.

Type B: miscellaneous heavy-walled versions

Both examples in this category come from 4th century contexts. They are thick-walled and the fabric is a heavy version of standard household type. Both have the horizontal rim typical for household lekanai. Neither fragment preserves a handle. Both fragments are roughly decorated with lines and splotches.

12.14 (76.688)

Fig. 87

Isthmus TR2 tr1 (3).

M.P.H. 0.021.

D, (est.) 0.40.

Standard local household ware.

Clay fairly coarse; abundant fine calcareous grit; fine silver mica. Clay is light greyish-brown (7.5YR 7/3) with pink core (2.5YR 6/6); surface is yellow-buff (7.5YR 8/3).

Paint is black to brown.

Very heavy lekane. Broad horizontal rim, thickened at outer edge; rounded lip.

Interior: irregular line of paint at inner border of rim (not indicated in drawing).

Exterior: across top of rim, wavy line.

Context 4th century B.C.

12.15 (78.1760)

Fig. 87

Isthmus TR2 tr1 (5a).

Rim and wall fragment.

M.P.H. 0.046

D. 0.44.

Standard local household ware.

Clay fairly coarse; considerable amount of sandy grit and gold and silver mica. Clay is pinkish buff (2.5YR 7/6) without core; surfacing is smoother and yellower (7.5YR 8/4).

Large lekane, with broad horizontal out-turned rim; lip rounded.

Interior: wide band below rim.

Exterior: irregular splotch of paint on rim.

Context 4th century B.C.

Type C: Lekane with out- and down-curved rim; fine well-finished fabric.

All examples published here come from 4th century contexts.

These are large lekanai, the estimated diameter of our examples ranging from 0.35 to 0.48 m.; but the walls are thin and the pots well made and smoothly finished. The fabric is a fine and well-levigated version of the standard local household ware, hard-fired, with glossy red paint in careful banding. These lekanai probably had a ring base; the straight rather steep wall flares rather than curves outward to the rim, which curves out and down. Though we have no complete example, we conclude from the steepness and the large diameter that the lekanai were quite tall.

12.16 (78.948)

Fig. 87

Isthmus TR2 tr1 (3-4).

Rim and wall fragment.

M.P.H. 0.052.

D. (est.) 0.40.

Standard household ware, fine version.

Fabric fine, hard-fired; fine calcareous inclusions and silver mica.

Clay is pinky-orange (5YR 7/6) without core; surface is yellow-buff (7.5YR 8/6).

Paint is red to red-brown and streaky.

Flaring wall; out- and down-curved rim with rounded lip.

Interior and rim: band below rim; band at rim overlaps interior and covers all of rim.

Exterior: band on wall.

Context 4th century B.C.

Isthmus TR2 tr1 (3).

Rim and wall fragment.

M.P.H. 0.042.

D. (est.) 0.38.

Standard household ware, fine version.

Clay fine, hard-fired, with fine calcareous grit and gold mica; colour is pink-buff (7.5YR 7/6).

Paint is orange-red.

Flaring wall; out- and down-turned curving rim with rounded lip.

Interior and rim: band below rim; band at rim overlaps interior and covers all of rim.

Context 4th century B.C.

12.18 (76.816)

Fig. 87

Isthmus TR2 tr1 (3).

Rim and wall fragment.

M.P.H. 0.045.

D. (est.) 0.47.

12.17 (76.696)

Fig. 87

Standard household ware, fine version.

Clay is fine and hard, with fine calcareous grit and silver mica; colour is pink-orange (2.5YR 6/6) without core; surfacing yellow-buff (7.5YR 8/4).

Paint is red.

Flaring wall; ridge at inner edge of rim; out- and down-turned curving rim; rounded lip.

Interior and rim: band below rim; band at rim overlaps interior and covers all of rim.

Context 4th century B.C.

Tentatively assigned to *type C*:

12.19 (76.657)

Fig. 87

Isthmus TR2 tr1 (3a).

Base and wall fragment.

M.P.H. 0.040.

D. base (est.) 0.11.

The fabric links this base with the rim fragments above.

Clay fine, a few calcareous inclusions; gold and silver mica; pink-orange clay (5YR 6/6) without core; yellow-buff surface (7.5YR 7/6).

Paint red and glossy.

Flaring ring base; undersurface is slightly concave and has continuous curve from resting surface. Sides of lekane widely flaring.

Interior: band above floor.

Exterior: band over foot.

Context 4th century B.C.

Type D: lekane with straight-walled or carinated profile and horizontal rim; very well finished fabric.

This is a very miscellaneous group, primarily because our material is too fragmentary to provide the evidence needed for an exact typology. The group comes from Structure 1 and its environs; no example is more closely dated than to the 5th-4th century. These are substantial lekanai, made of well-levigated clay; a common feature is the well-finished surface, in a number of examples smooth and glossy. There seem to be two profile types, straight-walled (**12.22**) and carinated (**12.20-12.21**) the latter resembling the profile of the small local bowls. Both types have a horizontal rim; both can have strap handles rising from the rim (**12.21-12.22**) though a strap handle attached below the rim also occurs (**12.20**). A ring base fragment is associated with this group by its fabric. Bars on the rim are standard, and there may also be bands or wavy lines on interior and exterior.

12.20 (75.585)

Fig. 88

Structure 1 TR1 tr2 (3). Below B.

Rim and wall fragment with part of handle.

M.P.H. 0.023.

D. (est.) 0.36.

Fine well-finished household ware.

Clay is fine and hard with smooth surface; fine mica; clay is uniformly dark red (2.5YR 5/6).

Paint is dark red.

Flaring wall turns upward vertically at carination; horizontal out-turned rim; horizontal strap handle attached at rim. Traces of paint on rim and handle.

Context yielded some 5th century material, but mainly pottery dating to the 4th century B.C.

12.21 (75.649)

Fig. 88

Structure 1 TR1 tr1/3 Baulk (6).

Rim and wall fragment with part of handle.

M.P.H. 0.078.

D. uncertain.

Fine well-finished household ware.

Clay fine, surface smooth; fine white inclusions; abundant fine golden mica; clay is pink-brown (2.5YR 6/8), red at the core (2.5YR 5/6); surface is yellow-buff (7.5YR 8/4).

Paint is black.

Flaring wall turns up vertically at carination; broad out-turned horizontal rim; strap handle almost oval in section rises from rim.

Interior: band of paint extends from rim down.

Exterior: on rim and handle, bars; band of paint around periphery of handle attachment; band of paint on wall at carination.

Context yielded 5th and 4th century pottery; latest identifiable material dated to *ca.* 325-320 B.C.

12.22 (75.326)

Fig. 88

Structure 1 TR1 tr1 (8).

Rim and wall fragment, with part of handle.

M.P.H. 0.078.

D. uncertain.

Fine well finished household ware.

Clay fairly fine with smoothed surface; fine calcareous inclusions and voids; abundant fine gold and silver mica; clay reddish brown (5YR 6/8); surface browner (7.5YR 6/8).

Paint red to dark reddish brown.

12.23 (76.356)

Fig. 88

Gate Area TR4 Ext. 1 (4).

Base and lower wall fragment.

M.P.H. 0.038.

D. base (est.) 0.09.

Fine well finished household ware. This fragment is associated with the preceding piece by its fabric.

Clay fine with smooth surfacing; a few calcareous inclusions; fine silver mica.

Clay pink (5YR 7/6) with a grey core; surface buff (7.5YR 8/4).

Paint dark red.

Short flaring ring base; lekane has fairly steep sides. Interior: floor reserved; painted solid above.

Exterior: two bands preserved (only one indicated in drawing). Undersurface: a band (not indicated in drawing).

Context 4th century.

PLATE (12.24)

12.24 (78.1186)

Fig. 88

Isthmus TR1 tr2 (6b).

Wall fragment, broken on all sides.

M.P.H. 0.02.

M.P.W. 0.06.

Fine, well finished fabric; this may represent either a very fine version of the local household ware or local painted table ware.

Clay fine, with small calcareous inclusions; gold and silver mica; clay red-brown (5YR 6/6)

without core; surface smooth, same colour as clay.

Paint thick red. Exterior unpainted. Interior preserves part of a pattern of petals arranged in a circle around a central axis.

Between each petal, at the tip, a single chevron with a dot within; between each petal, at its base, a dot. Inside the circle of petals a band.

Context 4th century B.C.

LEKANIDES AND SMALL BOWLS (12.25-12.32)

This is a somewhat miscellaneous lot, embracing two lekanides, a possible lekanis lid, and a small group of modest bowls of similar type. One bowl fragment (12.27) comes from a 4th century context; the contexts of the other fragments are either 5th and 4th centuries or not closely datable.

All the fragments are fine, well-finished versions of household fabric. A justification for the grouping together of these fragments can be found in their similar form and function as fairly small, delicate, decorative bowls. They are also marked by a predilection for floral ornament in the form of rows of single leaves made by drop-shaped strokes of paint, a type of decoration conspicuous in the "Pre-Persian" local painted ware of Olynthos.¹⁴ One lekanis (12.25), an exceptionally fine version of the standard buff paint-

¹⁴ *E.g. Olynthus* V, pl. 26, P 33 and pl. 40, P 77.

ed household fabric, is difficult to associate typologically with the other inventoried fragments. The second lekanis (12.26) is a small lidded version of the lekane of red well-finished clay (12.20). Several bowls, too, (12.29-12.30) seem almost miniature versions of the household lekanai; in them we see the horizontal rims and the carinated profiles of several lekanai (12.20-12.21).

12.25 (78.871)

Fig. 89; P1. 75

Isthmus TR1 tr3 (2).

Lekanis, rim and wall fragment.

M.P.H. 0.038.

D. (est.) 0.22.

Fine well-finished household ware.

Clay fine with small inclusions; silver mica. Clay is pink-brown (5YR 7/6) with grey core; surface pink-buff (5YR 8/4).

Paint black to red-brown.

Wall flares, then turns upward almost vertically at carination. Vertical pinched lug below rim. Rim has exterior flange and short vertical lip.

Interior: band below carination.

Exterior: bands below carination; below rim, zone with irregular floral pattern in the form of vertical petal-shaped strokes of paint. The rim is painted solid.

Context mixed.

12.26 (75.315)

Fig. 89

Structure 1 TR1 tr1 (8).

Lekanis, rim and wall fragment with part of handle.

M.P.H. 0.031.

D. (est.) 0.24.

Fine well-finished household ware.

Clay fine and hard, with smooth surface; abundant gold mica; colour is dark red (2.4YR 5/6) uniformly.

Paint not preserved.

Rim has exterior flange, and almost vertical lip, slightly out-turned; horizontal strap handle attached below rim.

Context yielded predominantly 5th and 4th century pottery, with a sprinkling of earlier wares; latest material dated *ca.* 380-340 B.C.

12.27 (78.1359)

Fig. 89

Isthmus TR3 tr2(3) B21.

Bowl, rim and wall fragment.

M.P.H. 0.023.

D. (est.) 0.12.

Fine well-finished household ware.

Clay fine and hard, with smooth surface; pinkish-brown (5YR 6/4) with pale grey core; surface pink-buff (5YR 8/4).

Paint is brown and glossy.

Open bowl without offset rim.

Interior: a band at rim.

Exterior: a line below a row of irregular vertical petal-shaped strokes of paint; band at rim.

Context 4th century B.C.

12.28 (78.766)

Fig. 89

Hill 2 TR2 Area 3 (1)

Bowl, rim and wall fragment.

M.P.H. 0.023.

D. (est.) 0.12.

Fine well-finished household ware.

Clay fairly fine; voids; fine silver and gold mica; pink-buff (7.5YR 7/4), without core; surface yellow-buff (7.5YR 8/4).

Paint pale orange-brown.

Flaring wall; out-turned horizontal rim. Rim: band that extends onto the interior wall.

Exterior: preserves a row of vertical petal or tongue-like strokes of paint.

Context mixed, although material predominantly Classical.

12.29 (75.293)

Fig. 89

Structure 1 TR1 tr1 (7).

Bowl, rim and wall fragment.

M.P.H. 0.023.

D. (est.) 0.28.

Standard household ware. Clay fine, calcareous inclusions, silver mica; light reddish-brown (5YR 6/6), without core.

Paint is black to brown and glossy.

Wall flares outward to carination, then turns upward almost vertically. Outturned horizontal rim.

Rim: band that extends onto the interior wall.

Exterior: preserves top of a row of petals or tongue-like strokes of paint.

Context yielded 5th and 4th century pottery; latest identifiable material dated to *ca.* 325-320 B.C.

12.30 (75.546)

Fig. 89

Structure 1 TR1 tr1 (9).

Bowl, rim and wall fragment.

M.P.H. 0.025.

D. (est.) 0.22.

Standard household ware.

Clay medium to fine, with calcareous inclusions and voids; fine silver mica. Clay reddish-brown (5YR 7/6) without core; surface yellow-brown (7.5YR 7/6).

Paint is black to red.

Wall flares outward to carination, then turns upward almost vertically. Out-turned horizontal rim.

Interior: traces of a band on junction of rim and wall (not indicated in drawing).

Exterior: preserved is the top of a row of petal-like or tongue-like vertical strokes of paint, with the top of the strokes on the underside of the rim. Context yielded predominantly 5th and 4th century pottery, with a sprinkling of earlier wares; latest material dated *ca.* 380-340 B.C.

12.31 (78.1221)

Fig. 89

Hill 2 TR2 Ext. (1)

Lekanis or bowl, base and lower body.

M.P.H. 0.022.

D. base 0.08.

Fine well-finished household ware.

Clay is fine and hard, with smooth surface; calcareous inclusions, gold mica; pink-buff (7.5YR 7/4) with yellow-grey core (10YR 6/3); surface yellow-buff.

Paint is orange-red to brown.

Flaring ring base.

Interior: two bands preserved.

Exterior: foot painted solid; preserved above foot is bottom of band of ray-like vertical strokes. On underside, bands.

Classical context, 5th and 4th centuries B.C.

12.32 (75.273)

Fig. 88

Structure 1 TR1 tr1/3 Baulk (5).

Lid fragment, broken on all sides, probably of a lekanis or other fine-walled painted covered vessel.

M.P.L. 0.09.

M.P.H. 0.05.

Clay medium texture; calcareous and sandy inclusions; gold and silver mica; light brown (5YR 6/4) with grey core; smooth yellow-brown surfacing (5YR 6/6).

Paint red-brown.

Fragment shows lid to have been fairly flat and to have thickened progressively toward the center.

Interior: preserved are two bands.

Exterior: preserved is part of branch with leaves.

Context yielded 5th and 4th century pottery; latest identifiable material dated to *ca.* 325-320 B.C.

HYDRIA I OR TABLE AMPHORAE (12.33-12.39)

The only closely dated examples are **12.33**, **12.36**, and **12.38**, all three from 4th century contexts. The close similarity of the rim and neck fragments **12.34**, **12.35** and **12.37** to **12.33** may indicate either that these are close in date to **12.33** or that the type was very conservative. Parallels for this class exist among the "Pre-Persian" wares of Olynthos; the similarity of a widespread and long-lived class of East Greek wave line amphorae and hydriai suggest that our examples may be late survivors of this tradition.¹⁵ The

¹⁵ See G. M. A. Hanfmann *op.cit.* (above n. 6) pp. 176-182; on p. 182, n. 52 Hanfmann cites *Olynthus* XIII, p. 50,

fabric of the amphorae/hydriai is that of the standard household wares. Information on shape and decoration is meagre: we have not enough preserved to determine if these fragments come from amphorae or hydriai. The fragments have a heavy rolled rim, with its lower face flattened or undercut, giving these a general resemblance to the rim profiles of many of the local transport amphorae.¹⁶ The neck is straight-sided. We have evidence for a vertical strap handle attached at the neck (12.35) and, if 12.39 belongs to this class, at the shoulder. 12.38 has a different rim profile and it is placed with this group only tentatively, for want of information on its type. The preserved decoration of this group consists of a wavy line over the neck, with bands above, including one over the rim. 12.39 may provide evidence for floral decoration on the body.

12.33 (78.388)

Fig. 89

Isthmus TR2 tr1 (4a).

Rim and neck fragment.

M.P.H. 0.069.

D. (est.) 0.14.

Standard local household ware.

Clay fairly fine; fine calcareous inclusions; gold mica; yellow-brown (7.5YR 7/6) with greyish-yellow core. Surface yellow-buff.

Paint brown.

Neck straight-sided, flaring out to rim; heavy rolled rim, underside slightly flattened.

Wavy band on neck; band under rim; rim painted solid.

Context 4th century B.C.

12.34 (75.552)

Fig. 89

Structure 1 TR1 tr1 (8).

Rim and neck fragment.

M.P.H. 0.045.

D. (est.) 0.15.

Standard local household ware.

Clay fairly fine with calcareous grit and golden mica; light yellow-brown (7.5YR 7/6) with buff surface.

Paint brown.

Side of neck shows slight curve outward toward rim; narrow offset face below rim; heavy rolled rim, with undersurface slightly flattened. The

profile is very close to the preceding No. 12.33.

Wavy band on neck; rim painted solid.

Context yielded predominantly 5th and 4th century pottery, with a sprinkling of earlier wares; latest material dated *ca.* 380-340 B.C.**12.35** (78.1009)

Fig. 89

Hill 2 TR2 Area 3 (2)

Rim and neck fragment with part of upper handle attachment.

M.P.H. 0.045.

D. (est.) 0.14.

Standard local household ware.

Clay quite fine; fine calcareous grit and mostly gold mica; pink-brown (5YR 7/6) without core; surface pink-buff.

Paint reddish-brown.

Wall flares out slightly to rim; narrow offset face below rim; heavy rolled rim. On neck, upper attachment for vertical strap handle.

Curved band over handle attachment; rim painted solid.

Context mixed.

12.36 (78.548)

Fig. 90; Pl. 75

Isthmus TR1 tr1 (4).

Rim and neck fragment.

M.P.H. 0.075.

D. (est.) 0.16.

pl. 7, nos. P 8 and P 9 and *Olynthus* V, p. 28, pl. 26, no. P 33, comparing these with E. Greek "red glaze" kraters of the late 7th and early 6th centuries; he proposes that *Olynthus* P 33 may be an export of the "Tarsus-Mersin group." For the transmission of E. Greek pottery, Rhomiopoulou *op.cit.* (above n. 6) pp. 62-65.

¹⁶ See below, chapter 13, pp. 503-504.

Standard local household ware.

Clay medium texture with fine sandy and calcareous inclusions; gold mica; clay is pink (5YR 7/6) without core; surface is yellow-buff.

Paint black to red.

Neck curved very slightly out to rim; heavy rolled rim, with lower face flattened so that rim is almost triangular in section.

Wavy line on neck; rim painted solid.

Context 4th century.

12.37 (78.1090)

Fig. 90

Lower City TR3 (1) N.

Rim and neck fragment.

M.P.H. 0.079.

D. (est.) 0.17.

Standard local household ware.

Clay medium textured, fine calcareous and sandy inclusions; pink (5YR 7/8) with pale greyish-brown core; surface pale buff.

Paint brown.

Neck is straight sided and almost vertical, flaring out only at the top toward the rim; heavy rolled rim, with a concave lower face.

Wavy line on neck; band below rim at top of neck; upper part of rim painted solid.

Context: topsoil.

12.38 (76.638)

Fig. 90; Pl. 75

Isthmus TR2 tr1 (3a)

Rim and neck fragment.

M.P.H. 0.041.

D. (est.) 0.15.

Standard local household ware.

Clay fairly coarse with abundant fine calcareous and sandy inclusions; a little silver mica; brownish-grey (2.5YR 7/3) with dark pink core (2.5YR 6/6); surface is yellowish-grey.

Paint is black to brown.

Wall of neck curves out to rim; rim is out- and down-turned, with a projection from the upper face: this may serve to create a flange for a lid.

On neck, preserved is crest of one curve of a wavy band. Band over rim, with topmost and bottommost part of rim reserved.

Context 4th century B.C.

Amphora or hydria?

12.39 (78.1279)

Fig. 90; Pl. 75

Hill 2 TR2 ext.(2).

Shoulder(?) fragment, broken on all sides, with part of handle attachment.

M.P.H. 0.063.

Th. of wall 0.009.

Standard local household ware.

Clay medium textured with fine sandy and calcareous inclusions; silver mica; purplish red (2.5YR 5/6) with a grey core; surface is yellow-buff.

Paint black to brown.

Tentatively, a shoulder fragment, with scar of lower attachment of vertical strap handle.

Around handle attachment, a thick line; preserved beside handle is part of a branch, with wavy line to right and left.

Context Classical.

SMALL STORAGE AMPHORAE AND NARROW-NECKED JUGS (12.40-12.43)

Grouped here on the basis of their rim type are two small amphorae and two one-handled jugs. The form and size of both shapes seem to indicate the same function, that of a small storage container for liquid, perhaps oil. The amphorae are from 4th century contexts, the jugs mainly from Classical contexts. These pots are of the standard local household fabric; they are the only shapes known among the wares produced in this fabric that were left unpainted. A common feature is the tie-on rim, so called by Talcott with reference to the fastening of a cover over rims of this type by means of a cord secured at the indentation.¹⁷

¹⁷ *Agora* XII, p. 188.

Another common feature is the high-arched vertical strap handle or handles attached at the neck or below the rim. Parallels from the Athenian Agora and Olynthos of the 5th and 4th centuries show that these may tentatively be restored in accordance with a type with a bag-shaped body and the lower handle attachment at the sloping shoulder.¹⁸

12.40 (78.37)

Fig. 90

Isthmus TR1 tr1 (4a).

Storage amphora; rim and neck fragment with upper handle attachments.

M.P.H. 0.137.

D. 0.065.

Standard local household ware.

Clay fairly coarse, calcareous inclusions, gold and silver mica; orange-red (2.5YR 6/6); surface pale orange-buff (7.5YR 8/4).

Sloping shoulders curve in to tall neck; tie-on rim; vertical strap handles attached just below rim.

Context 4th century B.C. .

upper part of handle.

M.P.H. 0.083.

D. 0.065.

Standard local household ware.

Clay medium textured; fine calcareous inclusions and voids; non-micaceous; orange-pink (5YR 7.4); surface yellow-orange.

Small jug; shoulders flare in to fairly short neck; tie-on rim rolled at lip; vertical strap handle attached below rim.

Context Classical..

12.41 (78.52)

Fig. 90

Isthmus TR1 tr1 (4a).

Storage amphora; rim and neck fragment with upper handle attachment.

M.P.H. 0.133.

D. (est.) 0.07.

Fabric, shape and context as for **12.40**.**12.43 (75.609)**

Fig. 90; Pl. 75

Structure 1 TR1 tr4b (5).

Narrow necked jug, rim, neck and shoulder fragment, with upper handle attachment.

M.P.H. 0.07.

D. 0.06.

Standard local household ware.

Clay medium textured; sandy and calcareous inclusions; silver and gold mica; red-brown (5YR 6/6); surface yellow-buff.

Short neck; tie-on rim, out-turned at lip; vertical strap handle attached at rim.

Context yielded some 5th century material, but mainly pottery of the 4th.

12.42 (78.848)

Fig. 90

Isthmus TR1 tr2 (4).

Narrow necked jug, rim and neck fragment with

STORAGE BIN (?) 12.44

The one inventoried fragment tentatively assigned to this shape comes from a 4th century context. This is a heavy wall fragment preserving part of the attachment for a horizontal round handle. On the basis of certain features, the curvature of the fragment, and its angle of inclination, we consider this to be a shoulder fragment. Corinthian and probably Eretrian parallels make it seem most likely that it comes from a storage bin.¹⁹ These examples, and a storage bin with a conical foot from Olynthos,²⁰ provide parallels for the

¹⁸ *Agora* XII, p. 192, pl. 63, 1499; *Olynthos* V, pl. 161, 655; *Olynthos* XIII, pl. 138, 225-226.

¹⁹ *Agora* XII, p. 193, pl. 67, 1531, 1537 (Corinthian); p. 196, pl. 67, 1527, 1528, 1529 and 1530 (probably Eretrian).

²⁰ *Olynthos* V, pls. 37-38 (P69).

way in which the shoulder is decorated; the Olynthos example gives the specific type of floral decoration in the ivy garland around its lower body.

12.44 (78.1210) Fig. 91; Pl. 75
Isthmus TR1 tr2 (6).
Storage bin (?); perhaps shoulder fragment.
M.P.W. 0.125.
M.P.L. 0.082.
M. Th. wall 0.013.
Medium to coarse clay; large calcareous inclusions; gold mica; dark red (2.5Y 5/6) without core; surfacing very thick (*ca.* 0.002) and dark orange (2.5YR 6/8).

Paint dark red.
Probably a shoulder fragment, tentatively of a storage bin or similar heavy-walled closed vessel. Preserves one handle attachment, probably for a horizontal round loop handle.
Interior: unpainted.
Exterior: preserved is part of reserved zone with ivy garland.
Context 4th century B.C.

UNCERTAIN SHAPE (12.45)

12.45 (78.1526) Fig. 91
Isthmus TR3 tr2 Ext.2 (3) B7.
Unknown shape; rim and neck fragment with part of shoulder.
M.P.H. 0.162.
D. (est.) 0.28.
Unusual fabric, perhaps not local.
Clay fairly coarse with sandy and calcareous inclusions, some very large; silver mica; dark red-brown (2.5YR 5/6) without core; surfacing or slip yellow-brown (7.5YR 6/6).

Paint red-brown.
Broad neck, with sides almost vertical, flaring out slightly toward the rim; broad horizontal rim, with squared lip.
Interior unpainted.
Exterior: at juncture of neck and shoulder, preserved is top of a reserved band with irregular vertical strokes. On the neck, irregular broad bands; on the top of the rim, bars (not indicated in drawing).
Context 4th century B.C.

STORAGE PITHOI (12.46-12.49)

Inventoried here are pithos wall fragments bearing decorated bands with nought-and-cross pattern. Dated contexts for these fragments are 4th century (12.46, 12.48) and Classical. (12.47). The decoration of pithoi with nought-and-cross pattern on applied bands goes back to the 7th century and is very widespread.²¹ The decoration is standardized: on the applied band are incised alternating panels, separated by groups of incised vertical lines. One panel bears a cross with each quadrant enclosing an impressed circle; the other panel, narrower, has four circles in a vertical row. Rim and neck fragments have also been recovered which are not published here. These show considerable variation in size but are of standardized type, wide and out-turned; though it is uncertain, it is likely that these come from pithoi decorated with incised bands. All pithoi are of the same fabric; this is the pithos/oven version of cooking ware used also for the barrel cooker (12.65)

²¹ *Agora* XII, pp. 193-194 and n. 7.

12.46 (78.944)

Fig. 92; Pl. 75

Isthmus TR2 tr1 (3a-4a).

Wall fragment, broken on all sides.

M.P.H. 0.102.

M.P.W. 0.078.

Th. 0.03.

Standard pithos/oven fabric.

Fragment preserves part of applied incised band; this is part of a panel with cross.

Context 4th century B.C.

Isthmus TR2 tr1 (5a).

Wall fragment, broken on all sides.

M.P.H. 0.076.

M.P.W. 0.059.

Th. 0.018.

Standard pithos/oven fabric.

Fragment with part of applied incised band. This is part of a zone with a row of impressed circles flanked by groups of vertical lines.

Context fourth century B.C.

12.47 (78.914)

Fig. 92

Isthmus TR3 tr1 (3) B4.

Wall fragment, broken on all sides.

M.P.H. 0.054.

M.P.W. 0.053.

Th. 0.024.

Standard pithos/oven fabric.

Fragment with part of applied incised band. This is the zone of vertical lines, with one circle preserved from the panel with a row of circles.

Context Classical.

12.49 (78.697)

Fig. 92

Hill 2 TR3 (3).

Wall fragment, broken on all sides.

M.P.H. 0.07.

M.P.W. 0.077.

Th. 0.02.

Standard pithos/oven fabric.

Fragment with part of incised band. This is part of a zone with a row of impressed circles flanked by groups of vertical lines.

Context mostly Classical, some Archaic; nothing clearly later than Classical/early Hellenistic.

12.48 (78.678)

Fig. 92

MORTARS (**12.50-12.51**)

One inventoried fragment comes from a fourth century context. The mortar is a wide-spread type.²² Our examples appear to be a very hard-fired specially tempered version of the local household ware and were thus doubtless produced locally. Our mortars seem to fire characteristically with dark brown to purple clay, and a light porous surfacing, an effect seen in other household wares and in the local transport amphorae.²³

12.50 (78.389)

Fig. 93

Isthmus TR2 tr1 (4a).

Mortar rim fragment with spout and lug.

M.P.H. 0.042.

D. (est.) 0.37.

Clay is coarse with abundant calcareous and sandy grit; gold and silver mica; pink-brown (5YR 6/4), without core; surface fired chalky in texture and white.

Horizontal rim with groove at inner edge; reel lug

ribbed vertically; fluked spout.

Context 4th century B.C.

12.51 (78.849)

Fig. 93

Isthmus TR1 tr2 (4).

Mortar rim fragment with lug.

M.P.H. 0.046

D. (est.) 0.32.

Fabric and shape as above.

Context Classical.

²² *Agora* XII, pp. 221-223.²³ See above, pp. 475-476.

CHYTRAI AND LOPADES (12.52-12.64)

The same types of cooking vessels are found all over the Greek world, and over a great span of time.²⁴ Not enough is preserved of our examples to tell where they fit into the known range of shapes. Such assignments are made on the basis of the relative proportions of mouth and body, and on the basis of the number of handles; thus our cooking vessel fragments are less diagnostic than those of other shapes.

12.52 (75.614) Fig. 92
Structure 1 TR1 tr4b (6).
Chytra rim and upper body fragment, without handle.
M.P.H. 0.033.
D. (est.) 0.145.
Standard local cooking ware. Marks of burning.
Short neck; wide horizontal out-turned rim.
Context yielded some 5th century material, but mainly pottery of the 4th century B.C.

12.53 (75.300) Fig. 92
Structure 1 TR1 tr1 (7).
Chytra rim and upper body fragment, without handle.
M.P.H. 0.03.
D. (est.) 0.125.
Standard local cooking ware. Marks of burning.
Short neck; wide horizontal out-turned rim.
Context yielded 5th and 4th century pottery; latest identifiable material dated to *ca.* 325-320 B.C.

12.54 (76.654) Fig. 92
Isthmus TR2 tr1 (3a).
Chytra rim and upper body fragment, without handle.
M.P.H. 0.04.
D. (est.) 0.155.
Standard local cooking ware. Marks of burning.
Wide horizontal out-turned rim.
Context 4th century B.C.

12.55 (76.655) Fig. 92
Isthmus TR2 tr1 (3a).

M.P.H. 0.117.
D. (est.) 0.19.
Chytra rim and body fragment, with handle.
Standard local cooking ware.
Wide neck, fairly tall; broad out-turned horizontal rim; wide mouth; vertical strap handle attached at rim and shoulder.
Context 4th century B.C.

12.56 (78.556) Fig. 91
Isthmus TR2 tr1 (5a).
M.P.H. 0.095.
D. (est.) 0.185.
Chytra rim and body fragment, with handle.
Standard local cooking ware.
Neckless; wide mouth; short out-turned rim; horizontal round loop handle preserved canted vertically, rising above the rim.
Context 4th century B.C.

12.57 (76.512) Fig. 94; Pl. 75
Isthmus TR1 tr1 (4).
Chytra, complete except for rim and neck and upper part of handles.
M.P.H. 0.188.
Standard local cooking ware.
Spherical body. Vertical strap handles attached at shoulder and probably to an out-turned horizontal rim.
When cleaned the pot was found to contain tiles and a stone arranged in a circle, not far below the preserved opening. Under this circle were found the bones of a small animal in a fairly concentrated area: this was evidently a burial.
Context 4th century B.C.

²⁴ *Agora* XII, pp. 224-229

12.58 (78.1516) Not illustrated
Isthmus TR3 tr1 (3) Road Surface B8.
Spout, probably of a chytra.
M.P.L. 0.060
Standard local cooking ware.
Cylindrical spout with out-turned lip; pierced through. Appears to be intended for the release of steam from a stew-pot or a similar good sized covered vessel.
Context 4th century B.C.

12.59 (78.107) Fig. 94
Isthmus TR2 tr1 (3).
Lopas, rim and body fragment with handle.
M.P.H. 0.043.
D. (est.) 0.142.
Standard local cooking ware. Traces of burning. Echinoid body, almost angular in profile. Fairly high, flaring rim with interior flange. Vertical strap handle attached at rim and belly, swung up above the rim.
Context 4th century B.C.

12.60 (76.694) Fig. 94
Isthmus TRI tr1(3)
Lopas, rim and body fragment.
M.P.H. 0.042.
D. (est.) 0.155.
Fabric appears local, but is not the standard cooking ware.
Hard fired, coarse and porous; a few large inclusions; clay pink-orange (2.5YR 6/8), with white surface.
Echinoid body with angular profile; medium height flaring rim with interior flange.
Context 4th century B.C.

12.61 (78.1752) Fig. 94
Isthmus Tr3 tr1 ext. 3 (3) B3.
Lopas rim and body fragment, with handle.
M.P.H. 0.035.
D. (est.) 0.13.

Standard local cooking ware.

Rounded body with high centre of gravity; the rim is short and vertical, without a flange for a lid. If a lid was used, the narrow flat area between the rim and handles, the shoulder of the pot, may have served as its resting place. Round horizontal loop handle, swung up above the rim.
Context Classical.

12.62 (78.609) Fig. 94
Isthmus TR3 tr1 (3) B8.
Lopas rim and body fragment, without handle; unlidded.
M.P.H. 0.052.
D. (est.) 0.205.
Standard local cooking ware.
Profile echinoid and markedly angular. Short rim, out-turned but with the projecting face trimmed off in manufacture so that the edge of the rim is vertical.
Context Classical.

12.63 (78.246) Fig. 95
Structure 3 TR14 (4).
Lid fragment.
M.P.H. 0.052.
M.P.D. 0.145.
Standard local cooking ware.
Lid rather steeply conical; conical knob with central depression.
Context 4th century B.C.

12.64 (78.1095) Fig. 95
Isthmus TR1 tr2 (4b).
Lid fragment.
M.P.H. 0.037.
M.P.D. 0.104.
Standard local cooking ware.
Lid conical, but not very steep; conical knob with slight central depression.
Context Classical.

BARREL COOKER (12.65)

The barrel cooker was found almost intact in the corner of the kitchen (Room V) in Structure 3, where it was left when the building was abandoned, late in the fourth century B.C. The fabric used is the heavy,

thickly surfaced version of cooking ware seen also in the storage pithoi. The authors of *Agora XII* characterise this type as a cooker designed to be fired with the brush left from pruning olive and grapes and hence well adapted to life in the country.²⁵ Talcott and Sparks note that a pot, which would have to be of considerable girth, could be set over the opening at the top. Evidence from terracotta models and comparison with the Near Eastern *tabun* show the cooker could also be used to bake dough plastered to the inside wall.²⁶

12.65 (78.1428)

Structure 3 TR8 (6)-(7).

Barrel cooker.

H. 0.289.

Upper D. 0.220.

Fig. 95; Pl. 75

Lower D. 0.394.

Heavy oven fabric; clay extremely coarse, with smooth outer surfacing. The vent at the bottom is partially restored.

Context late 4th century B.C.

²⁵ For the type, *Agora XII*, p. 233.

²⁶ *Agora XII*, p. 233, n. 11.

13. THE GREEK TRANSPORT AMPHORAE

Sarah Peirce

INTRODUCTION

AIMS OF THE STUDY

Three seasons of excavation at Torone have brought to light hundreds of fragments of wine transport amphorae. Of these, a selection has been inventoried and is published here.¹ A few of the amphorae were imported to Torone from cities outside Sithonia, but most belong to a typological group so closely related in fabric to the common household wares of the city that it must be termed local. The discovery of this group of Sithonian amphorae represents progress towards the most basic objective of the study of the wine trade of the Chalkidike, that of identifying the local product, for, with the exception of Mendeian, Chalkidic amphorae have hitherto not been known. Classes of amphorae of unknown origin found at other sites can now be identified as Sithonian; one such class may be the Parmeniskos Group.² Further work on identification will make it possible to distinguish among these Sithonian amphorae the particular brand manufactured in Torone itself, and the amphorae of other cities of the region whose role as wine producers has so far gone unrecognized.

In addition to their value for Chalkidic amphora studies, the local amphorae are potentially of great importance for understanding the economy and history of Torone. Torone lies in a wine-producing belt along the Thraco-Macedonian coast, where many cities specialized in exporting their local vintages; the most celebrated of these were Mendeian, Thasian and the wine of Maroneia.³ Torone's wine, unlike these, is unremarked in literature. Rather, it is its coinage that identifies the city as a wine pro-

¹ My identification of imported amphorae and my conclusions on the relation of the Torone local amphorae to the Parmeniskos Group are based on my examination in the summer of 1980 of amphorae in the Athenian Agora. Without the help of the late Miss Virginia Grace and her staff at the Agora this study would have been impossible. I am grateful to them for the exceptional kindness and generosity with which they treated a neophyte. Miss Grace made available to me both the unequalled resources of the Agora amphora collections and archives and her own unequalled learning; she gave me every kind of aid and information. She cannot, however, be held responsible either for the observations and conclusions of this study, or for its errors: all are my own. The manuscript was completed in 1981. Reference to material published subsequently has not been possible.

² See below, 504-506.

³ For Mendeian and Thasian see *e.g.* [Dem] 35.35. Maron, priest of Apollo among the Cicones at Ismarus, and in the Hesiodic Catalogue great-grandson of Dionysus (fr. 238 M-W), gave Odysseus a gift of special wine: *Od.* ix, 196, 204-211. This is the οἶνος ἱσμάρικος of Archilochus fr. 2.

ducer. As we see on the coins of cities known historically for their wine, on Torone's coinage Dionysian imagery and wine amphorae touted the local specialty among its trade partners.⁴ Wine export, then, is likely to have been a significant source of income for the city. The overall state of Torone's economy was thus certainly both affected by and reflected in the local agricultural and industrial activity that produced the wine. The economy would have been dependent, too, on the success of commerce in its wine locally and abroad in the face of competition, including from the presumably superior vintages of Thasos and Mende. This means that for the state of Torone's economy as reflected in agriculture and industry, local commerce and foreign export, the wine amphorae are the most concrete and quantifiable source of evidence. If enough can be learned about these jars, it will be possible ultimately to trace through time the effects of politics and war on the shifting patterns of Torone's trade relations and the response of the local wine industry to such historical vicissitudes as the Athenian standards legislation of the 440's, the Peloponnesian War, and the destruction of the Chalkidic League in 348.

A study of the history of the wine industry at Torone would require the following preliminaries: 1. a typology of local amphora classes in terms of fabric, profile and stamps; 2. fabric tests to determine the relation of the clay of various classes of local amphorae to the clays of known classes of amphorae and known Chalkidic centres; 3. tabulation of the representation of local amphorae and imports at different periods at Torone; 4. tabulation of the distribution of local amphorae abroad; 5. capacity studies in conjunction with the notations on the amphorae of local origin.

The present study is a preliminary step toward the first objective, defining the characteristics of the local product, and toward one aspect of the third, noting the representation of imports. The objectives of this first report have been narrowly defined because of the limitations of the material itself. This is both extremely fragmentary, yielding not a single whole profile, and from contexts either of the fourth century or undatable. Furthermore, except for the stamped handles, of which all excavated examples have been inventoried, the inventory presented here represents selections made from context pottery by individual excavators in the course of three seasons of excavation. It cannot be considered representative of the full repertory of amphorae found, which have yet to be studied as a group.

⁴ C. M. Kraay, *Archaic and Classical Greek Coins* (London, 1976) pp. 134-145, pl. 25, no. 465: amphora hung with bunches of grapes, ca. 500 B.C.; R. Plant, *Greek Coin Types* (London 1979) 1108, satyr with amphora, 426-400 B.C.

CONTEXT AND DATING

A note on the context and date of each piece appears in each entry in the catalogue. All closely datable contexts yielding amphorae appear to be of the fourth century B.C. and it has been decided to treat all the pieces from these contexts as chronologically equivalent; though chronological distinctions may exist, the context dating is as yet not precise enough to support them, and amphorae of the same forms and types are found in all dated contexts, suggesting that any chronological differences are too small to have had an evolutionary impact. Of the fifty-six inventoried fragments of amphorae considered here, twenty-nine come from dated contexts on the Isthmus. Occupation on the Isthmus apparently ceases in the second half of the fourth century B.C. and is not resumed until late Roman times; present evidence suggests that the Isthmus amphorae, found in great abundance, date from the final phase of classical occupation.

1. The Isthmus amphora deposit. This deposit, a concentration of amphora fragments mixed with a fair number of cooking pots and an occasional black-glazed piece, was found outside a classical building on the west side of the Isthmus. This building was partially excavated in two test trenches in 1976 and 1978 when the strip was dug along its exterior where the amphorae were found. According to the excavator, the deposit appeared to be a deposited fill of amphora fragments broken at the time of disposal, a conclusion borne out by study of the fragments themselves. Although the material has been only partially recovered, it is still more incomplete than one would expect had it represented a group of amphorae stored or discarded whole. The deposit has so far yielded 20.5 kilos of amphora fragments and a minimum of fifty-six different amphorae; the maximum number of amphorae could be considerably greater. From these fragments only three amphorae could be restored to any extent, and these are not complete. The amphorae thus discarded have a decidedly local character, only three fragments being perhaps foreign. The datable pottery, mostly Attic black glaze, found in the deposit and in levels above and below it agrees in date, and places the deposit in the fourth century B.C., probably in the second through third quarters of the century. That such a large number of local amphorae was discarded at one time may suggest that the deposit represents residue from some commercial or industrial activity in the area. This hypothesis finds support in signs that the amphorae had not moved far from the place where they were made. These signs are the presence of an amphora rim and neck fragment damaged in firing (13.45) so that it probably could not have been sealed and shipped, and the paucity of stamps, only two of which have so far been recovered from the deposit (13.14, 13.24), possible evidence that the wine was intended for local consumption rather

than for export.

2. Other contexts on the Isthmus. In addition to the amphora deposit, other areas rich in amphorae were excavated on the Isthmus; these contexts have tentatively been considered domestic. It has not been possible, in general, to date any of the units yielding amphorae more precisely than to the fourth century B.C.

Groups of Amphorae derived from the same Context

Isthmus amphora deposit

Nos. **13.6, 13.7, 13.24, 13.38, 13.25, 13.26, 13.27, 13.29, 13.30, 13.32, 13.35, 13.36, 13.39, 13.40, 13.41, 13.45, 13.50, 13.52, 13.55, 13.56.**

Other Isthmus contexts

Tr3 tr1 (3): Nos. **13.44, 13.46, 13.47, 13.48, 13.54.**

Tr2 tr1 (3): Nos. **13.14, 13.18, 13.21, 13.51.**

IMPORTED AMPHORAE

Except for a number of toes identified as possibly Mendeian (**13.6- 13.13**) so far it is only stamped handles that can be recognized as imports, and these are rare at Torone. Among the hundreds of amphora fragments found, there were fifteen stamped handles, some eight to eleven of which are local. The paucity of stamped handles may be largely an accident of discovery, and eight handles will not support any conclusions on the extent or source of imports. However, the overall predominance of local amphorae at least suggests that Torone imported very little wine in the period from which most of our amphorae come; the representation of imports suggests that, as might be expected, much of the imported wine came from Mende. The scarcity of Thasian jar fragments is noteworthy; it may simply be due to the difficulty of distinguishing these jars from the local product and from Mendeian when all are in a fragmentary state and the profile type cannot be determined.

CATALOGUE OF IMPORTS

CHIAN

13.1 (78.980)
Lekythos TR2 (1).
Stamped handle.
W. 0.040.
Th. 0.052

Fig. 96; Pl. 76

Clay reddish brown (5YR 5/3) with large dark grey core and dark grey-brown surface.
Rectangular stamp placed inside arch close to attachment:

Ἰκεσίου

Fifty-six Chian handles with this name have been reported, two of them from deposits in the

Athenian Agora of the third century B.C.; three examples are reported to have come from British excavations in Chios from a deposit of the middle to the third quarter of the third century B.C.⁵ Context chronologically mixed, undatable.

THASIAN (?)

Stamped handles of the type represented by nos. 2 and 3 have been found in Athens and the Piraeus, Delos, Thasos, South Russia and Bulgaria; their origin is considered likely to have been Thasos.⁶

13.2 (78.809)

Fig. 96

Isthmus TR3 tr2(3) B18.

Stamped handle

W. 0.052

Th. 0.027

Clay fairly fine, with small mostly white inclusions, and fine silver and gold mica; colour brownish red (5 YR 6/8) with a large grey core, and a reddish orange surface.

The stamp is circular, divided into four sections, each with a monogram within.

A P

M E

Two examples are reported from Thasos.⁷

Context 4th century B.C.

13.3 (78.215)

Fig. 96; Pl. 76

Isthmus TR1 tr2 (4).

Stamped handle.

W. 0.045.

Th. 0.026.

Clay medium textured with sandy and calcareous inclusions; fine gold and silver mica; clay is dark red (2.5YR 6/8), with a large grey core and a red-brown surface.

The handle is broad and flat in section.

The stamp, like that of 13.2, is circular, divided into four sections, within each of which is a monogram.

E M

Π M

Two examples are reported, one from Thasos, one from the Piraeus.⁸

Context chronologically mixed; latest identifiable material late Roman.

KNIDIAN (?)

13.4 (78.1597)

Fig. 96; Pl. 76

Lekythos TR2 (5).

Stamped handle.

W. 0.040.

Th. 0.022.

Clay medium textured, micaceous, with small light inclusions; colour is pinkish (5YR 6/6) with a pale grey core, grey surface.

Handle quite broad and flat, widening at upper attachment; a short arch, without much curve; traces of ribbing.

Rectangular stamp:

Α ρ ι σ σ

τ [ά] ρ [χ ο] υ

Context chronologically mixed; latest identifiable material is Post-Byzantine.

UNKNOWN ORIGIN

13.5 (78.978)

Fig. 96; Pl. 76

Structure 3 TR15 (2).

Stamped handle.

W. 0.038.

Th. 0.019.

Clay fairly fine, with fine gold and silver mica;

⁵ V.R. Grace, "Stamped Wine Jar Fragments," in *Small Objects from the Pnyx*, II (*Hesperia Supplement* 10, 1956) 166.

⁶ A.-M. Bon and A. Bon and V.R. Grace, *Études Thasiennes IV: Les timbres amphoriques de Thasos* (Paris, 1957) 35.

⁷ *Ibid.*, p. 494, no. 2155.

⁸ *Ibid.*, p. 495, no. 2161.

some sandy grit; the clay is bright orange (5YR 6/8) with no core; the surface is pale orange.

A small handle; the arch is quite flat and broad, the handle thin and rather flat in section.

Rectangular stamp, inside arch:

Στρατο
νίκου

The stamp is rather worn.

Though the fabric is oranger than typical for the local amphorae, and the broad arch is unusual, the handle profile is close to that of the local amphora **13.16** from the same context, and the stamp is of the same type. The handle cannot be ruled out as local, but in the absence of a positive identification it is perhaps less misleading to place it, tentatively, with the imports.

Context 5th and 4th century B.C.; some earlier material.

MENDEAN (?)

13.6 (78.1759)

Fig. 96

Isthmus TR2 tr1 (5a).

Toe.

M.P.H. 0.163

D 0.065

Sandy pink and calcarious inclusions; fine gold mica; clay is pale pink (10R 6/4), browner towards core; surface purplish.

Shallow flaring toe with fairly broad shallow depression in undersurface; tall straight stem flaring out at top.

Amphora deposit; context 4th century B.C.; latest identifiable material dated ca. 375-325 B.C.

13.7 (76.895)

Fig. 96

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.115.

D. 0.073.

Sandy and calcarious inclusions; silver and gold mica; red-brown clay (2.5YR 6/6).

Profile as **13.6**.

Amphora deposit; context 4th century B.C., latest identifiable material dated ca. 375-325 B.C.

13.8 (78.976)

Fig. 97

Structure 3 TR16 (2).

Toe.

M.P.H. 0.118.

D. 0.086.

Sandy and calcarious inclusions; abundant gold and silver mica; clay is pale yellow-brown (7.5YR 7/6) without core. Profile as **13.6**.

Context 5th and 4th century B.C.; some earlier material.

13.9 (76.836)

Fig. 97

Gate Area TR4 ext.1 (4).

Toe.

M.P.H. 0.084.

D. 0.082.

Clay coarse; sandy inclusions; fairly abundant gold and silver mica; clay is yellow-orange (10YR 8/3) without core.

Profile as **13.6**; stem broken off before outward flare has begun.

Context classical; latest material appears to date to the late 5th century B.C.

13.10 (75.589)

Fig. 96

Structure 1 TR1 tr2 "below B" (4).

Toe.

M.P.H. 0.125.

M.D. 0.068.

Fine calcarious inclusions; abundant mostly gold mica; clay varies from grey-green (2.5YR 8/2) to pinkish buff (5YR 7/6).

Profile as **13.6**.

Context: some 5th century B.C. material, but mainly 4th; latest identifiable material is datable around 325 B.C.

13.11 (75.454)

Fig. 97

Structure 1 TR1 tr2 "Below B" (3).

Toe.

M.P.H. 0.137.

D. 0.078.

Coarse sandy inclusions; gold and silver mica; clay is red-brown (2.5YR 5/6) with brown surface.

Profile as **13.6**.

Context: some 5th century B.C. material, but

mainly 4th; latest identifiable material dates to *ca.* 325 B.C.

13.12 (75.588)

Fig. 97

Structure 1 TR1 tr2 "below B" (4).

Toe.

M.P.H. 0.125.

D. 0.068.

Fine inclusions; abundant fine silver mica; clay is uniformly red-brown (2.5YR 6/8).

Profile as **13.6**.

Context: some 5th century B.C. material, but mainly 4th; latest identifiable material dated *ca.* 325 B.C.

13.13 (75.173)

Fig. 97

Structure 1 TR1 tr1 (6).

Toe.

M.P.H. 0.088.

D. 0.082.

Sandy inclusions; fine silver mica; clay is pink (5YR 7/6) with reddish core (2.5YR 6/6) and yellow-buff surface.

Bottom of toe as in preceding examples; short stem, flaring at top where body commences.

Context mainly 5th and 4th centuries B.C.; some earlier material; latest identifiable material dated *ca.* 325-320 B.C.

LOCAL AMPHORAE and the PARMENISKOS GROUP

INTRODUCTION

Thirty-eight of the fifty-six amphora fragments presented here are of local fabric, the fabric of the Protogeometric pottery, classical household wares, loomweights, and other categories of objects considered on various grounds to have been produced at Torone or nearby. Future study may show if this picture of the commercial supremacy of the local wine is accurate for periods other than the fourth century, the date of our local amphorae, or if the ratio is skewed by the proportion of finds coming from the Isthmus, where the abundance of local amphorae may be the result of some special kind of commercial activity in the area.

Identifying the origin of the amphorae found at Torone is a prime objective; this applies both to the local amphorae and to an apparently kindred class, the Parmeniskos Group. In fabric and profile, the local group studied here is a definable entity, and our fragments are of the same approximate date. Yet within the group there is a considerable range of variation in both shape and fabric. We do not yet know what these variations signify in terms of the geographical relation of the centres of production of the jars. The solution is likely to be found in scientific analyses of fabric, establishing groups of amphorae based on the origin of their clay. This will make it possible to determine if Torone produced one class of amphora whose form varied, perhaps according to the factory where it was made, or if the city served as a depot for the export of amphorae from a number of wine-producing centres of the region. The purpose of the following discussion and catalogue is to begin to establish

a formal classification of the local amphorae. This taxonomy will serve as a basis for future investigation of the origin of individual types.

FABRIC OF THE LOCAL AMPHORAE

The fabric of the local amphorae resembles that of both Mendeian and Thasian amphorae in colour, texture and presence of gold mica. Its distinctive features make it readily identifiable as the fabric of the local domestic pottery.⁹ This fabric is quite variable in its characteristics. The clay is typically a pinkish buff (2.5YR 7/4-7/6 to 7.5YR 7/4-7/6) to a fairly dark reddish brown (2.5YR 6/6-6/8 to 5YR 6/6-6/8). The core, where present, is typically darker, red or brown, more unusually grey. A purplish tinge often appears in the clay, especially at the core, and is a useful feature for identification. The fabric ranges from fairly fine, tending to be lighter or more orange in colour, to rather coarse, tending to be redder or browner. Fine white calcarious grit is typical for the finer clay, heavier calcarious grit and large sandy particles for the coarser. The clay often has a lot of mica, frequently gold. The clay is unslipped, but has a smooth surfacing which usually fires somewhat lighter than the interior, sometimes giving a slip-like effect.

A variant of this fabric appears to be a result of salts content, firing conditions or a combination of these two factors.¹⁰ In these jars (for example **13.37**) the clay is dark purplish (10R 5/4); the surface, distinct, is whitish, often with a greenish tinge (10YR 8/3) and with a rough and chalky feel. That this is not a different fabric, and that the white surface is not a slip, is shown by examples of the usual fabric that have fired like this in patches and by examples in which the fabric seems to represent an intermediate step towards this variant, with the clay somewhat darker than usual, and the surface greyish white.

TYPOLOGICAL GROUPS OF THE LOCAL AMPHORAE

The material is extremely fragmentary, and no whole profile is preserved. Though

⁹ For the fabric of the domestic pottery see above, chapter 12, pp. 475-476.

¹⁰ A similar phenomenon has been noted in the cooking ware fabrics of the Athenian Agora, and has been ascribed by F. Matson to the presence of salts in the clay; B. Sparkes and L. Talcott, *Agora XII. Black and Plain Pottery* (Princeton 1970) p. 36 with n. 92. I have looked at the jugs cited by Talcott and conclude that their powdery white surface is very similar to that of our amphorae, and to the surfacing seen in some of the domestic pottery of Torone (on which see above, chap. 12, pp. 475-476. I am grateful to V. R. Grace for advice on this point.

toe types can be relatively easily associated with body types, only two bodies have rims preserved (**13.16**, **13.37**); aside from these it is impossible to say that a particular type of rim and handle is to be associated with a particular type of body. The method adopted here is to arrange morphological groups of rim type, body and toe type, and stamp type. With more evidence it will be possible to correlate these groups with one another. These are purely formal groupings whose purpose is solely heuristic. As yet we do not have the evidence to tell which are the features of the jars that are diagnostic of their origin.

Profile. There appear to be two body types; these, however, shade into one another and may not be distinct. The first (**13.24-13.28**) is an angular body with narrow shoulders that turn down sharply to straight sides. This type can have a conical peg toe (**13.26**, **13.27**); it may also have a short flaring toe (**13.28**) that resembles the toes of Mendeian and Thasian amphorae, but with a short stem. We have as yet recovered no jar with an angular profile whose rim is preserved.

The second body-profile type (**13.16**, **13.17**, **13.38**, **13.43** [?]) is similar to profiles of Parmeniskos Group amphorae; the relationship will be discussed below. The most complete example of this type is **13.16**. This amphora has an ovoid body with swelling sides and a long tapering neck. The rim is short and rolled and the upper and lower faces meet at an angle. The handles are flattish in section, widening at the upper attachment. One preserved handle bears a rectangular stamp with the name divided into two lines. The toes that may belong with this type are stemless and vary in profile from a hollow inverted cone (**13.38**) to a doughnut-shaped ring toe (**13.39**, **13.40**, **13.41**), and, perhaps, a flaring toe (**13.17**). Several amphorae similar to **13.16** show that a considerable range of variation in these features may be typical of this class. No. **13.38** has a slightly more angular body; **13.43**, very tentatively of this body type, has a round rim and handles round in section.

Having established these groupings, we are left with a residue of rims that cannot clearly be associated with one or the other type of body and toe. These rims are grouped here by profile, without any implication that the groupings are diagnostic of any sort of typological distinction.

All rim profiles are variations on a short rolled rim. In the first group are placed rims whose profiles vary from round to jutting or almost pointed, but with two convex faces (**13.16**, **13.24**, **13.37**, **13.43**, **13.44**). In the second group (**13.45-13.53**), the lower facet, and in one case also the upper (**13.45**), has been flattened off or undercut, so that the profile is beaklike. In the third group are some rims that are difficult to classify. The rim profiles of the transport amphorae show a close kinship with

those of certain shapes in the domestic pottery repertory.¹¹ There is no pattern of relationship yet apparent between the handle section of the amphorae and their rim type.

Stamps. Stamped handles are also heterogeneous. Only two stamped handles are preserved with their rims; these stamps are of different types and stamp types cannot yet be correlated with rim profiles. Three stamps, of different types, bear names (13.16, 13.19, 13.20): one, two letters (13.18); three or four, incuse monograms (13.21-13.24)

RELATIONSHIP OF THE LOCAL AMPHORAE AND AMPHORAE OF THE PARMENISKOS GROUP.

At this preliminary stage of research these minutiae of local form have immediate value chiefly for the light they shed on the Parmeniskos Group.¹² The provenance of this rare class of amphora has long been sought. Published distribution of finds has suggested a northern origin. Most telling is the relatively large number of handles of the Parmeniskos Group found at Pella, in the years up to 1969, 149 out of a total of 1057 handles found on the site. This compares to a total of 85 handles of the Parmeniskos Group reported up to 1953 from all sites combined.¹³ Two of the fifteen stamped handles found so far at Torone are of the Parmeniskos Group, a high proportion of an admittedly inadequate sample.

In fabric and morphology amphorae of the Parmeniskos Group have a close relationship to the local amphorae of Torone, raising the question of the possible significance of variations in fabric and profile for the place of manufacture of jars. At issue in particular are a number of local amphorae that might be termed Parmeniskoid. These jars have some but not all of the typical features of the Parmeniskos Group, or have features only somewhat like those of the Parmeniskos Group. The pattern of relationships is shown in the following table.

¹¹ Above, chapter 12, p. 486.

¹² On the group, see V. R. Grace (*supra* n. 3) pp. 168-169.

¹³ Ch. Makaronas, "Ἀνασκαφαὶ Πέλλης, 1957-1960," *AD* 16 (1960) 82; for comment on this discovery, V. R. Grace and M. Savvantianou-Petropoulakou, "Les timbres amphoriques grecs," in Ph. Bruneau *et al.*, *Délos XXVII. L'îlot de la maison des comédiens* (Paris 1970) 280 and n. 1. For the Parmeniskos Group amphorae found before this, V.R. Grace (*supra* n. 3) p. 168-169.

Morphological Relationships between Parmeniskoid Local Amphorae and the Parmeniskos Group

<i>Cat. no. of "Parmeniskoid" amphora</i>	<i>Parmeniskos Group features of amphora</i>	<i>Variations in form from the Parmeniskos Group</i>
13.16	1. Short rolled rim with two faces meeting at an angle. 2. Stamp: rectangular, name divided into two lines. 3. Body and handle profile very close to early 3rd century Parmeniskos Group amphora from the Athenian Agora. ¹⁴	Rim profile is rounded, unlike the flat facets of the Parmeniskos Group amphorae. Possibly at the limits of the range of variation possible for the Parmeniskos Group, but exceptional.
13.43	1. Short rolled rim. 2. Profile of neck and line of handle very close to 13.16 and to the example from the Agora (both above).	1. Rim has rounded profile. 2. Handles round in section. 3. Handle attachment placed so high that lower rim profile obscured.
13.45	Rim short and rolled with upper and lower faces flattened off to meet at an angle in true Parmeniskos Group fashion.	Handles rounded in section rather than a flattened ovoid.
13.46, 13.47, 13.48	Rim: lower facet undercut, as in Parmeniskos Group, to create angular rim profile.	1. Upper facet of rim more convex than typical of Parmeniskos Group. 2. Handles attached so high that attachment covers lower part of rim.

The fabric of the Parmeniskos Group is similar in texture and feel to the Torone local clay and, like the Torone clay, also frequently has gold mica. On a piece-by-piece basis the Parmeniskos Group fabric often cannot easily be distinguished from the Torone fabric. Yet over its entire range the fabric of the Parmeniskos Group seems

¹⁴ *Ibid.*, pl. 74, no. P 8422 and p. 168.

to be finer and redder, with less tendency to turn purplish and to develop a chalky surface in firing.

Evaluation of this evidence can follow at least two paths. First, the features of the Parmeniskoid amphorae may be judged to fall within the range of variation possible for the Parmeniskos Group, and these amphorae may be classified as Parmeniskos Group proper. If the amphorae are so considered, their local features and the presence in the Isthmus amphora deposit of a waster of this class (13.45) will make it possible to assign the Parmeniskos Group to Torone or its environs with a considerable degree of confidence.

On the other hand, greater weight may be given to the peculiarities of Parmeniskoid form, the heterogeneity of the class, and the lack of a clear morphological boundary separating them from local amphorae without Parmeniskos features. This would rule out this class as true Parmeniskos Group amphorae. In this case, the lack at Torone of examples of Parmeniskos Group jars of orthodox form, and the paucity of Parmeniskos Group stamped handles, would tend to eliminate Torone as candidate for the home of the Parmeniskos Group. This conclusion will still leave open the question of how the relationships in form between Parmeniskos Group and Parmeniskoid amphorae translate into a relation in the geographical location of their respective centres of production.

Future research in two areas should resolve the questions. First, fabric analysis may show if the two groups are made of the same clay. Second, most of the evidence elsewhere for the Parmeniskos Group comes from contexts of the third and early second centuries,¹⁵ so that exploration of Hellenistic Torone should either turn up an abundance of Parmeniskos Group amphorae or reveal them to be decisively lacking.

CATALOGUE OF PARMENISKOS GROUP LOCAL AMPHORAE

PARMENISKOS GROUP: STAMPED HANDLES

13.14 (76.466) Fig. 97; Pl. 76
Isthmus TR2 tr1 (3).
Stamped handle.
W. 0.043.
Th. 0.019.
Large flecks of gold and silver mica; white calcareous inclusions; clay is red-brown 2.5YR

5/8. Without core; surface is lighter.
Rolled rim, with characteristic angular profile; the rim appears to have been trimmed off with an instrument while the clay was still soft, leaving shallow ridges of clay along the flattened facets of the rim. The handle, placed well below the rim, is quite broad and flat in section, widening at the attachment.
Rectangular stamp, at top of arch:

¹⁵ *Ibid.*, p. 168.

Φανο

λάου

The name is reported from the files of the Athenian Agora.¹⁶

Amphora deposit; context 4th century; latest identifiable material dated *ca.* 375-325 B. C.

13.15 (78.1632) FF Fig. 97; Pl. 76
Lekythos TR1 (1).

Stamped handle.

W. 0.042.

Th. 0.018.

Fine white inclusions and silver mica; clay is red 2.5YR 6/4 without core, and with pale red-brown surface.

Handle fairly broad and flat, widening toward the attachment.

Rectangular stamp at top of arch, close to attachment:

Ἀμεινο

νίκου

Five examples of the name have been reported.¹⁷

Context: topsoil.

LOCAL STAMPED HANDLES WITH AND WITHOUT PRESERVED BODIES

13.16 (78.977) Fig. 98; Pls. 76, 77
Structure 3 TR14 (6).

Amphora with stamped handle, complete except for lower body and toe.

M.P.H. 0.56.

Handle: W. 0.039; Th. 0.017.

Clay quite fine with fine calcarious inclusions and voids, and gold and silver mica; clay is pink-buff 7.5YR 7/6 with buff surface 7.5YR 8/4.

Band of red paint around amphora below shoulder just above the widest part of the body.

Ovoid body with broad sloping shoulders and tall tapering neck. The rim is short and rolled, with a pointed profile. The handles, attached close to the

rim, are thin and not very broad; they widen toward the upper attachment. At each lower handle attachment, a deep finger impression.

Rectangular stamp at top of arch:

Εὐβο

ύ[λου

The stamp is extremely worn.

Context: second half of the 4th century B.C.

The following toe was found with **13.16** and, while it does not join, it may belong with it.

13.17 (78.977A) Fig. 97

Structure 3 TR14 (6).

Toe.

M.P.H. 0.091.

D. 0.056.

Fabric as **13.16**.

Short toe with slight flare and minimal hollow.

13.18 (78.202) Fig. 101; Pl. 76

Isthmus TR2 tr1 (3).

Stamped handle.

W. 0.053.

Th. 0.026.

Clay coarse with many sandy inclusions and abundant silver and gold mica; the colour is light reddish brown 7.5YR 7/8 without core.

The handle is broad and flat in section, widening toward the attachment.

Rectangular stamp:

φ ο (retrograde)

The frame of the stamp is indistinct, but it seems to be complete.

Context 4th century B.C.; latest identifiable material *ca.* 375-325.

13.19 (78.1311) Fig. 101; Pl. 76

Isthmus TR3 tr1 (2).

Stamped handle.

W. 0.041.

Th. 0.023.

Clay coarse with sandy inclusions and silver

¹⁶ *Ibid.* p. 168.

¹⁷ *Ibid.* p. 168 and p. 169, no. 206.

and gold mica; colour reddish brown 5YR 6/6 with a small brownish core.

The handle is quite broad and flat in section.

Rectangular stamp:

'ΑΥΑ [(retrograde)

Context disturbed; latest identifiable material is Post-Byzantine.

13.20 (78.1628) Fig. 101; Pl. 76

Lekythos TR2 (5).

Stamped handle.

W. 0.044.

Th. 0.023.

Fine white inclusions; gold and silver mica; clay is light reddish-brown 5YR 6/6 with a slightly lighter core.

Handle a broad ovoid in section, widening at the attachment.

Rectangular stamp:

] θ ς

Context disturbed; latest identifiable material is Post-Byzantine.

13.21 (78.1043) Fig. 101; Pl. 76

Isthmus TR2 tr1 (3)

Stamped handle.

W. 0.040.

Th. 0.023.

Small calcareous inclusions, gold and silver mica; clay is bright orange 5YR 7/6 with greyer surface.

Traces of red stain at top of handle.

Handle oval in section.

Stamp: top of arch, small incuse

H

Context 4th century B.C.; latest identifiable material *ca.* 375-325 B.C.

13.22 (78.371) Fig. 101; Pl. 76

Isthmus TR1 tr1 (5a).

Stamped handle.

W. 0.044.

Th. 0.023.

Fabric coarse with sandy inclusions and large flecks of silver and gold mica; clay is red-brown 7.5YR 7/4 with small brown core and brown surface.

The handle is broad, but fairly ovoid in section, widening at the upper attachment.

Stamp inside arch, close to attachment: incuse

T

Context 4th century B.C.; latest identifiable material *ca.* 375-325 B.C.

13.23 (78.539) Fig. 101; Pl. 76

Isthmus TR1 tr2 (4).

Stamped handle.

W. 0.048.

Th. 0.024.

Fabric coarse with coarse sandy inclusions, silver and gold mica; clay brownish red 2.5YR 7/6 with no core, and with a brown surface.

Handle quite broad and flat, widening at the attachment.

Stamp at top of arch: incuse

Δ

Context mixed; latest identifiable material late Roman.

13.24 (76.896) Fig. 97; Pl. 76

Isthmus TR2 tr1 (3a)

Stamped handle.

W. 0.050.

Th. 0.020.

Fabric is coarse, with sandy inclusions, and gold and silver mica; clay is reddish brown 2.5YR 7/6 with no core; surface is lighter brown.

Rolled rim, with jutting profile. The handle is set close to the rim; in section the handle is very broad and flat.

Stamp partially preserved at top of arch: incuse

Λ

Perhaps A or Λ, or perhaps Δ as in **13.23**.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

LOCAL AMPHORAE TYPES

Body and Toe Types

Type 1: angular profile

13.25 (78.1764) Fig. 107; Pl. 77 (two views)

Isthmus TR2 tr1 (5a).

Shoulder and neck fragment.

M.P.H. 0.251.

Fine white inclusions; abundant gold mica; clay is orange 2.5YR 6/8 with a darker core, lighter surface.

Angular transition from the body to the narrow shoulder.

Dipinto in red paint on the neck, partly broken away.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.26 (78.1761)

Fig. 102; Pl. 77

Isthmus TR2 tr1 (5a).

Amphora preserved from toe to base of neck, without handles.

M.P.H. 0.578.

Sandy and white calcarious inclusions, fairly abundant, mostly gold mica; clay reddish brown 2.5YR 6/6 with a dark red core; greenish-white chalky surface.

Conical peg toe, very slightly inset from the body; the body is narrow, with straight sides flaring out sharply to the angular transition to the narrow shoulder. Gradual transition from shoulder to neck. One lower handle attachment is preserved, with deep finger impression at the base of the handle.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.27 (78.1762)

Fig. 103

Isthmus TR2 tr1 (5a).

Amphora preserved from toe to below shoulder.

M.P.H. 0.339.

Sandy and fine white calcarious inclusions, abundant gold mica; the clay is light reddish brown 2.5YR 6/6 with a greyed surface.

Short peg toe slightly inset from the body; sides of the amphora are very slightly convex, flaring sharply outward,

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.28 (76.544)

Fig. 104

Structure 3 TR5 (4).

Amphora preserved from toe to below shoulder. M.P.H. 0.375.

Fine white inclusions; gold and silver mica; clay is red-brown 2.5YR 6/6, bright red at the core; the surface is light brown to red.

The toe differs from **13.26** and **13.27**, being a shallow flaring knob on a short stem; the sides of the amphora are also slightly more curved.

Context 4th century B.C.

Toes associated with Type 1

13.29 (76.897)

Fig. 105

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.202.

Fabric coarse, large sandy and dark red calcareous inclusions; slightly micaceous, mica silver and gold; clay is brownish red 5YR 6/4.

Long peg toe, not offset from the body; sides of the body quite straight.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.30 (78.1757)

Fig. 106

Isthmus TR2 tr1 (5a).

Toe.

M.P.H. 0.170.

Clay is coarse, with fine light inclusions and larger sandy particles; abundant gold and silver mica; clay is pale orange-brown 2.5YR 7/6 without core; surface is lighter.

Peg toe, rather short.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.31 (78.996)

Fig. 105

Structure 3 TR16 (4)

Toe and lower body

M.P.H. 0.179.

D. 0.072.

Fine white inclusions; non-micaceous; clay orange 2.5YR 7/6 with grey core and grey-orange surface.

Flaring shallow toe on short thick stem; lower body flaring.

Context late 4th century B.C.

13.32 (76.883)

Fig. 106

Isthmus TR2 tr1 (3a).

Toe and lower body.

M.P.H. 0.148.

D. 0.063.

Fine inclusions and fine gold and silver mica; the clay is pink 2.5YR 7/4 without core; the surface is finer and pink buff. Flaring shallow toe on short thick stem; lower body flaring.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.33 (76.437)

Fig. 106

Structure 3 TR11 (4).

Toe.

M.P.H. 0.097.

D. 0.06.

Fine inclusions; silver and gold mica; clay is orange 5YR 7/8 with grey-brown core.

Short flaring toe with short stem.

Context 4th century B.C.

13.34 (78.982)

Fig. 105

Structure 3 TR16 (3).

Toe.

M.P.H. 0.109.

D. 0.055.

Fine white inclusions; gold and silver mica; clay is orange to red 2.5YR 6/6 to 2.5YR 6/8.

Short flaring toe; short stem.

Context late 4th century B.C.

13.35 (76.882)

Fig. 105

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.138.

D. 0.059.

Fairly large inclusions, some dark red; fine gold mica; clay is dark red 10R 5/6.

Short flaring toe; short fairly thick stem.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.36 (76.884)

Fig. 105

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.110.

D. 0.067.

Fine inclusions and a little fine mica; clay red to purplish red 10R 5/8 to 10R 5/4 with a grey core; the surface is red-brown.

Short flaring toe; thick stem.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

*Type 2: rounded profile***13.37** (78.1138)

Fig. 99; Pl. 77 (2 views)

Isthmus TR2 tr2 (4),(5).

Amphora, complete except for lower body and toe, unstamped.

M.P.H. 0.670.

D. 0.126.

Handle W. 0.038. Handle Th. 0.020.

Clay fairly coarse, with calcarious inclusions and large flecks of gold mica; dark purple-red 10R 5/4 with greenish white surface 2.5Y 8/3.

Incised on the neck:

M

The toe is missing; the finished bottom in the photograph is plaster restoration. Ovoid body; sloping broad shoulder; long tapering neck. The rim is short and rolled, with a rounded profile. The handles are attached quite close to the rim. Context classical.

13.38 (76.886)

Fig. 100 a and b; Pl. 77

Isthmus TR2 tr1 (3a).

Amphora: lower body with toe and non-joining shoulder and neck fragment.

M.P.H. (toe and lower body) 0.150.

M.P.H. (shoulder and neck) 0.172.

Fabric fine and hard-fired; fine inclusions and gold and silver mica; colour pinkish red 2.5YR 7/4 with buff surface.

Hollow conical toe on a short stem. Lower body quite rounded. Sloping shoulders, with a slightly angular transition to the upper body. Gradual transition from shoulder to neck.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

*Toes associated with type 2***13.39** (76.674)

Fig. 105

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.054.

D. 0.062.

Fabric fine, hard-fired, with a few fine white inclusions and gold mica; the clay is pink 2.5YR 7/4 with buff surface.

Hollow toe, doughnut shaped, tending toward conical; short stem; flaring lower body.

In fabric this example is very close to **13.38**. The forms of the two toes, though not the same, are kindred in design, and the profiles of the lower bodies are, to the extent that they are preserved, almost identical. These two amphorae look as if they could have been produced together in the same firing and from the same clay; both come from the amphora deposit. Thus **13.38** and **13.39** may constitute evidence that in our local amphorae, toe profiles could be variable for jars of the same source and date.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.40 (76.898)

Fig. 107

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.147.

D. 0.071.

Clay coarse with abundant gold and silver mica; colour pinkish buff to brownish 2.5YR 7/6 to 2.5YR 6/6.

Ring toe, short stem; amphora body has flaring sides, straighter than in the preceding examples of the class of amphora with rounded profile.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.41 (76.885)

Fig. 106

Isthmus TR2 tr1 (3a).

Toe.

M.P.H. 0.120.

D. 0.072.

A little mica; clay is red 10R 6/8.

Ring toe, stemless; amphora has flaring sides, straighter than **13.40**.

Amphora deposit; context 4th century B.C.; lat-

est identifiable material dated *ca.* 375-325 B.C.

13.42 (78.1326)

Fig. 106

Structure 3 TR8/16 Baulk (4).

Toe.

M.P.H. 0.043.

Clay fine, with white inclusions and fine gold mica; clay orange 2.5YR 6/8 with dark red core 2.5YR 6/3.

Perhaps not of the type of **13.39-13.41**. Broad hollow toe with steep sides; broken off at stem, which may have been longer than other examples.

Context late 4th century B.C.

Rim Types

Type A: rounded rim profile

13.43 (78.1345)

Fig. 108; Pl. 77

Hill 2 TR3 (4).

Rim and neck fragment, with part of handles, unstamped.

M.P.H. 0.260.

D. 0.104.

Handle W. 0.040. Handle Th. 0.030.

Mostly fine white inclusions, some larger bits; fine gold and silver mica; clay bright red 2.5YR 6/6 with indefinite red-brown core; surface is pink-brown.

A sloping transition from the shoulder to the neck. The neck is long and tapering. The rim is short and rolled, rounded in profile. The handles are set high, so that the attachment covers the underside of the rim. The handles themselves are quite round in section.

Although the body type of this example is unknown, the profile of the neck and the short flat arch of the handles are very close to **13.16** and **13.17** of the second class of body, with rounded profile.

Context mainly classical; one Hellenistic and one Roman pottery fragment.

13.44 (78.1766)

Fig. 109

Isthmus Tr3 tr1 (3) B8.

Handle, unstamped, with part of neck and rim.

W. 0.043.

Th. 0.022.

Clay fairly coarse with sandy inclusions and quite abundant gold and silver mica; clay is pale orange 5YR 7/6 with orange-brown core. Short rolled rim, rather pointed in its outward profile. The handle is placed high, obscuring with its attachment the lower rim profile; the handle is broad and rather flat.

Context 4th century B.C.

Type B: angular or undercut rim profile

13.45 (76.891)

Fig. 108

Isthmus TR2 tr1 (3a).

Rim and neck fragment, with upper part of handles, unstamped.

M.P.H. 0.087.

D. 0.111.

Handle W. 0.040. Handle Th. 0.032.

Clay quite fine hard; fine white inclusions; gold and silver mica. Clay is pinkish orange 2.5YR 7/6 with traces of whitish surface.

Rim damaged and crumpled in manufacture. Rolled rim, the upper and lower faces flattened to create two planes meeting at an angle. The handles are placed high, close to the rim, but not overlapping it, and are quite round in section.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.46 (78.1767)

Fig. 109

Isthmus TR3 tr1 (3) B8.

Rim and neck fragment with upper part of handle, unstamped.

M.P.H. 0.132.

Handle W. 0.049. Handle Th. 0.029.

Fine inclusions, silver mica; clay dark red 2.5YR 6/6, without core, and with red-orange surface.

Short rolled rim. The handle is attached high, the upper part covering the lower part of the rim. Broad handle, a flattened oval in section.

Context 4th century B.C.

13.47 (78.1768)

Fig. 109

Isthmus TR3 tr1 (3) B8.

Rim and neck fragment with upper handle attachment.

M.P.H. 0.105.

A few calcarious inclusions, and a little silver mica; clay is orange 2.5YR 6/6, without core; surface is pale orange.

Short rolled rim, with a rather pointed outward profile. The handle is attached quite high, just over the lower part of the rim; the handle is fairly small and narrow, oval in section.

Context 4th century B.C.

13.48 (78.1765)

Fig. 109

Isthmus TR3 tr1 (3) B8.

Rim and neck fragment with handle, unstamped.

M.P.H. 0.150.

Handle: W. pres. 0.031; Th. pres. 0.019.

Small inclusions; abundant gold and silver mica; clay is dark red 2.5YR 6/8, with a dark grey core.

Short rolled rim. The handle is oval in section, widening slightly at the upper attachment.

Context 4th century B.C.

13.49 (76.887)

Fig. 109

Isthmus TR2 tr1 (3a).

Rim and neck fragment with upper handle attachment.

M.P.H. 0.093.

Clay coarse with sandy inclusions, silver and gold mica; clay orange 2.5YR 7/6, with dull orange surface.

Short rolled rim. The handle attachment is close to the rim. The handle is broad and flat in section.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.50 (76.899)

Fig. 110

Isthmus TR2 tr1 (3a).

Rim and neck fragment, with part of handle, unstamped.

M.P.H. 0.068.

Fine light inclusions, gold and silver mica; clay red 2.5YR 5/4 with a grey-brown core and surface.

The rim is rolled and slightly projecting, with a

concave undersurface and a slight groove below the rim where it joins the neck. The handle is placed high, with the attachment covering the lower part of the rim; the handle is broad and flat in section.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.51 (76.906) Fig. 110

Isthmus TR2 tr1 (3).

Rim and neck fragment with upper part of handle, unstamped.

M.P.H. 0.097.

Handle: W. 0.042; Th. 0.028.

Clay dense and hard, with fine sandy and calcareous inclusions; non-micaceous; colour is dark red 10R 6/8, with red-brown surface.

Rolled rim, rounded profile, with slightly concave undersurface. The handle is placed high, with the handle attachment covering the lower part of the rim; the handle is ovoid in section.

Context 4th century B.C.; latest identifiable material *ca.* 375-325 B.C.

13.52 (76.893) Fig. 110

Isthmus: TR2 tr1(3a)

Rim and neck fragment.

M.P.H. 0.051.

Fine white inclusions and fine mica; clay orange 2.5YR 6/8, without core; surface orange-brown.

Rolled rim, rounded.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.53 (76.06) Fig. 110

Structure 3 TR2 (3).

Rim and neck fragment with upper part of handle.

M.P.H. 0.051.

Handle: W. 0.051; Th. 0.023.

Clay coarse with large sandy inclusions, large flecks of mica, silver and gold; clay is pink-brown 5YR 7/4 with orange surface.

Rolled rim, rather pointed in its profile; the underside is only slightly concave. In section the handle is broad and flat.

Context 5th and 4th century B.C.; latest identifiable material dated *ca.* 400-375 B.C.

Miscellaneous

13.54 (78.1769) Fig. 110

Isthmus TR3 tr1 (3) B8.

Rim and neck fragment with upper handle attachment.

M.P.H. 0.081.

Clay hard fired, abundant fine gold and silver mica; the clay is dark red 2.5YR 6/6, with a large grey core; the surface is dark red-brown.

The rim is rolled, with a slightly squared-off profile. The handle is placed quite high but the attachment is below the bottom of the rim.

Context 4th century B.C.

13.55 (76.888) Fig. 110

Isthmus TR2 tr1 (3a).

Rim and neck fragment with part of handle.

M.P.H. 0.094.

Handle: W 0.048; Th. 0.025.

Fine white inclusions and abundant fine gold and silver mica; clay red 2.5YR 6/6, with a large grey core; the surface is reddish brown.

Traces of red stain on rim and beside handle.

Rolled rim, squared off. The handle is placed quite high, with the attachment just below the bottom of the rim. The handle is a flattened oval in section.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.

13.56 (76.889) Fig. 110

Isthmus TR2 tr1 (3a).

Rim and neck fragment with upper part of one handle, unstamped.

M.P.H. 0.139.

Handle W. 0.044; Th. 0.023.

Clay coarse with sandy inclusions, abundant mica; orange-red 5YR 7/4, with light brown surface.

Traces of red at juncture of handle and neck.

Short rolled rim with angular profile; the handle is placed high with the attachment just below the rim. The handle is a flattened oval in section.

Amphora deposit; context 4th century B.C.; latest identifiable material dated *ca.* 375-325 B.C.



14. POTTERY OF THE ROMAN PERIOD

John K. Papadopoulos

HISTORICAL INTRODUCTION*

In 349/8 B.C. Philip II marched against the cities of Chalkidike, took the fortress of Zereia by siege and intimidated many other cities into submission.¹ In the following year he acquired, without battle, Mekyberna (the port of Olynthos) and Torone by means of "treasonable surrender,"² and then moved against the most powerful city of the region at that time - Olynthos - and brought down the notorious massacre of 348/7 B.C.³ With Torone having come under Philip's hegemony, literary sources concerning the site fall silent for the ensuing Hellenistic period and it is only in the later stages of the Third Macedonian War that Torone is again mentioned: in 169 B.C. a

*An early version of this chapter was completed, many years ago, in 1980. Another version, incorporating some material from the 1981 and 1982 seasons, was completed in December 1982. The present version is essentially based on that submitted in 1982, although the pieces from later campaigns, with the exception of a few amphorae, are not included here. I had occasion to re-inspect some of the pieces published here in the summer of 1985, and to bring the bibliography and discussion marginally up-to-date. Essentially, however, this version is based on notes taken at the Torone excavation base and in the apotheke of the Polygyros Musuem during the summers of 1979-1982. Since then other commitments have prevented me from working on Roman pottery as much as I would have liked. I have added a few more recent references to the catalogue and discussion, but these are largely arbitrary and very far from comprehensive. For example, although there are numerous references in the text that follows to more recent publications, such as *Saraghane II*, that volume appeared too late to allow a rewriting of this chapter in the light of the results presented there. In an ideal world, I would have preferred to have gone over the pottery once more (particularly with a view to quantification, since many aspects are clearer now than they were in the early 1980s) and to have rewritten the introduction in a calm and stress-free environment. This, however, has not proved possible, and for any deficiencies in the text that follows I accept full responsibility. My thanks are again due to Alexander Cambitoglou for introducing me to the Roman pottery from Torone, and for urging me to take on its study. Especial thanks are due to many colleagues on the Torone team; among many others, I should like to thank in particular, Anne Hooton, Patricia Johnston, Denise Mackenzie, Beatrice McLoughlin, Joanna Savage and Margaret Vaughn Smith. I am also grateful to the late Ioulia Vokotopoulou for allowing me access to comparative material from various sites in northern Greece. I have benefitted greatly, like all students of Roman pottery, from visits to the study collections of the Athenian Agora and Corinth Excavations. With respect to the latter I am indebted to Nancy Bookides, Jan Jordan, T. Leslie Shear, Jr., Helen Townsend, and Charles K. Williams, II. For informative discussion on various aspects connected with this chapter I am grateful to Pamela Armstrong, the late Virginia Grace, John Hayes, Veronika Mitsopoulos-Leon, Stavros Paspalas, Christopher Pfaff, Guy Sanders, Josine Schuring and Ian Whitbread.

¹ Diodorus XVI.52.9-10. The site of Zereia remains, as far as I know, unidentified.

² Diodorus XVI.53.1-2; see above, Chapter 1.

³ M. Gude, *A History of Olynthus* (1933) *passim*.

Roman force assisted by Eumenes II of Pergamon and Prousius II Cynegus of Bithynia undertook to besiege Kassandreia (Potidaia);⁴ having failed, they sailed around the cape⁵ and put in near Torone, where, as Livy states:

“After attempting to besiege this city too, and observing that it was defended by a strong force, they gave up their undertaking and made for Demetrias.”⁶

In the following year (168 B.C.), after the defeat of Perseus at Pydna at the hands of Aemilius Paullus (Macedonicus), the Macedonian cities surrendered in rapid succession. It is in this context that Pliny the Elder lists Torone among the cities of Macedonia, seventy-two of which Paullus “pillaged and sold in a single day.”⁷ It is believed that in listing these cities, and others, Pliny made use of an official register compiled by Marcus Agrippa and Augustus.⁸

By 167 B.C. the Roman Commissioners appointed by the Senate were instructed that all Macedonians and Illyrians were to be free, that Macedonia was to be divided into four divisions, and that the tribute payable was to be one-half that paid to the Macedonian monarchs.⁹ Of the four divisions Torone fell into the second,¹⁰ that stretching roughly from the Strymon to the Axios, which included eastern-Paeonia and the whole of Chalkidike, with Thessalonike as capital.¹¹ It is in listing these four divisions that Livy makes his second and final reference to Torone, which he describes as one of Macedonia’s finest harbours.¹²

In 148 B.C. the four divisions were abolished and the whole of Macedonia, as well as Illyria and Epeiros, became the single province of a Roman Magistrate.¹³ By 146 B.C., following the events of the Achaean War, Greece passed more fully under

⁴ J.A. Alexander, “Kassandreia during the Macedonian Period,” in *Ancient Macedonia I* (1970) 127-146.

⁵ I.e. Cape Kanastraion, cf. Thucydides IV.110.2; Herodotos VII.123.1.

⁶ Livy XLIV.12.7-8.

⁷ *Nat. Hist.* IV.10.39.

⁸ For the existence of this register of cities and Pliny’s use of it see A.H.M. Jones, *The Cities of the Eastern Roman Provinces* (2nd ed., 1971) Appendix I, 503-508.

⁹ CAH VIII (1954) chapter viii, 273; J.A.O. Larsen, “Roman Greece,” in T. Frank (ed.), *An Economic Survey of Ancient Rome IV*, part iii (1959) 294ff.

¹⁰ Livy XLV.29.30.

¹¹ CAH *op. cit.* (*supra* note 9) 274.

¹² XLV.30.4: “... maritimas quoque opportunitates ei praebent portus ad Toronen ac montem Atho Aeneamque et Acanthum.”

¹³ CAH *op. cit.* (*supra* note 9) 276; see further P.A. McKay, “The Coinage of the Macedonian Republics, 168-146 B.C.,” in *Ancient Macedonia I* (1970) 256-264. For Epeiros during this period see, especially, T. Ch. Sarikakis, *AE* 1964, 105-119; *RE* XIV, 764-765 (Geyer).

the Roman governors' authority;¹⁴ it was during this period that the Macedonian cities fell into one of three categories:¹⁵

1. Subject cities/towns
2. Autonomous and free cities
3. The Roman cities (these were Philippi, Pella, Dion and Kassandreia as *Coloniae* and Stobi as *Municipium*).

As to the fate of Torone during this Early Roman period there is, to date, no clear information, historical or archaeological. The site is, however, listed in a number of geographies written or compiled in the course of the first and second centuries A.C. These include, in chronological order: The *Chorographia* of Pomponius Mela;¹⁶ the *Geographia* of Claudius Ptolemaeus;¹⁷ and the *Περίηγησις τῆς οἰκουμένης* of Dionysius Periegetes.¹⁸ The testimony of these three geographers, though of little consequence in itself, is nevertheless noteworthy since both Mela and Ptolemy are able to locate the site accurately, the former by way of Porto Koupho, the latter by distance.¹⁹ In addition to these, a number of references are preserved which briefly mention various aspects of the local wildlife. The *Naturalis Historia* has three such passages: the first concerns the Egyptian bean, which is found in Syria, Cilicia and "... in Toronaeo Chalcidices lacu."²⁰ The second refers to the sea-urchin of the district,²¹ and the third discusses the intelligence of, among other things, the local sponge.²² Of these three passages Pliny's source for the first is Theophrastos;²³ the same passage is also found in the *Δειπνοσοφισταί* of Athenaios (written ca. A.D. 200), where Theophrastos is directly cited.²⁴ Elsewhere, Athenaios,²⁵ quoting Archestratos,²⁶ makes reference to the tasty slices of dog shark (κύων καρχαρίας), which could be enjoyed at Torone.

¹⁴ Larsen *op. cit.* (*supra* note 9) 303.

¹⁵ D. Kanatsoulis, *Makedonika* 6, 1964-1965, 1-61; cf. *id.*, *Makedonika* 13 (1973) 1-38.

¹⁶ II.3.34 (C. Frick [ed.], 1967).

¹⁷ III.13.12.

¹⁸ G. Berhardy (ed.), (1974) 327 lines 24-29; see also M. Papathomopoulos, Dionysius Periegetes. *Ἀνωνύμων παράφρασις εἰς τὰ Διονυσίου Ἰξεντικά* (1976).

¹⁹ For Ptolemy's method of reckoning distances see E.H. Bunbury, *History of Ancient Geography* II (1879) 519ff.

²⁰ XVIII.30.122.

²¹ IX.51.100.

²² IX.69.149.

²³ *Περί φυτῶν ἱστορίας* IV.8.

²⁴ III.72d.

²⁵ VII.310a-c.

²⁶ Archestratos of Gela, a contemporary of Aristotle, wrote *Ἡδυπάθεια*.

During the Late Roman period, Torone does not appear in any of the contemporary histories or in any of the later geographies. The site is listed in the *Ἑθνικά* of Stephanos of Byzantium, a grammarian whose main objective was the correct formation of ethnic adjectives. With regard to Torone, Stephanos provides the following statement:

“Τορώνη πόλις Θράκης ἀπὸ Τορώνης τῆς Πρωτέως ἢ Ποσειδῶνος καὶ Φοινίκης ἔστι καὶ ἄλλη Τορώνη μετὰ Τροίαν κτισθεῖσα.”²⁷

The *Ἑθνικά* clearly shows the difficulties many later authors had in defining accurately regional boundaries. The city Kapsa, for instance, is referred to by Stephanos as Πόλις Χαλκιδικῆς;²⁸ Sithonia he calls μέρος Θράκης²⁹ and for Olynthos he writes: “Ολυνθος πόλις Θράκης πρὸς τῇ Σιθωνίᾳ τῆς Μακεδονίας.”³⁰ Among the lists of cities compiled by other late geographers, the only Chalkidic cities mentioned by some authors are Kassandreia,³¹ Akanthos,³² and Chalkidic Apollonia.³³

Such, then, are the few passages that represent the available literary sources referring to the site in Roman times. Following the events of the Third Macedonian War, all important literary information concerning the site during the Roman era comes to an end. Moreover, contemporary epigraphical evidence is lacking and Torone, like many smaller Macedonian towns of the Roman period, played a minor role in the political history of the era, overshadowed by the larger metropoleis.³⁴

THE POTTERY

The pottery of the Roman period from the first three seasons of excavations at Torone dates mainly from the years spanning the late second through the late sixth or early seventh century after Christ. The term “Roman,” therefore, is here used conven-

²⁷ A. Meinekos (ed.), 629.10-13. The reference to Torone's namesake, the daughter of Proteus also appears in Dionysius Periegetes *op. cit.* (*supra* note 18) 344-345.

²⁸ 370.18-19.

²⁹ 566.14-15.

³⁰ 491.16-18.

³¹ Kassandreia appears only in the Anonymus, *Catalogus urbium quae nomen mutaverunt*, see A. Migne (ed.), *Patrologia Graeca* 113, 81-84 (*in notis*).

³² Akanthos, often Hierissos, appears in Hierokles, *Synekdemos*, see E. Honigmann, *Le synekdèmos d'Hiéròklès et l'opuscule géographique de Georges de Chypre* (Brussels 1939) 640 no. 5; in Constantinus Porphyrogenitus, *De thematibus imperii*, see A. Migne (ed.), *Patrologia Graeca* 113, 63-140; and in the Anonymus *op. cit.* (*supra* n. 31).

³³ Apollonia appears in all three authors cited above for Akanthos; for the site see further Ch. Makaronas, in *Ancient Macedonia II* (1977) 189-194.

³⁴ For a useful account of the history of this era, and later, see G.J. Theodorides, *Ιστορία τῆς Μακεδονίας κατὰ τοὺς μέσους χρόνους (285-1354 μ.Χ.)* (1980).

tionally and refers to ceramic, not political, history.³⁵ This pottery is confined in space to the lower ground near the ancient harbour of the city and indicates a significant contraction in the size of the settlement area during Roman times, although it is possible that the settlement did extend to the north and northeast beyond the area of the fortified Classical and Early Hellenistic city.³⁶

DEPOSITS YIELDING POTTERY OF THE ROMAN PERIOD

Deposits yielding pottery of the Roman period were encountered on Promontory 1, the adjoining Isthmus, and in the Lower City Area slightly to the east. Much of this material, however, derives from mixed contexts much disturbed by later building activity, primarily Post-Byzantine, or else contexts not precisely datable. Of the more informative deposits were the series of strata encountered at the Isthmus and collectively referred to as Phase II.³⁷ Encountered at a higher level in the central part of the area under excavation, these deposits dipped down at an angle of about 20° towards the west and southwest and represent material washed down from the higher ground to the east and south. These wash levels yielded large quantities of Roman pottery ranging in date from the second century A.C. through the years of the early seventh century.³⁸ There were no architectural features which could be confidently assigned to Phase II, although the small exposed stretch of TR 1 tr 1 Wall 1 may be of Roman date. The combination of levels of hill wash, coupled with the lack of architectural features within the excavated area might indicate the presence of Late Roman buildings in the unexcavated higher ground to the east and southeast. It was clear that Phase II deposits were, in parts, disturbed and re-deposited as levelling fill associated with the Post-Byzantine Phase I building activity, particularly that of Structure A, but also Structures B and E.³⁹ A good deal of pottery of the Roman period was also encountered in topsoil in the Isthmus Area.⁴⁰

³⁵ Cf. *Agora* V, 1-3; *LRP*, 1-12.

³⁶ There have been no excavations conducted north of City Wall C with the exception of seven Late Roman tombs uncovered in 1979 (see below).

³⁷ See Chapter 2.

³⁸ A good deal of earlier residual material, primarily of Classical date, was recovered from these layers, while at certain points there was clear Post-Byzantine disturbance. Undisturbed Phase II deposits include the following excavation unit numbers: TR1 tr1 (3); TR1 tr2 (4)-(5); TR1 tr3 (2); TR2 tr1 (3); TR2 tr2 (3).

³⁹ Pottery of the Roman period disturbed and re-deposited in Phase I levels includes the following excavation unit numbers: TR1 tr2 (2) (Structure A); TR3 tr1 (1)-(2) (Structure B); TR2 tr2 (1a) (Structure E); also TR4 tr2 (2); TR4 tr1 (2); TR3 tr2 (2); TR1 tr2 (3); cf. TR1 tr1 (2); TR2 tr1 (2); TR2 tr2 (2).

⁴⁰ Including the following excavation unit numbers: TR1 tr1 (1); TR1 tr3 (1); TR2 tr1 (1); TR2 tr2 (1); TR3 tr2 (1); TR4 tr1 (1); TR4 tr2 (1).

In comparison to the Isthmus, the two trial trenches excavated on Promontory 1 yielded only minor quantities of Roman pottery. In both trenches only Byzantine and Post-Byzantine levels were excavated and, as such, the few sherds of Roman date from the promontory presented below represent residual material.

A more complex sequence of events was encountered in the Lower City Area, where the three test trenches, sited at some distance from one another, tended to produce results that varied from trench to trench. Collectively, the pottery of the Roman period recovered from the Lower City has a similar chronological range to that from the Isthmus. In Trench 1 the main architectural features were the large Oval Tomb which, on the basis of stratigraphical evidence, is Late Roman or later, and the small exposed stretch of the Classical City Wall C. Large quantities of Roman pottery were recovered from the upper levels of the trench,⁴¹ but the latest material recovered from these deposits was Post-Byzantine. Late Roman pottery was also found within the area of the Oval Tomb, in association with earlier pottery,⁴² but it was clear that these deposits were disturbed by the constructed feature thought to be a lime kiln. The most informative deposit from Trench 1 was Unit 3S, which is the soil into which the cutting for the Oval Tomb was dug. Only a few sherds from this deposit were selected for the catalogue presented in this chapter, though a larger quantity was entered on the inventory or stored in context lots.

Only one deposit was encountered in the Lower City Trench 2, labelled Unit 1. Although it yielded much pottery of the Roman period, in addition to smaller quantities of earlier material, the trench was of limited contextual value. In Trench 3 some Roman pottery was found in topsoil (Unit 1), which also yielded Late Byzantine and Post-Byzantine material. The important Roman deposits in the trench were those associated with the Late Roman building, only partially excavated, consisting of Trench 3 Walls 1 and 2. Two types of deposit were associated with this building: the first, met only in the north and southeast sectors of the trench, in the area outside the building, was debris, including tumble from the walls, which had accumulated after the building had been abandoned.⁴³ Below this, but only in the north sector, was Unit 3N Upper which probably represents the external ground level during the period of primary use of the building. The latest material from both deposits was Late Roman, but owing to the small area actually dug, the quantity of pottery recovered was not great.

⁴¹ *I.e.* TR1 units 1 and 2.

⁴² See TR1 3N and TR1 4N.

⁴³ Excavated as TR3 Unit 2N and TR3 SE.

Subsequent excavations during the campaigns of 1981-1990 have considerably enlarged the corpus of Roman pottery but have essentially confirmed the general pattern of the distribution of the pottery already established on the basis of the excavations of 1975, 1976 and 1978. The most important discovery during these later campaigns was the Roman cemetery on Terrace IV.⁴⁴ The cemetery was built over the comparatively well preserved remains of Classical houses and the construction of some of the tombs incorporated stone from the earlier dwellings. The excavated tombs date mainly from the 4th through 6th centuries A.C.;⁴⁵ all were inhumations, both in single and multiple graves.⁴⁶ Tomb types were varied and include large stone-built graves for multiple burials, smaller stone-constructed tombs and simple stone-lined pit graves. Tile and amphora burials were also common; the former - primarily of the "gable" variety⁴⁷ - were used for both adults and children, whereas the amphora burials appear to have been exclusively for infants.⁴⁸ The excavation of some of the stone-constructed tombs yielded useful groups of objects, sometimes in association with coins, which assisted in providing a more precise dating of the ceramic products of the period. The amphora burials proved instrumental in establishing a typology of amphorae, providing complete or near complete specimens to which the fragmentary material from other parts of the site could be compared. A full account of the excavated tombs in the Late Roman Cemetery on Terrace IV will be presented in a forthcoming volume in the Torone series. Several Late Roman tombs were also uncovered on Promontory 1 during the excavations of 1986-1990.⁴⁹

⁴⁴ A. Cambitoglou, *PAE* (1981) 39; *id.* *PAE* (1982) 69-73; *id.*, *PAE* (1984) 40-65; J.K. Papadopoulos, *AE* (1989) 67-78.

⁴⁵ The earliest coins deposited in the tombs were issues of Constantine I (306-337 A.C.).

⁴⁶ For cremation and inhumation in the Roman world see, generally, J.M.C. Toynbee, *Death and Burial in the Roman World* (1971; reprinted 1982) 39-42.

⁴⁷ See H. Palmer in C.W. Blegen *et al.*, *Corinth XIII. The North Cemetery* (1964) 75 fig. 6 and 74 n. 50 for tile burials during the Classical period; *cf.* D.M. Robinson, *Excavations at Olynthus XI. Necrolynthia. A Study in Greek Burial Customs and Anthropology* (1942) 160-161 (with references). For Roman tile burials see further C. Roebuck, *Corinth XIV. The Asklepieion and Lerna* (1951) 162-164; J. Wiseman, *Hesperia* 26, 1967, 13-41, especially 31-35; F.J. de Waele, *AJA* 39, 1935, 356 f.; W. Dörpfeld, *Alt-Ithaka. Ein Beitrag zur Homer-Frage. Studien und Ausgrabungen auf der Insel Leukas-Ithaka* (1927) 252 f.; Ph. Petsas, *AD* 24, 1969, B2, pl. 308a; K. Davaras, *AE* 1985, 130-216, especially pl. 45a-β, pl. 47a-γ, pl. 578; A. Frantz, *The Athenian Agora XXIV. Late Antiquity: A.D. 267-700* (1988) pl. 75a; and generally, Toynbee *op. cit.* (*supra* note 46) 87.

⁴⁸ For the reuse of amphorae in tombs see, among others, M. Beltran Lloris, *Las anforas Romanas en Espana* (1970) 585-588; for amphora burials in Roman Spain see further Keay, *Amphorae* I, 1-69, especially 50-51 figs. 5A-B, 62 fig. 13, 63 fig. 14, pls. 203-205 and various examples on pls. 214-216. For similar burials in Late Roman Athens see, among others, J. Travlos and I. Threpsiades, *AD* 17, 1961-1962, B1, 13 pl. 8β-γ.

⁴⁹ A. Cambitoglou and J.K. Papadopoulos, *MeditArch* 1 (1988) 180-217; *MeditArch* 3 (1990) 93-142; *MeditArch* 4 (1991) 147-171; *MeditArch* 7 (1994) 141-163.

In 1979 a further seven Late Roman tombs were cleared by the late Ephor for Central Macedonia, Dr. Ioulia Vokotopoulou, as part of a rescue excavation on a construction site for a house. These tombs were located on the southern slopes of the small knoll known locally as *Tis Kalogrias t'Aloni*, north of the ancient settlement area; they appear to be contemporary with the earlier tombs on Terrace IV. The pottery and other small finds from these tombs are to be published separately.

On the level ground between *Tis Kalogrias t'Aloni* and the lower terraces of the ancient city, an area known locally as *Perdikosykia*, is the basilica of Aghios Athanasios, the largest of several churches and chapels at Torone. The basilica was excavated in the 1970s by the Byzantine Ephoreia of Chalkidike under the directorship of Professor N. Nikonanos. Although several building phases were discerned, it would appear that the basilica was first built in the Late Roman period.⁵⁰ It is worth noting that by far the largest component of surface pottery encountered in the vicinity is Late Roman.

On the basis of the distribution of the pottery of the Roman period found to date, it is possible to establish at least partially the extent of Late Roman habitation or activity at Torone even though contemporary architecture is meagre. To the east of the Lower City Area, the excavations at Structures 1 and 3 and those at the Gate Area produced no Roman finds whatsoever, and it would appear that the Classical City Wall B marks, more or less, the easternmost extent of Roman finds.⁵¹ To the west, the excavations on Promontory 2 in 1982 failed to yield even a single sherd of Roman date,⁵² while to the south, the cemetery on Terrace IV appears to mark something of another boundary, with only a few sherds of Roman date having been found on the adjoining Terrace V.⁵³ Only two stray sherds of Roman date were found during the excavation of Hill 2 in 1978 (Chapter 2), which marks the southernmost extent of the fortified Archaic and Classical city. The picture which begins to emerge from the evidence of both the excavation and the distribution of surface pottery is of a small set-

⁵⁰ For preliminary reports of the work of the Byzantine Ephoreia of Chalkidike at Torone see N. Nikonanos, *AD* 29, 1973-1974, B3, 770f., 776; *id.*, *AD* 30, 1975, B2, 274-276; E. Tsigaridas, *AD* 31, 1976, B2, 284f.; N. Nikonanos, *AD* 33, 1978, B2, 252-255, pl. 121α-β.

⁵¹ On account of the systematic dismantling of the fortification systems in the late 19th century, it is virtually impossible to determine the condition of the Classical and Hellenistic fortifications in Roman times.

⁵² A. Cambitoglou, *PAE* 1982, 77-78.

⁵³ The quantity of Roman sherds found on Terrace V was minor and was largely recovered from topsoil; for the excavations on Terrace V see A. Cambitoglou, *PAE* 1981, 38; *id.*, *PAE* 1982, 73-77; *id.*, *PAE* 1984, 40-65; J.K. Papadopoulos, *MeditArch* 2, 1989, 9-44; *id.* in J.-P. Descoeudres (ed.), *EYMOYΣΙΑ. Ceramic and Iconographic Studies in Honour of Alexander Cambitoglou* (1990) 13-24.

tlement confined to the lower ground near the harbour and on Terraces I-IV. Habitation clearly extends to the north, beyond the area of fortified Classical and Early Hellenistic city.

The results of the excavations on Promontory 1, the Isthmus and the Lower City Area are described more fully above (Chapter 2). In the absence of sealed, better stratified or more closely dated deposits, it has been decided to present the pottery typologically, as to have done otherwise would have served little purpose. A total of 508 pieces are here catalogued; in selecting this material the principle has been to present as comprehensive and representative an idea of the various types of wares current at the site over a period of a number of centuries from the material available. The pottery has been divided into the four basic categories of Fine Wares, Cooking Ware, Amphorae and Other Wares. Each of these is prefaced by a brief introduction, a type series (where applicable) and, as far as was possible, some idea of the quantities present. Catalogued items are from the excavations of the first three seasons, although in the case of the amphorae a few of the intact, or better preserved, examples from later seasons have been incorporated in order to illustrate better the type present. Many of the catalogued pieces, particularly the Fine Wares, are of well-known and easily identified types; in selecting a representative sample, I have erred on the side of caution, preferring to over-illustrate any given type rather than treat it in a more summary way. This decision was in part dictated by the fact that contemporary published material from other Chalkidic sites is lacking.⁵⁴

⁵⁴ Although the Classical and pre-Classical material from Olynthos is well-known, see D.M. Robinson *et al.*, *Excavations at Olynthus* I-XIV (1929-1952), after that city was destroyed by Philip II in 348/7 B.C. occupation of the site ceased altogether or was witnessed only by small-scale resettlement. It was only during the Byzantine period that Olynthos was again settled to any major extent, with the settlement largely confined to the south projection of the Meghali Toumba, see A. Xyngopoulos in D.M. Robinson, *Olynthus* V (1933) 285-292. Pottery of the Roman period was not recorded from the excavations, although mention is made of coins dating to the reign of Justinian, see D.M. Robinson, *Olynthus* III (1931) 119-120. Reference is also made to a cemetery, believed to be of Roman date, located near the modern church of Aghios Athanasios, where an inscription dating to the 3rd century A.C. was found, see D.M. Robinson, *Olynthus* II (1930) 117; excavations, however, were not conducted there. Apart from Olynthos and Torone, the only sites in Chalkidike which have seen systematic excavations are Akanthos (modern Hierissos), the site of the Temple of Ammon Zeus near Aphytis, Sane and, more recently, Mende, Polychrono and Kouko (Sykia), in addition to the excavations of Walter Heurtley earlier this century (see Chapter 3). At Akanthos the work begun in the 1960s at the Archaic and Classical cemetery is still ongoing; at last count 2,781 tombs had been excavated, see G. Touchais, *BCH* 108 (1984) 803; see further E. Trakosopoulou-Salakidou, *AEMΘ* 1 (1987) 295-304. The Temple of Ammon Zeus was built in the fourth century B.C. with additions in the third and remodelling during the second and first centuries B.C.; earlier material was found at the nearby Sanctuary of Dionysos and the Nymphs, in use from as early as the eighth century B.C., see Ph. Petsas,

CONSPECTUS OF THE POTTERY

I. FINE WARES

Çandarlı Ware

Form 1	14.1-14.8, cf. 14.14
Form 2	14.9-14.13, cf. 14.14
Form 3	14.15-14.23
Form 4	14.24-14.40
Form 5	14.44
Çandarlı Form 4 / Phocaeen RS Form 1A	14.41-14.43

Phocaeen R.S. Ware

Form 1	
type A	14.45-14.49
type A or B	14.50-14.54
type B	14.55-14.58
type C	—
type D	14.59-14.63
variant	14.64
Form 2	
type A	14.65-14.69
type B	14.70-14.81
type C	14.82-14.84
Form 3	
type A	14.85-14.86

AD 24 (1969) B2, 312 (under Nea Kallithea); *id.*, AD 25 (1970) B2, 354-361; E. Gioure, AAA 4 (1971) 356f.; J.-P. Michaud, BCH 96 (1972) 730, 735f. For Sane see I. Vokotopoulou, AEMΘ 1 (1987) 279-80. Excavations at Mende were begun in 1986 under the direction of Dr. I. Vokotopoulou, as were those at Kouko; preliminary reports are published in AEMΘ. For Polychrono see I. Vokotopoulou in J.-P. Descoeudres (ed.), EYMOYΣIA. Ceramic and Iconographic Studies in Honour of Alexander Cambitoglou (1990) 79-86. In addition, small-scale excavations, rescue digs and chance finds, particularly of the Late Classical and Hellenistic periods, have been conducted or brought to light at a number of other Chalkidic sites. This material is well summarized by Chr. Makaronas, Makedonika 1 (1940) 463-496, especially 493-494; *id.*, Makedonika 2 (1941-1952) 590-678, especially 622-625; Ph. Petsas, Makedonika 7 (1966-1967) 277-368, especially 310-313; *id.*, Makedonika 9 (1969) 101-224; *id.*, Makedonika 14 (1974) 212-381; *id.*, Makedonika 15 (1975) 171-355, especially 220-255 and in later issues of AD. Of these sites only a few such as Potidaia/Kassandra, Platania and Nea Michaniona have yielded small, but important, quantities of Roman pottery. For Potidaia see S. Pelekides, EEΦΠΘ 4 (1950 reprint) 1-47; Ph. Petsas, AD 21 (1966) B2, 342-343; G.S. Korres, AE 1970, 119-122; J.A. Alexander, Potidaea, Its History and Remains (1963) *passim*. For Platania see especially Ph. Petsas, AD 24 (1969) B2, 291-312, especially 308-309; for Nea Michaniona see Ph. Petsas, AD 24 (1969) B2, 304, pl. 314.

type B	14.87-14.96
type C	14.97-14.111
type D	14.112-14.116
type E	14.117-14.124
type F	14.125-14.141
type G	14.142-14.145
type H	14.146-14.148
small varieties (all types)	14.149-14.162
Form 4	14.163 (<i>cf.</i> 14.153-14.155)
Form 5	
type A or B	14.164-14.166
Form 6	14.167-14.170
Form 7	14.171
Form 8	14.172-14.179
Form 9	14.180
Form 10	
type A	14.181-14.182
type B	14.183
type C	14.184
Base frr. (various forms)	14.185-14.191
Floor/base frr. with stamped decoration	
i. Palm-branch style	14.192-14.200
ii. Floral & geometric motifs	14.201-14.204
iii. Animals	14.205-14.211
iv. Crosses & cross-monograms	14.212-14.218

African R.S. Ware

Form 45	14.219
Form 50	14.220-14.223
Form 52	14.224
Form 53	14.225
Form 54 (?)	14.226
Form 59	14.227-14.230
Form 61	14.231-14.236
Form 63	14.237-14.238
Form 63 or 80A/81	14.239
Form 67	14.240-14.245
Form 72	14.246-14.247
Form 73	14.248-14.249
Form 76	14.250-14.252
Form 78	14.253
Form 84	14.254-14.255
Form 87	14.256-14.257
Form 88	14.258
Form 91	14.259-14.262

Form 93B (?)	14.263
Form 103 (?)	14.264
Form 104	14.265-14.267
Form 105	14.268
Floor/base fr. with stamped decoration	14.269-14.281

Cypriot R.S. Ware

Form 2	14.282
Form 9	14.283
Base fr. with stamped decoration	14.284

Macedonian 'T.S. Grise'	14.285-14.292
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Asia Minor 'Light-Coloured' Ware

Dish with vertical or hammerhead rim	14.293-14.296
Dish/bowl with upturned thickened rim, concave on top	14.297-14.298
Small bowl with knobbed rim	14.299
Bowl/dish with broad horizontal rim	14.300-14.302
Dish/bowl with upright thickened rim, rounded on top	14.303-14.306
Deep bowl with short horizontal or out-turned rim	14.307-14.308
Other rim fr.	14.309-14.310
Base fr.	14.311-14.314
Fr. with stamped decoration	14.315-14.316

II. COOKING WARE

Type 1	14.317-14.324
Type 2	14.325-14.330
Type 3	14.331-14.338
Type 4	14.339-14.346
Type 5	14.347-14.353
Type 6	14.354-14.359
Type 7	14.360-14.366
Type 8	14.367-14.370
Base fr.	14.371-14.373
Lid fr.	14.374-14.377

III. AMPHORAE

Type I	14.378-14.412
Type II	14.413-14.419

Type III	14.420-14.421
Type IV	14.422-14.432
Type V	14.433-14.434
Type VI and related	14.435-14.438
Type VII	14.439-14.443

IV. OTHER WARES

i. Open vessels

a. Small open vessels with knobbed rims	14.444-14.449
b. Other	14.450-14.453

ii. Closed vessels

a. Local (?) jugs/mugs	14.454-14.477
b. Imported closed vessels (Attic)	14.478-14.506
c. Other	14.507-14.508

I. THE FINE WARES

The fine wares presented here are of standard imported fabrics; there were no local imitations. The earliest imported fine ware found in any quantity is Çandarli Ware (137 fragments).⁵⁵ These pieces span the years from the mid or late second century until the later third or early fourth century A.C., with the later forms (principally third century) being the more common. Earlier fabrics are very rare. To date, only five fragments of Eastern Sigillata A⁵⁶ and three possible fragments of Eastern Sigillata B have been found; all eight sherds were recovered from the Lower City Area during the 1981 and 1982 seasons and are, therefore, not included in this volume. The five fragments of Eastern Sigillata A include a fragment of a cup with vertical flanged rim (81.938) corresponding to Kenyon's Form 24,⁵⁷ which is dated to the first century A.C.; two other fragments (81.1012 and 81.1030) are related in

⁵⁵ This figure represents the total number of Çandarli Ware fragments encountered during the first three seasons.

⁵⁶ For this ware see especially *Samaria-Sebaste* III, 281ff and J.W. Hayes, *Hesperia* 42 (1973) 450 ff. where the earlier problems of nomenclature associated with this ware are clarified; cf. J.W. Hayes in *113e Congrès des sociétés savantes, Strasbourg, 1988, IVe Colloque sur l'histoire et l'archéologie de l'Afrique du Nord*, II, 515-23.

⁵⁷ *Samaria-Sebaste* III, 312, 337-339, fig. 81 nos. 17-19, 21-22; cf. *Agora* V, pl. 61, G13 and G14 (labelled "Pergamene Ware").

shape. A fourth fragment (81.1024), similar to Kenyon's Form 7,⁵⁸ is also of this ware.⁵⁹ Eastern Sigillata B is represented by three possible fragments only, two of which preserve part of the rim. All three fragments appear to be of the finer and earlier Eastern Sigillata B I fabric.⁶⁰ The pieces are thin-walled, quite hard and smoothly finished; fine mica is visible in all three. The rim fragment 81.939 is probably from a flat-based dish or bowl;⁶¹ the body fragment 81.458 is from a similar vessel. The other rim fragment, 81.1045, is from a beaker.⁶²

From the late fourth century on, the predominant Fine Ware is Phocaeian Red Slip Ware (formerly "Late Roman C" Ware).⁶³ Well over 2000 fragments of the ware were recorded from the 1976 and 1978 campaigns. The various successive vessel-forms are all amply represented except for the late Form 10.⁶⁴ Other contemporary Late Roman wares are, in comparison, rare. African Red Slip Ware is represented by some 211 fragments, primarily late forms,⁶⁵ and there are perhaps as many as 15 pieces of Cypriot Red Slip Ware. A surprising aspect for a north Aegean site is the scarcity of Macedonian 'T.S. Grise'; only 13 pieces of this ware were found during the first three seasons. In comparison to these, Asia Minor 'Light-Coloured' Ware is fairly well represented.

Quantitative analysis of the fine ware pottery⁶⁶

A more meaningful quantitative analysis of the pottery is greatly impeded not only by the fragmentary state of the material, but also by the fact that it largely

⁵⁸ *Samaria-Sebaste* III, 310, 325-326, fig. 77 no. 8.

⁵⁹ As is an uninventoried body fragment from the 1981 campaign.

⁶⁰ *Labraunda* II, 1, 30; J.W. Hayes, *Hesperia* 42 (1973) 452-456. Eastern Sigillata B I corresponds to Robinson's "Samian B," see *Agora* V, 12.

⁶¹ This shape is particularly common in the B II fabric, cf. Hayes, *ibid.* nos. 151, 155; cf. *Agora* V, pl. 62 G29 and G30 ("Samian A" Ware). A dish from Corinth, C.K. Williams and J.E. Fisher, *Hesperia* 44 (1975) 12 fig. 2 no. 3 (C-74-135) is of the finer B I fabric.

⁶² Hayes, *Hesperia* 42 (1973) 455, pl. 87 no. 159; cf. T. Wiegand and H. Schrader, *Priene. Ergebnisse der Ausgrabungen und Untersuchungen in den Jahren 1895-1898* (1904) 434 fig. 552 no. 137. For a useful, and recent, overview of Eastern Terra Sigillata and Late Roman Red Slip Wares, see J.W. Hayes, "Eastern Terra Sigillata wares, Late Roman red-slip wares and their competitors: filling in the Mediterranean picture," in *The Proceedings of Graduate Seminars, Centro Universitario Europeo* (Ravello, forthcoming); I am grateful to Dr. Hayes for sending me a copy of this paper in advance of publication.

⁶³ *LRP Supp.* 525-527 (lix-lxi).

⁶⁴ Only ten fragments of this form were recorded (four are catalogued) and, although they include examples of all three of Hayes' Form 10 A-C, the rarity of shape, elsewhere common in late sixth and early seventh century A.C. contexts, is noteworthy.

⁶⁵ The earliest vessel-form is Form 45 (14.219), dated *ca.* mid third century A.C.

⁶⁶ The following analysis includes the pottery of the Roman period from all areas excavated in 1976 and 1978; no Roman pottery was found in 1975.

derives from uninformative contexts. Nevertheless, the pottery recovered from the first three seasons provides a useful statistical survey. For the purposes of this report the material may be listed as follows:

a. Çandarlı Ware

Form 1	11 rim or base fr.
Form 2	1 or 2 possible fr.
Form 3	14 rim or base fr.
Form 4	50 rim or base fr.
Form 5	2 possible fr.
Bases	18 fr.
Bodies	41 fr.

b. Phocaeen R.S. Ware

Form 1	284 rim fr.
Form 2	105 rim fr.
Form 3	380 rim fr.
Form 4	10 rim fr.
Form 5	4 rim fr.
Form 6	3 rim fr.
Form 7	7 rim fr.
Form 8	12 rim fr.
Form 9	6 rim fr.
Form 10	10 rim fr.
Stamped	41 floor or body fr.
Bases	346 fr.
Bodies	892 fr.

c. African R.S. Ware

Rims (all forms)	58 fr.
Bases (all forms)	17 fr.
Stamped	25 fr.
Bodies	111 fr.

d. Cypriot R.S. Ware

Rims (all forms)	6 fr.
Bases	7(?) fr.
Bodies	2(?) fr.

e. Macedonian 'T.S. Grise'

Rims	7 fr.
Bases	3 fr.
Bodies	3 fr.

f. Asia Minor 'Light Coloured' Ware

Rims	21 fr.
Bases	12 fr.
Stamped	11 floor or body fr.
Complete profile	1 (fragmentary)
Bodies	10 fr.

The respective quantities of the fragments listed above may be tabulated and compared as follows:

Percentages of all Fine Ware sherds counted

Çandarli Ware	137	5.44%
Phocaeen R.S. Ware	2088	82.89%
African R.S. Ware	211	8.38%
Cypriot R.S. Ware	15(?)	0.59%
Macedonian 'T.S. Grise'	13	0.52%
Asia Minor 'Light Coloured' Ware	55	2.18%

Percentages of minimum number of Fine Ware vessels
(diagnostic fragments only)

Çandarli Ware	96	6.58%
Phocaeen R.S. Ware	1196	81.92%
African R.S. Ware	100	6.85%
Cypriot R.S. Ware	13(?)	0.89%
Macedonian 'T.S. Grise'	10	0.68%
Asia Minor 'Light Coloured' Ware	45	3.08%

Çandarli Ware (14.1-14.44)

A total of forty-four fragments of this ware are here catalogued, including three pieces which are either Çandarli Ware Form 4 or Phocaeen Red Slip Ware Form 1 (see below). The forty-four fragments include specimens of all five forms of the later Çandarli series outlined by Hayes.⁶⁷ Three fragments, **14.15-14.17**, here catalogued under Hayes' Form 3, belong to the earlier Çandarli series - Kenyon's Eastern Sigillata C⁶⁸ - and correspond to Loeschcke's Type 19.⁶⁹ The shape of the earlier ver-

⁶⁷ *LRP*, 316-322.

⁶⁸ *Samaria-Sebaste* III, 283.

⁶⁹ S. Loeschcke, *AM* 37 (1912) 370-371, pl. XXVIII. For the early series see, among others, J. Schäfer, *AA* 1962, 777-802; J. Hayes, *Hesperia* 42 (1973) 456-457; *LRP*, 318 and fig. 63b. The corresponding shape in Italian Sigillata is H. Dragendorff, *BJ* 96-97 (1895) 18-155, Form 6.

sions of Form 3 (**14.15-14.17**) differs from that of the later examples (**14.18-14.23**) in that they have a higher vertical rim with less pronounced flange and that the base tends to be thinner than on the later versions. The fabric of **14.15-14.17** is the normal orange-red with a gloss of similar colour.⁷⁰ Traces of small lime particles and fine golden mica are visible. The fabric of the later series is slightly darker in colour, with lime particles and larger flakes of golden mica nearly always visible.⁷¹

The most common shape in Çandarlı Ware at Torone is the third century Form 4. The gloss on individual pieces of this form can vary from lustrous and of good quality to dull and of poor quality, whereas the gloss on other vessel-forms tends to be consistently lustrous (especially on Forms 1 and 2). In the case of some of the later examples of Form 4 it is very difficult to distinguish between fragments of Çandarlı Ware Form 4 and Phocaeen Red Slip Ware Form 1A.⁷² Three such pieces are presented in the catalogue below (**14.41-14.43**). In addition, at least one fragment (**14.44**) of the comparatively rare Form 5 was found and provides a close parallel to the type specimen published by Hayes from Palatiano in Macedonia.⁷³

The fragments of Forms 1, 2, 3 and 5 catalogued here represent the majority of pieces found which could be assigned to these forms. Only a representative sample of the common Form 4 is presented below.

Çandarlı Ware is clearly the predominant Fine Ware imported to Torone during the second and third centuries A.C., where it enjoyed a virtual monopoly.⁷⁴ Very few of the African Red Slip Ware pieces found in the first three seasons are contemporary, the majority dating to the fourth century A.C. or later.

Phocaeen Red Slip Ware (**14.45-14.218**)

The most common imported Late Roman fabric at Torone from the late fourth century until the later sixth and early seventh centuries A.C. is "Late Roman C" Ware, now Phocaeen Red Slip Ware.⁷⁵ It alone accounts for over 80% of all imported Fine Wares. The most common shape is Form 3 (380 rim fragments all varieties),⁷⁶ followed by Forms 1 (284 rim fragments most varieties) and 2 (105 rim frag-

⁷⁰ See catalogue for Munsell designations.

⁷¹ Cf. *LRP*, 316.

⁷² *LRP*, 369 where the relationship between the two fabrics is discussed.

⁷³ *LRP*, 322; cf. Ph. Petsas, *AD* 22 (1967) *Chron.*, 400-403; *id.*, *Makedonika* 9, 1969, 181 fig. 17 no. 7.

⁷⁴ Cf. *Stobi* I, 53-4.

⁷⁵ *LRP Supp.*, 525-6 where the evidence for re-naming this ware is outlined; see further E. Langlotz, *AA* 1967, 377-85, especially pp. 379-81.

⁷⁶ *LRP*, 329-38.

ments all varieties). Examples of other forms are, in comparison, rare, though it is noteworthy that most varieties of these shapes, as discerned by Hayes, are present. Form 10, a shape commonly found in some quantity at many Eastern Mediterranean sites in contexts of the late sixth to mid seventh century is relatively rare at Torone (10 rim fragments).⁷⁷ Of the catalogued examples of Form 10, **14.181-14.183** are best accommodated in the late sixth century A.C. and **14.184** can be confidently assigned to the first half of the seventh century. This may suggest a decline in the export of the ware in this part of northern Greece around A.D. 600, with only sporadic imports reaching Torone after that date.⁷⁸ According to Hayes, the latest dated examples of Form 10 are a number of pieces from Emporio on Chios, which are perhaps as late as the 660s A.C. on the basis of coin evidence.⁷⁹

The fabric of this ware has been fully described by Waagé, Hayes and others and need not be repeated here at any length.⁸⁰ The clay is fine-grained with prominent lime particles; other impurities, including mica, are rare. The slip is thin and always matt. The interior of nearly all vessels is smoothed, while the exterior is normally poorly finished.⁸¹ The colour of the clay and slip can vary according to the conditions of firing. The clay of published examples is most commonly described as "brownish-red," "purplish-red" or "maroon-tinted."⁸² The most common colour range among the pieces from Torone is red 2.5YR 5/6-5/8 on the Munsell scale; a darker colouring is closer to reddish brown 2.5YR 5/4-4/4. A lighter red, approaching orange-red, is also found, not unlike light red 2.5YR 6/6-6/8. The darker hue is usually thought to represent hard-firing, the lighter colour under-firing.⁸³

⁷⁷ Fragments of Phocaeen Red Slip Ware Form 10 are particularly numerous at Resafa-Sergiopolis, see *Resafa* I, various examples pls. 11, 16-24, 27, 29-32.

⁷⁸ Although the fragmentary state of the material and the poorly stratified contexts from which it derives may render any such statement tenuous, it is noteworthy that such a pattern appears to be confirmed on the basis of material excavated at Torone during later seasons. A similar pattern has been observed by Hayes at Istanbul, *Sarāḫane* II, 7.

⁷⁹ *LRP*, 345; these pieces are now fully published in M. Ballance *et al.*, *Excavations in Chios, 1952-1955. Byzantine Emporio* (BSA Suppl. Vol. 20, 1989) 93-5 nos. 96-111.

⁸⁰ F.O. Waagé, *Hesperia* 2 (1933) 298f [298ff.]; *id.*, *Antioch* IV, 1, 51-2; *LRP*, 323ff.; *Labraunda* II, 1, 43-4; *Kythera*, 307-8; *Stobi* I, 59.

⁸¹ According to Hayes, *LRP*, 324, a spatula-like tool is initially used for smoothing, which is later replaced by a brush. At Torone, examples of Forms 8 and 9 and some fragments of late Form 3 (especially type F) display fine brush marks on the interior. Hayes (*ibid.*) argues that the difference in the treatment of interior and exterior surfaces is one indication that some vessel-forms were mould-thrown.

⁸² *LRP*, 323; *Stobi* I, 59.

⁸³ *Ibid.*

A common feature among the rim fragments of the ware at Torone, and elsewhere, is that the rim exterior, that is the part of the vessel left exposed in the kiln when the pots are stacked,⁸⁴ is often discoloured due to partial reduction⁸⁵ or else variances in firing temperature or circulation of the hot gases within the kiln. This can vary in colour from brown to black, or less commonly to a cream/white and very occasionally an olive green. On those pieces fired light red the rim exterior, if discoloured, is only a shade darker than the slip covering the rest of the body. On one example (**14.208**), a floor fragment of a dish or bowl, the underside is fired black.

Among the numerous fragments of Form 3 catalogued here many preserve a small offset at the juncture of rim and wall on the exterior.⁸⁶ This feature first appears sometime around A.D. 500 and continues throughout the sixth century.⁸⁷ Rouletting is also a feature commonly associated with this form (as well as other forms) and many of the individual pieces presented in the catalogue preserving rouletting on the rim exterior illustrate the variety of this type of decoration. The rouletting normally consists of a band of one to three rows (rarely more), which can be faintly or deeply impressed. A distinctive "dot" rouletting is preserved on **14.139** and **14.140**.⁸⁸ At least one, tentatively assigned, example of the distinctive Form 3 type G (**14.142**)⁸⁹ preserves rouletting on the rim exterior, a feature rare for this form and type.⁹⁰ Moreover the four examples of Form 3G presented below (**14.142-14.145**) closely resemble the shape of Form 10A (**14.181-14.182**) and as such indicate a link between Form 3 and the earlier stages in the development of Form 10.⁹¹ A few fragments of Form 3 type H were also noted (**14.146-14.148**). These constitute a distinct fabric characterised by a coarser body clay with flakes of golden mica and, when preserved, a glossier slip on the interior.⁹²

⁸⁴ Nearly all forms of this ware are so shaped as to facilitate stacking and indeed stacked wasters of the ware found at Phocaea verify this, see E. Langlotz, *AA* 1969, 381 figs. 4-5. Such stacking is also advantageous for loading and shipping.

⁸⁵ *LRP*, 324.

⁸⁶ Form 3 types B and C do not have the offset, which is almost always found on types E and F.

⁸⁷ *LRP*, 337.

⁸⁸ This type of rouletting is not normal for Phocaean Red Slip Ware but is commonly found on Asia Minor 'Light Coloured' Ware (see below).

⁸⁹ For published illustrations of Form 3G see especially *Antioch* IV, 1, pl. XI nos. 947 a and u; A. M. Schneider, *AM* 54 (1929) 127-8 fig. 19 no. 5.

⁹⁰ *LRP*, 331. **14.142** is tentatively assigned to Form 3G but may be of Form 3F.

⁹¹ This relationship between the two forms can also be seen among the finds from Antioch, cf. *Antioch* IV, 1 pl. XI nos. 947a, u (Form 3G) with pl. XI no. 949a (Form 10A).

⁹² *LRP*, 331, 335, 369. Hayes compares this fabric to that of late Çandarlı Ware Form 4 and notes the possible existence of more than one centre of production for "Phocaean" Red Slip Ware.

Apart from Form 3, rouletted decoration can also be found on rims of Form 5, though none of the examples of this form found at Torone in the course of the first three seasons bears rouletting,⁹³ as well as on the floors of various forms, usually in association with stamped decoration.⁹⁴ The one fragment of Form 9 presented below is exceptional in that it preserves a band of multiple rouletting on the exterior of the body.⁹⁵

A fair quantity (some 27 fragments) of floor fragments bearing stamped decoration at or around the centre of the floor of the vessel were found. Unfortunately, it did not prove possible to match, with certainty, any of these with rim fragments. The most common stamp-types are those of the so-called "palm-branch style" (**14.192-14.200**),⁹⁶ as well as animals (**14.205-14.211**), crosses and cross-monograms (**14.212-14.218**); a number of floral and geometric motifs were also present (**14.201-14.204**). At least two floor fragments preserve graffiti on the underside (**14.195** and **14.203**).⁹⁷

African Red Slip Ware (**14.219-14.281**)

A total of 63 fragments of African Red Slip Ware⁹⁸ are here catalogued out of some 211 fragments found during the first three seasons. The ware is the second most common at Torone during the period from the fourth to the sixth century A.C., but only accounts for about 7-8% of the imported fine wares. Only one piece (**14.219**), a rim fragment of Form 45A, can be assigned to the third century A.C. The remainder date mainly to the fourth through sixth centuries; the latest piece is probably **14.268** (Form 105), which dates to the late sixth or early seventh century. Other seventh-century African Red Slip Ware forms, common in the eastern Mediterranean,⁹⁹ are not found at Torone.

⁹³ At least three fragments of Form 5 (mainly Form 5B) discovered in 1981 preserve rouletting on the rim (inv. 81.129, 81.136 and 81.951).

⁹⁴ See, for example, **14.189-14.191** and many of the pieces bearing stamped decoration.

⁹⁵ Only one example of this rare form (without rouletting) is presented by Hayes in his type series, *LRP*, 342 (=J.W. Hayes, *DOP* 22 [1968] 208, 211 fig. F no. 65 from Saraçhane in Istanbul). I know of no published examples of this form, or indeed any other, with similar rouletting on the exterior.

⁹⁶ *LRP*, 347f.; this style (late fourth to mid fifth century A.C.) is associated primarily with Form 2.

⁹⁷ Graffiti are rare among the imported Late Roman Fine Wares at Torone. In addition to **14.195** and **14.203**, two Çandarlı Ware base fragments (both probably Form 4) preserve graffiti on their undersides (**14.38** and **14.40**).

⁹⁸ *LRP*, 13-309; *LRP Supp.*, 484-523. For recent notes on the fabric, slip and method of production of this ware see J.M. Schuring, "Terra Sigillata Africana from the San Sisto Vecchio in Rome," originally published in *BABesch* 63 (1988) 1-68 and re-published in Schuring, *Experimental Studies on Roman and Medieval Ceramics* (1989) 1-68.

⁹⁹ See the recent discussion by Hayes in *Saraçhane II*, 7.

Although rare in comparison to Phocaeen Red Slip Ware, a good variety of open shapes (dishes and bowls) are represented among the finds from the first three seasons, with perhaps as many as 22 vessel forms having been recorded. The majority are of standard common shapes, though a few, such as Forms 63 (**14.237-14.238**), 78 (**14.253**), 87 (**14.256-14.257**), 88 (**14.258**) and 103? (**14.264**) are of rare or less common types. The best represented shapes at Torone include Forms 50, 59, 61, 67, 72, 76, 87, 91 and 104, while Forms 63, 73, and 84 are not uncommon; other shapes are, to date, each represented at the site by a solitary example. The fabric is the common fine-grained clay with few impurities. The slip, in the majority of cases, is fine and has a slightly lustrous quality. A fair number of pieces are of a coarser fabric, containing some inclusions;¹⁰⁰ the body clay is occasionally variegated and the slip less lustrous. Details of clay and slip are given more fully in the catalogue.

In addition to the rim sherds, a number of base and floor fragments preserve stamped decoration or rouletting. Only a few of these can be assigned with certainty to a particular vessel form, such as the common "feather-rouletting" on the interior of **14.259-14.261** (Form 91),¹⁰¹ and the unidentified stamped motif surrounded by grooves on **14.267** (Form 104). The most common stamp-types are palm-branches, found in one or more registers, often alternating with rosettes (**14.269**, **14.271-14.275**). On **14.276** only a band of rosettes, enclosed by grooves, is preserved. The stamped decoration on **14.270** is more ambitious: palm-branches, arranged both vertically and horizontally, alternating with various subsidiary motifs, are found in three extant registers, each separated by a shallow groove. The toothed rings in a band defined by thin grooves around the centre of the floor on **14.277** is a common scheme of decoration associated with Form 61.¹⁰² **14.278** and **14.279** preserve stamped concentric circles; the former is unique in that it preserves six small groups of concentric circles around a larger group at the centre of the floor; these are motifs commonly used as subsidiaries, not as central stamp-types.¹⁰³ The piece, which is rather worn, is of further interest since the fabric, though listed as African Red Slip, may be Phocaean(?). A trefoil motif¹⁰⁴ and petals are preserved on the fragments **14.280** and **14.281** respectively.

¹⁰⁰ Cf. especially examples of Forms 59, 61, 63, 67, 78, 87, 93B(?), 103(?), 104, 105.

¹⁰¹ *LRP*, 140-44; cf. *Antioch IV*, 1 pl. X nos. 883f,k,m,p,u,x; J.W. Hayes in J. Dore and K. Greene (eds.), *Roman Pottery Studies in Britain and Beyond* (1977) 279-87; N. Lamboglia, *Rivista di studi liguri* 29, 1963, 145-212, Forms 24/25, 38.

¹⁰² Cf. **14.231-14.236** and *LRP*, pl. XVb. The fired colour of the clay and slip of **14.277** is abnormal and not unlike some examples of Athenian colour-coated ware.

¹⁰³ *LRP*, 234-5, motifs 24 and 27.

¹⁰⁴ Decoration commonly associated with Form 67 (cf. **14.240-14.245**).

Also worth mentioning here is the rim fragment **14.247** (Form 72), which preserves a row of punched dots.¹⁰⁵ The dots are punched on the exterior of the rim along a shallow groove acting as a guidance line; the result is a row of small knobs on the upperside (interior) of the rim.¹⁰⁶

Cypriot Red Slip Ware (**14.282-14.284**)

Only three fragments of this ware are here catalogued out of a total of not more than 15 found.¹⁰⁷ Of the rim sherds, **14.282** is a good example of Form 2 (small version); the piece preserves the characteristic rouletting on the exterior of the body and should date to the late fifth or early sixth century A.C. Somewhat later, perhaps late sixth or early seventh century, is **14.283**, which is probably Form 9 (*cf.* Form 10); the fragment preserves grooves along the outer face of the rim, with rather crude and irregular rouletting impressed over. The base fragment **14.284**, perhaps an example of Form 2,¹⁰⁸ has a stamped palm-branch alternating with a circular motif and surrounded by two bands of crude rouletting.¹⁰⁹

The distribution of this ware has been outlined by Hayes,¹¹⁰ and although it is predominant in Cyprus and common in the Levant and the eastern Aegean, it is less common on the Greek mainland and comparatively rare in the north.¹¹¹

Macedonian 'Terra Sigillata Grise' (**14.285-14.292**)

Eight fragments of this distinctive grey ware are here presented, with only another five recorded from the excavations of the first three seasons. The most recent and thorough study of the fabric is that by Anderson-Stojanovic, who distinguishes eleven vessel-forms;¹¹² her typology is followed here. All of the rim fragments in the

¹⁰⁵ *Cf.* *LRP*, 120-2 and especially no. 6 (=Athens, Agora P 21514); see also *LRP*, 281-3.

¹⁰⁶ A similar fragment (inv. 81.499) was found in 1981.

¹⁰⁷ For this ware see *LRP*, 371-86; *LRP Supp.*, 528-9 where the recent bibliography is given. See also M. Rodziewicz, *Alexandrie I. La céramique romaine tardive d'Alexandrie* (1976) where an independent typology for the ware is presented (for a comment on this see *LRP Supp.*, 528). See also H.W. Catling, *Levant* 4 (1972) 1-82; C. Williams, *AS* 27 (1977) 175-190; *ead.*, *Anemurium. The Roman and Early Byzantine Pottery* (1989) 27-37.

¹⁰⁸ The low ring foot with a slight offset at the junction with wall is characteristic for Forms 1 and 2.

¹⁰⁹ A few pieces of Cypriot Red Slip Ware from later seasons at Torone include examples of Forms 1, 8(?) and 9 (inv. 81.460+81.463, 81.945, 81.960 and 82.660).

¹¹⁰ *LRP*, 385-6.

¹¹¹ There are a few pieces in the Thessalonike Museum from various excavations in the city, especially the West Cemetery. A number of pieces from Constantinople are published by Hayes, *DOP* 22, 1968, 211 fig. F nos. 67-72 and *Saraghane II*, 7. A solitary example is recorded in *Stobi I*, 55 no. 347.

¹¹² *Stobi I*, 61-72, pls. 48-55, 169-171; *ead.*, *RCRActa* 23/24 (1984) 99-109; *cf.* *LRP*, 405-407; *LRP Supp.*, 534.

catalogue below (**14.285-14.289** and *cf.* **14.290**) belong to either Form 1 (dish with wide, horizontal rim) or Form 2 (hemispherical bowl with wide, horizontal rim). Distinguishing between Forms 1 and 2 is largely a matter of rim diameter and it is often difficult to assign fragments to one form or the other when only a small portion of the rim circumference is preserved.¹¹³ The rim diameter of **14.287** would suggest a dish (Form 1), whereas that of **14.288** would more reasonably indicate a bowl (Form 2); the remainder could be Form 1 or 2. **14.285-14.287** each preserves the scalloped and impressed-decorated rims characteristic for Forms 1 and 2.¹¹⁴ The rim fragment **14.289** does not appear to be scalloped, but also bears impressed decoration resembling "crescents."¹¹⁵ Stamped decoration in the form of four preserved groups of concentric circles closely clustered together is also found on the minuscule fragment **14.290**.¹¹⁶ The two catalogued base fragments, **14.291** and **14.292**, both preserve a low ring foot. The diameter of **14.291** might indicate a dish, that of **14.292** a bowl.

The body clay in all examples is loaded with fine silver mica; clay and slip are fired grey (both dark and light shades occur, as does a brown-grey), clearly the result of controlled reduction firing.¹¹⁷

As Anderson-Stojanović has shown, the tradition of Grey Ware at Stobi is first seen in the earliest levels of the city and continues throughout the Hellenistic and Early Roman periods.¹¹⁸ The tradition, however, disappears entirely during the second and third centuries A.C., and is revived in the third quarter of the fourth century.¹¹⁹ The ware is well established by the early fifth century; its production ends at Stobi by the middle of the sixth century A.C.¹²⁰ Following Hayes and the evidence of the few fragments of the ware found in Athens and Thessalonike,¹²¹ I have tentatively assigned all fragments of the ware found at Torone to the late fourth or early fifth century A.C. If such a date is acceptable, then Macedonian 'T.S. Grise' may have enjoyed a brief period of popularity outside of its home region at a time when the production of Çandarli Ware was on the wane and the products of Phocaea only beginning to establish themselves.

¹¹³ *Stobi* I, 67.

¹¹⁴ *Cf.* *Stobi* I, pl. 48 nos. 420-21, pl. 50 nos. 442-446, pl. 51 nos. 448-49.

¹¹⁵ *Cf.* *Stobi* I, 66, pl. 48 no. 419.

¹¹⁶ *Cf.* *LRP*, 406 fig. 91c.

¹¹⁷ Oxidized versions of Forms 1 and 2 are known at Stobi, but are comparatively rare, see *Stobi* I, 62.

¹¹⁸ *Stobi* I, 61.

¹¹⁹ *Ibid.*

¹²⁰ *Ibid.*, 65.

¹²¹ *LRP*, 407.

The comparative rarity of the fabric at Torone (a mere 0.52-0.68% of all imported fine wares), common at Stobi, Thessalonike and other northern centres,¹²² indicates that Torone was not part of the broader Macedonian trade in this ware but rather looked to the Aegean and beyond for imports.

Asia Minor 'Light Coloured Ware' (14.293-14.316)

A fair number of fragments of this ware,¹²³ accounting for about 2-3% of the imported fine ware pottery, were encountered among the Late Roman finds from the excavations of the first three seasons at Torone. A total of 55 fragments of the ware were found, of which 24 are catalogued.

The fabric, which closely resembles that of a series of mould-made lamps,¹²⁴ is fine with a tendency to break cleanly and, apart from a little golden mica in some cases only, there are no visible impurities. The colour of the clay is consistent and highly characteristic: usually in the range of light brown and pink 7.5YR 6/4, 7/4 and light reddish brown and pink 5YR 6/4, 7/4. The clay tends to be consistently fired throughout and there are few of the variations due to firing temperature often seen in other Late Roman fine wares. Occasionally, the clay colour can be variegated, ranging from light brown to light grey.

The slip is rather thin and surfaces are well smoothed; the latter is particularly evident on floor fragments bearing stamped decoration. The interiors sometimes display fine brush marks.¹²⁵ The colour of the slip is normally only slightly darker than the colour of the body clay, but in many cases the slip has fired red. Sometimes the slip, like the body clay, can be variegated (e.g. 14.300). The slip on Asia Minor 'Light Coloured' Ware lacks the lustrous qualities of Çandarlı Ware or some examples of African Red Slip Ware, but it is rarely as dull or matt as Phocaean Red Slip Ware.

According to Hayes, the date-range of the ware as a whole is roughly mid-fifth to early seventh century.¹²⁶ At Constantinople the ware first appears around 420-50 A.C.¹²⁷ The fact that many of the individual vessel forms catalogued here are based on, or copy, contemporary shapes in Phocaean Red Slip Ware might reasonably indi-

¹²² *Stobi* I, 61-6; V.R. Anderson-Stojanović, in B. Aleksova and J. Wiseman (eds.), *Studies in the Antiquities of Stobi* III (1981) 47-61; *ead.*, *RCRFacta* 23/24 (1984) 99-109.

¹²³ *LRP*, 408-410; *LRP Supp.* 534.

¹²⁴ Cf. *LRP*, 412 and especially J. Tidmarsh, Chapter 16 (inv. 78.119, 78.783 and 78.960); cf. J. Perlzweig, *Agora* VII, 101 pls. 10 and 49 no. 349.

¹²⁵ In the case of Phocaean Red Slip Ware, similar brush marks tend to be a late feature, see above note 81.

¹²⁶ *LRP*, 409-410.

¹²⁷ *Saraçhane* II, 7.

cate that the majority of the Torone pieces date from the mid-fifth to sixth centuries. Hayes has observed the same phenomenon among the finds from Saraçhane, where he notes that the shapes present in earlier contexts are largely modelled on Phocaeen Red Slip Ware, whereas the later ones seem to derive from the common African Red Slip Ware dishes of Forms 104-105.¹²⁸ The fact that the ware shares many features with Phocaeen Red Slip Ware, coupled with the similarity of the fabric with that of certain products assigned to the Knidos region, has prompted Hayes to look to the eastern Aegean, especially the Knidia, as the likely source of production.¹²⁹

Among the rim fragments of this ware at Torone at least six shapes are clearly represented, as follows:¹³⁰

1. *Dish with vertical or hammerhead rim.*¹³¹ The form is clearly modelled on Phocaeen Red Slip Ware Form 3. Four examples are catalogued below, two with rouletting. On **14.293** a distinctive dot-rouletting is preserved,¹³² while that on **14.295** more closely resembles that of Phocaeen Red Slip Ware Form 3 (especially Form 3 types C and F).¹³³

2. *Dish or bowl with upturned thickened rim, concave on top.*¹³⁴ This shape is closely related to Phocaeen Red Slip Ware Forms 6 and 7, which are normally dated to the early sixth century A.C.¹³⁵ The steep upper wall is a feature of Phocaeen Red Slip Ware Form 7, whereas the concavity on the rim top is more reminiscent of Form 6. **14.297** has a wide band of lightly impressed feather-rouletting on the wall exterior, immediately below the upturned rim.

3. *Small bowl with knobbed rim.*¹³⁶ Only one example is recorded, perhaps a smaller and deeper variant of the previous shape. The fragment preserves a multiple band of dot or notch-rouletting on the interior.

4. *Bowl or dish with broad horizontal rim.*¹³⁷ The three catalogued fragments of

¹²⁸ *Ibid.*

¹²⁹ *LRP*, 408; *LRP Supp.* 534.

¹³⁰ The order that the shapes are presented is essentially arbitrary, though it follows the numbering of Hayes' pieces published in *LRP*, 409 fig. 92.

¹³¹ Cf. *LRP*, 409 fig. 92 no. 1.

¹³² Cf. **14.139** and **14.140**. For this distinctive type of rouletting see *LRP*, 408-10; cf. J.C. Biers, *Corinth XVII. The Great Bath on the Lechaion Road* (1985) 79-80 pl. 32(e) no. 124.

¹³³ Deeply impressed rouletting is found on the rim interior and exterior on a fragment of this ware found in the Lower City Area in 1982 (inv. 82.724).

¹³⁴ Cf. *LRP*, 409 fig. 92 no. 2; *Saraçhane II*, 6 fig. 1 no. 5.

¹³⁵ *LRP*, 341.

¹³⁶ Perhaps a deep variant of *LRP*, 409 fig. 92 no. 3(?); cf. *LRP*, 340 fig. 70 Form 6.2.

¹³⁷ Cf. *LRP*, 409 fig. 92 no. 4; *Saraçhane II*, 6 fig. 1. no. 6; J.W. Hayes, *DOP* 22 (1968) 210 fig. F no. 75. Cf. also Cypriot Red Slip Ware Form 8, *LRP*, 378 fig. 81 Form 8 nos. 1-2.

this variety (**14.300-14.302**) closely resemble Phocaean Red Slip Ware Forms 2 and 5, particularly Form 5 in that the rim is more horizontal and the rim top is often decorated.¹³⁸ In the majority of cases the rim terminates in a slight upward hook. On the fragmentary **14.300**, which preserves a complete profile, there are five separate rows of rouletting preserved on the interior (perhaps more originally as the centre of the floor is not preserved) and another on the top of the rim. On **14.301** the decoration is confined to the rim edge on top, whereas on **14.302** the rim top is decorated with a combed multiple wavy line.

5. *Dish or bowl with upright or incurved thickened rim and rounded top.* I know of no immediate parallels for this variety, but the shape bears a certain resemblance to Phocaean Red Slip Ware Form 1.¹³⁹ Of the four examples of the shape assembled here there are minor variations in details of shape. On **14.303** there is a small offset marking rim and wall on the interior as shown. **14.304** and **14.305** have rims with a noticeable incurve; the rim top of **14.305** is rounded, that on **14.304** has a groove near the inner edge. **14.306** has a more flaring rim, thickened on the outside, with prominent grooves on the interior. The piece is the only one of the four decorated with a multiple band of deeply impressed dot or notch-rouletting on the exterior, below the rim.

6. *Deep bowl with short horizontal or outturned rim.* This variety is not unlike 4 outlined above, but differs from it in that the body is deeper and it lacks the vertical upper wall which is clearly distinguished from the floor.¹⁴⁰ Both **14.307** and **14.308** are decorated with rouletting: on **14.307** there is a triple row of deeply impressed dot or notch-rouletting on the interior, immediately below the rim, while on **14.308** there is a multiple band of faintly impressed rouletting below the rim on the exterior. There are two pronounced grooves on the rim top of **14.307** and two broad, pronounced grooves on the preserved interior of **14.308**.

Other rim fragments. Too little is preserved of **14.309** to assign it with confidence to any of the above categories. The short horizontal rim is similar to that of **14.307** and **14.308**, as are the grooves, but the fragment as preserved appears to define a shallow dish, rather than deep bowl. It may be related to 4 above (cf. **14.300** and **14.301**), though the rim is less broad. The piece may conceivably be a variant of 2 (cf. **14.297-14.298**) where the rim top is flat rather than concave. **14.310** is perhaps

¹³⁸ Cf. *LRP*, 340 fig. 70 Form 5.3.

¹³⁹ Cf. especially examples of Form 1C (but without the rouletting), *LRP*, 325 fig. 65 no. 6. There do not appear to be any clear African Red Slip antecedents, although cf. Forms 63 and 64, *LRP*, 110 fig. 18.

¹⁴⁰ Cf. *Saraçhane II*, 6 fig. 1 no. 9; J.W. Hayes, *DOP* 22 (1968) 210 fig. F no. 77.

related to 5 above, or is a variant of **14.308** where the rim is only slightly thickened.¹⁴¹

Base and floor fragments. Four base fragments preserving the foot are presented below, among several others recovered from the excavations of the first three seasons. All four (**14.311-14.314**) preserve a low ring foot with narrow resting surface,¹⁴² and all are decorated with a row, or rows of multiple dot or notch-rouletting (cf. **14.300**), which is a feature of this ware. Two floor fragments, **14.315** and **14.316**, preserve stamped decoration at the centre, or around the centre, of the interior. On **14.315** there is a preserved portion of a "studded" cross at the centre of the floor, surrounded by rouletting. This motif appears to be a common stamp-type associated with the fabric.¹⁴³ The fragments of **14.316** preserve a stamped ring at the centre of the floor surrounded by two deep grooves, around which radiate "studded" *planta pedis* motifs (three surviving), which are, in turn, surrounded by at least another deep groove.¹⁴⁴ Another common feature of the ware, preserved on the undersides of several fragments (cf. **14.300, 14.315-14.316**), is a prominent wheel-mark, or marks, that spiral in towards the centre.¹⁴⁵

II. COOKING WARE

Scattered among the finds from the Roman levels in the Lower City and Isthmus areas was a fair quantity of cooking ware sherds, mostly small body fragments, but with various rim fragments, as well as the occasional base and lid fragment also preserved. The pieces selected for the catalogue (61 in all) were chosen for being as representative a sample as was possible from the material excavated in the first three seasons. The feature sherds, especially the rim fragments, presented here represent the majority of such pieces from the relevant deposits, though more examples are stored in context lots. The feature sherds were outnumbered by body fragments in the ratio of approximately 5:1, or more. On the basis of a very cursory count, the total minimum number of individual cooking ware vessels from the first three seasons

¹⁴¹ Note also the prominent grooves on the interior of both **14.310** and **14.308**.

¹⁴² There were no preserved examples of taller feet such as *LRP*, 409 fig. 92 nos. 6-7.

¹⁴³ *LRP Supp.*, 534 and see catalogue for *comparanda*.

¹⁴⁴ This, too, appears to be a common motif, cf. *LRP*, 409.

¹⁴⁵ A similar treatment of the underside is preserved on a piece from the fourth-century shipwreck off Yassi Ada, G.F. Bass and F. H. van Doorninck, *AJA* 75 (1971) 34, pl. 2, fig. 13a-b, n. 22.

would not greatly exceed a figure of about one hundred.¹⁴⁶ Although not encountered in the same quantities as the fine wares or amphorae, the cooking ware represents an important component of the total Late Roman ceramic assemblage.

Although it has proved difficult to reconstruct complete profiles from the material at hand, it has been possible to establish something of a preliminary conspectus of cooking ware shapes based primarily on rim forms. Eight distinct varieties of rim (here labelled "types") have been noticed, some of which appear to be more common (especially Types 1-4) than others, though most are well represented. Since the deposits from which these pieces derive cannot be dated more accurately than "later Roman," it is not possible to determine, at this stage, whether the discerned varieties represent synchronic variation or are the result of diachronic development or change.¹⁴⁷

Among the various types presented here, rims are either horizontal, sharply flaring, folded back or knobbed. A few examples of several of the types are equipped with either one or two small vertical handles; these normally bear grooves on the outside face, and are attached directly to the rim or immediately below. The most common varieties tend to be small to medium size rounded pots, relatively thin-walled and with a diameter at rim ranging between 0.14-0.20 m. Larger, thick-walled versions (especially Type 5) have a diameter at rim exceeding 0.20 m. and occasionally greater than 0.30 m. The latter appear to be equipped with thick, sturdy bases that are flat, whereas the other types, with the possible exception of Type 8, appear to share a common type of base, which is rounded, with the centre of the underside pushed in, creating a sort of "omphalos" on the interior (**14.371-14.373**).¹⁴⁸ Such bases are well suited for placing the vessel directly onto the fire. The bodies are usually deep and rounded and several types are wheel-ridged on the exterior, perhaps to facilitate safer handling.¹⁴⁹

Some of the rim types, such as, among others, Type 2 with a small flange set well down inside the vessel, or some of the more everted rims of Type 1, are so shaped as to form a suitable seating for a lid. Fragments of lids are, however, rare, with only a

¹⁴⁶ This figure is based on a straight count of feature sherds, primarily rim fragments, and represents a minimum number of actual pots. Base and lid fragments have not been included as many of these would probably derive from the same individual vessels as the rim fragments.

¹⁴⁷ The material from later campaigns at the site has not proved very useful in this respect, and only one related cooking ware vessel was found in the Late Roman Cemetery on Terrace IV.

¹⁴⁸ Such bases are common at Stobi from the Early through the Late Roman periods, cf. *Stobi* I, pl. 134 nos. 1158-9, pl. 142 nos. 1225-6, pl. 143 nos. 1234-5.

¹⁴⁹ Wheel-ridging is a standard feature for Types 3, 4 and 8.

few certain examples recovered (14.374-14.377). The standard sort of lid encountered is typified by 14.374-14.375, which have a clearly articulated rim and resting surface. The diameter of the resting surface of the three catalogued examples is 0.20-0.24 m. and, as such, these lids are well suited for the larger examples of all types, except Types 5 and 8.¹⁵⁰ They could, conceivably, be also used with smaller varieties, covering an area larger than the rim diameter of the vessel. The fragment 14.377 preserves the knob of a fairly large, coarse and crudely made lid, which is probably associated with Type 5.

The fabric is consistent in almost all of the examples encountered and shares many similarities with the "local" cooking ware of the Classical period (see Chapter 12). The fabric is also similar to a series of medium to large broad-bellied cooking pots with heavy triangular or outturned rims, and smaller one-handled flat-based cooking pots of Post-Byzantine times, thought to be locally produced.¹⁵¹

Nearly all fragments display evidence of some degree of burning; when not blackened, the clay is normally a brownish red colour (something like reddish yellow 5YR 6/6, yellowish red 5YR 5/6, or reddish brown 5YR 5/4). Surfaces are generally poorly finished with many finger-marks and smears visible. The clay is normally fired hard and has a tendency to break cleanly. The fabric appears to be heavily tempered; impurities are visible in the break and also erupt on the surface of the vessel. Individual particles tend to be small, though on larger, thick-walled versions (especially Type 5) the inclusions themselves are larger. On some fragments small pieces of sea-shell are also visible. The fabric is always micaceous; the quantity of visible mica can vary, and both gold and silvery mica can be observed. On the basis of the mica content, and the similarity of the Roman cooking ware fabric to that of the Classical and Post-Byzantine periods, coupled with the lack of any major study of the later Roman cooking wares of the eastern Mediterranean,¹⁵² I had originally assumed the fabric to be of local manufacture, or to have been produced at some centre at no great distance from Torone (perhaps even Thessalonike?). I am now not so convinced of this as I once was. Part of the problem may lie in the fact that the basic forms of

¹⁵⁰ For related lids see, among others, *Demetrias* IV, pl. 59 and pl. 72 IV.257-266. Cf. also J.M. Schuring, *BABesch* 61 (1986) 177 fig. 4 (nos. 6950, 1005, 2356), p. 180 fig. 7 (various examples).

¹⁵¹ These are to be published by Pamela Armstrong in a forthcoming volume on the Byzantine and post-Byzantine pottery of Torone.

¹⁵² Certain cooking wares are well known and documented, such as those of north Africa, see *LRP*, 17-8 and those of Constantinople, see *Saraçhane* II, 53-60. Among the more recent, and useful, studies of Roman cooking wares are those of J.M. Schuring, *Experimental Studies on Roman and Medieval Ceramics* (1989) 158-207 (= *BABesch* 61 [1986] 158-207), pp. 109-129 (= *BABesch* 62 [1987] 109-29).

cooking wares are remarkably standard in shape and many changed little over the course of a number of centuries. The role of functional considerations in design, whether they were produced in workshops or at the household level, tend to insulate cooking wares, as indeed much of "domestic" pottery in general, from the dictates of fashion. Repertoires and types therefore tend to be traditional and conservative. The fact that the Roman cooking ware found at Torone often resembles the fabric of contemporary cooking wares elsewhere in the Aegean, and the fact that many of the shapes can be matched over a broad geographical area is noteworthy. Parallels for many of the cooking ware types from Torone are to be found at many sites in the central and eastern Mediterranean. In Athens, for instance, rims similar to Torone Type 1 occur in contexts dating to the last three quarters of the first century B.C.,¹⁵³ and to the years from the middle of the second to the early third century A.C.,¹⁵⁴ an example similar to Type 4 also dates to the first century B.C.¹⁵⁵ Vessels similar to Types 1 and 2 have been found on Cyprus dating before and after A.D. 250,¹⁵⁶ while a close parallel for Type 2 was found in a twelfth-century deposit at Constantinople.¹⁵⁷ Most of the Torone types also find good parallels among the pottery from the Byzantine Basilica Church at Knossos, dating for the most part to the construction of the building in the sixth century A.C.,¹⁵⁸ as well as Demetrias in Thessaly.¹⁵⁹ Earlier, second and third centuries A.C. and later, cooking pots similar to those from Torone are also known from the Villa Dionysos excavations at Knossos.¹⁶⁰ Published examples from Kythera,¹⁶¹ Stobi,¹⁶²

¹⁵³ Agora V, Group F, cf. especially F81 and F85.

¹⁵⁴ Agora V, Group J, especially J55 and J57.

¹⁵⁵ Agora V, F82 (P 11907).

¹⁵⁶ J. du Plat Taylor, *RDAC* 1940-1948 (1958), cf. 35 fig. 12 nos. D and H, p. 36 fig. 13 nos. A and C (for Torone Type 1); for Torone Type 2 see p. 36 fig. 13 nos. F and G.

¹⁵⁷ D. Talbot Rice, *The Great Palace of the Byzantine Emperors. Second Report* (1958) fig. 22 B. Cf. also many of the examples recently published by Hayes in *Saracane* II, 53-60, especially fig. 20.

¹⁵⁸ W.H.C. Frend and D.E. Johnston, *BSA* 57 (1962) 223-7; for Type 1 cf. p. 224 fig. 17 nos. 59-61, for Type 2 p. 223 fig. 16 nos. 40-44, for Type 3 p. 224 fig. 17 nos. 46 and 65, for Type 4 p. 225 fig. 18 no. 76, for Type 5 p. 224 fig. 17 nos. 56-57, for Type 6 p. 222 fig. 15 no. 33 and p. 224 fig. 17 no. 67, for Type 7 p. 224 fig. 17 no. 45.

¹⁵⁹ *Demetrias* IV, various examples Beil. 3, 5, 7; pls. 14-25, 44-51, 67-69.

¹⁶⁰ J.W. Hayes, *BSA* 78 (1983) 105-6, 123-6 figs. 5-8, cf. nos. 58-64, 92-93 (similar to Torone Type 1); nos. 94, 98 (similar to Torone Type 2); nos. 104-109 (similar to Torone Type 5); cf. no. 96 (similar to Torone Type 7); cf. nos. 67-8 (similar to Torone Type 8).

¹⁶¹ *Kythera*, fig. 52 nos. 65-67.

¹⁶² Stobi offers many parallels for the Torone cooking ware, and is of especial importance as many of the individual shapes there can be dated to the Early, Middle or Late Roman periods. For Torone Type 1 cf. *Stobi* I, pl. 134 nos. 1154-5 (Early Roman); pl. 136 nos. 1174-75 (Middle Roman); pl. 142 no. 1230 (Late Roman). For Type 2 cf. pl. 134 no. 1152 (Early Roman); pl. 135 no. 1164 (for Torone 14.330). For Type 3 cf. pl. 138 no. 1189 (Middle

Rome,¹⁶³ and Ostia,¹⁶⁴ among many other sites, may also be mentioned.

Such standardization of shape, and often of fabric, would indicate a highly skilled and productive workshop, or group of workshops,¹⁶⁵ that serviced an area well beyond the immediate vicinity of the manufacturing centre(s). Perhaps even the production and distribution of cooking wares was a field of entrepreneurship on as large a scale and competitive as that of the fine wares.¹⁶⁶

TYPE SERIES

Eight rim varieties have been distinguished, labelled Types 1-8. The order in which these are presented is arbitrary.

Type 1 (14.317-14.324)

Broad flaring rim, sharply everted from body, flat on top. Rim edge either rounded or tapering slightly towards lip; occasionally there is a small upturned hook at the rim edge (14.321, 14.323). Body normally plain. Only one fragment preserves a handle (14.319).

Size range (diameter at rim): 0.115-0.20; normal size: 0.16-0.19.

Type 2 (14.325-14.330)

Similar to Type 1, but with juncture of rim and body less sharply everted. The distinguishing feature of this variety is the small flange along the inner edge of rim set well down inside the vessel, presumably as seating for lid. Upper face of rim sometimes in two degrees (14.328-14.329). Body normally plain. At least one fragment preserves handle (14.329). Also found in larger, thick-walled version (14.330).

Normal size (diameter at rim): 0.14-0.24; large version: 0.30.

Roman). For Type 5 *cf.* pl. 135 no. 1162 (Middle Roman). For Type 6 *cf.* pl. 143 no. 1232 (Late Roman). For Type 7 *cf.* pl. 143 nos. 1231, 1233-36 (Late Roman). For Type 8 *cf.* pl. 145 no. 1248 (Late Roman).

¹⁶³ Schuring, *op. cit.* (*supra* n. 152).

¹⁶⁴ Ostia III, especially pl. XIX nos. 80-1, 84, 86, pl. XLII nos. 326, 328-9.

¹⁶⁵ In the case of the kitchen pottery from Rome analysed by Schuring, *op. cit.* (*supra* n. 152) several different workshops have been isolated on the basis primarily of fabric and manufacturing techniques, see especially BABesch 61 (1986) 183.

¹⁶⁶ In the case of an urban centre like Constantinople, Hayes has established that a sophisticated industry mass-produced fine-quality cooking ware; this was occasionally exported, though never apparently in any great quantity. Among the various cooking ware fabrics described by Hayes, some appear to represent imports to the city (his Ware 4: "Micaceous brown ware" and *cf.* Ware 5: Cypriot fabrics), see *Saraçhane* II, 53-7.

Type 3 (14.331-14.338)

Also similar to Type 1, but with rim noticeably less broad, either flaring or horizontal; outside edge of rim normally concave, sometimes chamfered or rounded. Body wheel-ridged. Several fragments preserve handle (**14.331-14.332, 14.336**).

Normal size (diameter at rim): 0.14-0.24.

Type 4 (14.339-14.346)

Wall sloping inward to rim; thick rim, folded back and attached directly to wall. Top of rim normally flat or convex, occasionally concave (**14.339**), sometimes rising to minute upturned hook near outer edge (best seen on **14.345**). Outside edge of rim either chamfered or rounded. Body wheel-ridged as with Type 3. Handles associated with this type have not been found.

Normal size (diameter at rim): 0.15-0.24; commonly: 0.15-0.18.

Type 5 (14.347-14.353)

Large variety, with coarser, thick-walled fabric; best described as cooking dish rather than cooking pot.¹⁶⁷ Upper wall normally vertical; thick horizontal or outturned rim, with outer edge normally rounded. Body normally plain, occasionally wheel-ridged (**14.352-14.353**). At least one fragment of this variety preserves a handle (**14.351**), though handles appear to be rare for this type.

Normal size (diameter at rim): 0.22-0.31; commonly: 0.28-0.31.

Type 6 (14.354-14.359)

Less common than other varieties. Body curving in to short vertical, sometimes flaring, neck, which is surmounted by a small knobbed or horizontal rim, usually flat on top. Rim edge usually rounded. Body normally plain, but at least one example is wheel-ridged (**14.355**). Two pieces preserve handle (**14.358-14.359**).¹⁶⁸

Size range (diameter at rim): 0.15-0.21; commonly: 0.15.

Type 7 (14.360-14.366)

Similar to Type 6, but lacking the distinct neck. Body curving or sloping in to thickish knobbed rim, concave on top. The rim is often almost triangular in section. Body normally plain. At least one fragment preserves a handle (**14.366**). A large fragment

¹⁶⁷ Cf. J.W. Hayes, *BSA* 78 (1983) 126-7 fig. 9.

¹⁶⁸ **14.359** approaches the shape of Type 7.

of this variety, preserving a complete profile and equipped with two handles, was found in one of the Late Roman tombs on Terrace IV in 1981 (inv. 81.439); on the basis of other *kterismata* in the tomb, the vessel can be dated from the early fourth to the early fifth century A.C.

Size range (diameter at rim): 0.14-0.22; commonly: 0.16-0.19.

Type 8 (14.367-14.370)

Comparatively rare. Smaller than other varieties. Steep wall curving in to rounded or knobbed rim, which is often flaring. Body wheel-ridged. Handles associated with this variety are not known.

Normal size (diameter at rim): 0.08-0.15.

III. AMPHORAE

A full account of the Late Roman Amphorae from Torone, including complete and semi-complete specimens from later campaigns, has already appeared in *Archaiologike Ephemeris*.¹⁶⁹ The following account is a summarized version of that already published, but concentrates, more specifically, on material from the first three seasons (not included in the earlier publication). A few well preserved amphorae from later campaigns have been included here in order better to illustrate the type-series.

The typology presented here should be viewed as preliminary and provisional since excavations at the site are ongoing.¹⁷⁰ Nevertheless, the presentation of such a typology seemed useful since not all of the discerned types of amphorae found at Torone are conveniently assembled in any one publication known to me. The amphorae here labelled Types III and VII, for example, do not appear in any of the standard eastern, or western, Mediterranean typologies, nor in the recent classification of amphorae by Peacock and Williams who bring together a total of 55 classes of common amphorae.¹⁷¹ Torone, moreover, represents one of the few systematically excavated sites in Chalkidike to have provided sufficient evidence of the period to permit a qualitative and quantitative survey.¹⁷²

¹⁶⁹ J.K. Papadopoulos, "Roman Amphorae from the excavations at Torone," *AE* 1989, 67-103.

¹⁷⁰ It is now clear that there are several more amphora types than those presented here (and in *AE* 1989) as a result of the more recent excavations in the Late Roman cemetery on Terrace IV.

¹⁷¹ *ARE*, 79-211, with an appendix of unclassified amphorae (nos. 56-66) on pp. 212-7.

¹⁷² See above, n. 54.

Among the amphorae, imports from as far afield as North Africa and Palestine are easily distinguished. In the present state of knowledge, however, it is difficult to establish the precise nature and mechanisms of this trade and to what extent the presence of particular amphora types represents direct or indirect imports from the centre, or centres, producing them, whether they carried commodities from that centre or else sold empty, and to what extent redistribution took place.¹⁷³ Particularly informative in this respect is the evidence furnished by shipwrecks, especially that of the fourth and seventh century wrecks off Yassi Ada, which show that cargo amphorae of different types, manufactured at different centres, were happily carried by one merchantman.¹⁷⁴ Of more particular interest is the occurrence at Torone of a number of amphora types thought to be of Aegean or, conceivably, Black Sea origin. Significant, for example, is the fact that Torone represents the only site so far known where the amphora type here labelled Type I predominates.¹⁷⁵ Further discussion, however, of aspects of the nature and mechanisms of trade specific to Torone, and more general discussion on trade in the Aegean and eastern Mediterranean can only proceed with more statistical studies of similar material, especially from Aegean sites.

Seven main types of imported transport and storage amphorae are presented here. All are represented by complete or near-complete examples from later seasons, or else by fragments preserving a sufficient portion of the vessel to determine details of form. Exceptional are the small fragments of Type V, but with these the fabric itself is so distinctive as to permit straightforward identification. Other types are known from the more recent excavations at Torone, but these could not be verified with certainty on the basis of the finds from the first three seasons. There are, moreover, 5,598 body fragments of amphorae (or, rather, large closed vessels), many of which preserve wheel-ridging, from the trenches excavated in 1976 and 1978 in the Isthmus and Lower City areas, which cannot be confidently assigned to any of the recognized types. Many of these should be of Type III (see below), but without the panacea of petrological or chemical analysis, statements based on visual observation of body sherds alone would be hazardous and misleading. No local Chalkidic amphora type can be distinguished with certainty among the finds recovered so far.

¹⁷³ See *ARE*, 54 ff., especially 57-9; also D.P.S. Peacock, *Pottery in the Roman World: An Ethnoarchaeological Approach* (1982) especially 152-9.

¹⁷⁴ *Yassi Ada I*; G.F. Bass and F.H. van Doorninck, *AJA* 75 (1971) 27-37. See further *AE* 1989, 81 n. 33.

¹⁷⁵ Riley (1981) 122. The same basic type predominates among the cargo amphorae of the seventh-century shipwreck, *Yassi Ada I*, 161, classified there as Type 2; see also F.H. van Doorninck in *BCH Suppl.* XVIII, 247-57.

A more meaningful quantitative analysis of the Roman amphorae from Torone is greatly impeded not only by the fragmentary state of the material, but also by the fact that it largely derives from uninformative contexts. Nevertheless, a useful statistical survey is offered by the material recovered from the Isthmus and Lower City areas in 1976 and 1978. This may be listed as follows:¹⁷⁶

Type I

Diagnostic frr.	350
Body frr.	3,628
Total	3,978

Type II

Diagnostic frr.	245
Body frr.	472
Total	717

Type III

No certain examples¹⁷⁷

Type IV

Diagnostic frr.	25
Body frr.	60
Total	85

Type V

Diagnostic frr.	39 (most very small)
Body frr.	379
Total	418

Type VI

Diagnostic frr.	2
Body frr.	28
Total	30

¹⁷⁶ In the following list the term "diagnostic" refers to fragments which can be assigned to recognized types with confidence, such as rim, handle and base fragments. "Body fragments" refers to sherds which are probably of the type under which they are listed. Although pottery context lots at Torone are both weighed and counted, I have opted for a quantification of the material based on counts, since weights are comparatively more misleading. As a rough estimate, an amphora of Type VI, for example, may weigh six or more times that of an amphora of Type II. The primary aim in the following list is to establish some idea of the minimum number of amphorae of each type. Perhaps the best survey of the methodology and importance of quantification studies with respect to Roman amphorae is Riley (1979) especially 97-111.

¹⁷⁷ There are no diagnostic fragments of this type from the Isthmus and Lower City trenches excavated in 1976 and 1978. Among the 5,598 body fragments already noted, some, if not many, should be of Type III.

Type VII

Diagnostic fr.	3
Body fr.	10
Total	13

Other body fr.

Many of which show wheel-ridging	5,598
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On the basis of both the diagnostic fragments and the body fragments listed above it is clear that Type I predominates. Amphorae of Type II are also common, whereas examples of the remaining types are comparatively rare, especially those of Types VI and VII. As already noted, the quantification of Type III is problematic. The respective quantities of the fragments listed above may be tabulated and compared as follows (the lists do not include the amphorae from the Terrace IV cemetery):

Table 1. Percentages of all amphora sherds counted

Type I	36.70%
Type II	6.61%
Type III	-----
Type IV	0.78%
Type V	0.86%
Type VI	0.28%
Type VII	0.12%
Other	51.65%

Table 2. Percentages of all sherds of recognized amphora types

Type I	75.90%
Type II	13.68%
Type III	-----
Type IV	1.62%
Type V	7.98%
Type VI	0.57%
Type VII	0.25%

Table 3. Percentages of minimum number of recognized amphora types
(diagnostic fragments only)

Type I	52.71%
Type II	36.90%
Type III	-----
Type IV	3.77%
Type V	5.87%
Type VI	0.30%
Type VII	0.45%

TYPE SERIES

Type I (14.378-14.412).

This is the most common amphora type at Torone. It corresponds to Class 43 in the classification of Peacock and Williams¹⁷⁸ and has also been classified in the following typologies: Carthage¹⁷⁹ and Benghazi¹⁸⁰ Late Roman Amphora 2; Scorpan Type VII,A;¹⁸¹ Kuzmanov Type XIX;¹⁸² Popovic Type II;¹⁸³ Keay Type LXV;¹⁸⁴ Type B(i) in the British typology;¹⁸⁵ to Type 2 of the cargo amphorae from the seventh-century Yassi Ada shipwreck;¹⁸⁶ and Saraçhane Type 9 (*cf.* Types 10 and 29).¹⁸⁷ It is the second most common amphora type at Tocræ.¹⁸⁸ The principal content is not known,¹⁸⁹ though Hautumn prefers to see them as amphorae for oil.¹⁹⁰ The presence of a lining of mastic, or some other resinous substance, on the interior of some of the amphorae of this type at Torone may suggest wine rather than oil (see catalogue for details). A specific commodity, however, should not necessarily be assumed.¹⁹¹

Although its origin remains unverified,¹⁹² an Aegean source is generally assumed,¹⁹³ though some scholars prefer a Black Sea origin.¹⁹⁴ Radulescu has suggested the Halikarnassos area as a possibility;¹⁹⁵ Zimmermann Munn has published a possible kiln site near Kounoupi in the Argolid;¹⁹⁶ another possible kiln site has been

¹⁷⁸ ARE, 182-4.

¹⁷⁹ Riley (1981) 122, 117 fig. 10 no. 2.

¹⁸⁰ Riley (1979) 217-9.

¹⁸¹ Scorpan (1977) 274ff and especially 275 fig. 10 no. 3; 293 fig. 40 nos. 2-3.

¹⁸² Kuzmanov, 14-21 fig. 1 Type XIX.

¹⁸³ Popovic, 16 fig. 13 no. 6 (English résumé pp. 35-7).

¹⁸⁴ Keay, *Amphorae* I, 352-7.

¹⁸⁵ C.A.R. Radford in D.B. Harden (ed.), *Dark-Age Britain: Studies presented to E.T. Leeds* (1956) 59-70, especially p. 60; A.C. Thomas, *Medieval Archaeology* 3 (1959) 89-111, especially 91-2.

¹⁸⁶ Yassi Ada I, 157-60.

¹⁸⁷ Saraçhane II, 66, 71. The numerous fragments of this type at Torone accord with Hayes Type 9A.

¹⁸⁸ Tocræ II, 116.

¹⁸⁹ ARE, 183.

¹⁹⁰ W. Hautumn, *Studien zu Amphoren der spätrömischen und frühbyzantinischen Zeit* (1981) 21ff.

¹⁹¹ On this aspect see especially M.C. Rothschild-Boros in G. Barker and R. Hodges (eds.), *Archaeology and Italian Society. Prehistoric, Roman and Medieval Studies*, BAR International Series 102 (1981) 79-89.

¹⁹² ARE, 182.

¹⁹³ *Ibid.*; Riley (1981) 122; Tocræ II, 116.

¹⁹⁴ Such as Scorpan (1977) 274; Scorpan (1976) 177-8.

¹⁹⁵ A. Radulescu, *Pontica* 6 (1973) 203; *cf.* Scorpan (1977) 274; Riley (1981) 122.

¹⁹⁶ M.L. Zimmermann Munn, *AJA* 89 (1985) 342-3. The type appears to be well represented at Porto Cheli (Halieis) in the Argolid, W.W. Rudolph, *Hesperia* 48 (1979) 306 fig. 3.

suggested for Chios;¹⁹⁷ and Peacock and Williams in summarizing the available evidence have also argued for a source at no great distance from Athens on the basis of the occurrence there of coarse ware shapes, such as jugs, in similar fabric.¹⁹⁸ The possibility that this type of amphora was produced at more than one centre is highly likely,¹⁹⁹ and Hayes has recently demonstrated that earlier versions of the type were later imitated, particularly in the seventh century A.C.²⁰⁰

The shape (14.378-14.379) is characterized by a globular body which is large; the point of maximum diameter tends to be towards the upper part of the body. The base is rounded and has a small projecting toe or knob.²⁰¹ The neck slopes inward and is surmounted by a thickish flaring rim which is usually concave on the interior (14.378-14.384). The lip is rounded and normally slightly thickened on the inside. A characteristic feature is a band of close-set spiral-grooving on the shoulder which extends onto the upper part of the body.²⁰² On the amphora 14.378 there is a second band of spiral-grooving near the base.²⁰³ The handles are vertical, attached from the upper shoulder to the neck, and are normally oval in section.

Among the many fragments of this type found at Torone the fabric tends to be fairly consistent in terms of visible impurities, though there are certain differences. The fired colour of the clay, however, can vary considerably. The colour is often a light brown or buff (close to light brown 7.5YR 6/4 and very pale brown 10YR 7/4-8/4), but many pieces have fired red or dark red (between reddish brown 2.5YR 5/4

¹⁹⁷ Dr. Paul Arthur is of the opinion (personal communication) that the kiln site on Chios excavated by A.N. Tsaravopoulos may have produced this type of amphora, for the site see *Horos* 4, 1986, 124-44, especially 135-41; see further P. Arthur in *BCH Suppl.* XVIII, 82 n. 2. It is worth adding that the most common amphora type from the fortress floor at Byzantine Emporio is our Type I, see I. Ballance *et al.*, *Byzantine Emporio* (1989) 106 ff. nos. 236-9.

¹⁹⁸ *ARE*, 182.

¹⁹⁹ Zimmermann Munn, *op. cit.* (*supra* n. 196) 342-3. J.-Y. Empereur and M. Picon (*infra*) have shown that the amphora classified here as Type II was produced at some twenty sites spanning an area from Rhodes to Antioch. A similar situation may well have been the case for the production of Torone Type I.

²⁰⁰ *Saraçhane* II, 61-79. The basic type is Type 9 (p. 66), which Hayes further divides into two varieties largely on the basis of grooving, labelled A and B (his Type 9A is closest to the Torone examples); imitations include Types 10 (p. 66) and Type 29 (p. 71).

²⁰¹ On later examples of the type, such as those from the seventh-century shipwreck, *Yassi Ada* I, 158-9 figs. 8.4-5, the small basal knob is done away with. The *Yassi Ada* examples are classified by Hayes as Type 29, *Saraçhane* II, 71.

²⁰² It is clear from many fragments of this type found at Torone that the spiral-grooving was executed prior to the attachment of the handles (see especially 14.388). For spiral-grooving see *Agora* V, 6. In some later examples of the type from other sites the grooving was executed in a wavy-line fashion, cf. Keay, *Amphorae* I, 355 fig. 165; I. Barnea, *Dacia* N.S. 10, 1966, 251 fig. 12 no. 7; *Saraçhane* II, 66.

²⁰³ This appears to be a rare feature, cf. *Agora* V, pl. 29 M 272; Barnea, *ibid.*, 256 fig. 15 no. 7.

and red-light red 2.5YR 5/6-6/6). The most common inclusions, readily visible in the majority of fragments, are small and largish pieces of white limestone and small specks of mica (biotite). The fabric is usually fine-grained and hard; complete amphorae of the type are heavy and sturdy. The exterior surface is generally smoothed, except where spirally-grooved, and "self-slipped."²⁰⁴

Quite a few pieces, including the comparatively well-preserved **14.379**, have a coating of a dark resinous substance (mastic?) on the interior of the vessel.²⁰⁵ Peacock and Williams discuss the various uses of resins, both as a sealant for reducing the porosity of the earthenware, and for the flavouring of wine.²⁰⁶

A proportionately high number of fragments of Type I amphorae from Torone preserve graffiti (**14.378-14.379**, **14.395-14.411**).²⁰⁷ The inscriptions were invariably incised after firing and were usually confined to the neck or shoulder of the vessel. In some cases the graffito was incised on the handle arch (**14.395-14.399**).²⁰⁸ Among the extant graffiti that may be read, numerical notations and Christian scribblings in the form of crosses and XP monograms are most common; alternative readings, which are few, are discussed more fully in the catalogue.²⁰⁹ Only one fragment (**14.412**) preserves a dipinto in red paint, of uncertain meaning.

Also associated with this type is a distinctive lid, with pinched-up knob, which shares a similar fabric. Three examples are here catalogued (**14.392-14.394**).²¹⁰

Chronologically, Torone provides little conclusive evidence with which to establish, or better define, the date range of the type. The large majority of pieces, particularly those from the excavations of the first three seasons, can only be dated broad-

²⁰⁴ For the term "self-slip" see *Agora* V, 5. There are two main ways in which "self-slip" can originate. First, as described by O.S. Rye, *Pottery Technology: Principles and Reconstruction* (1981) 75, where water added during forming produces a slurry, which is distributed over the surface of the pot. Secondly, shortly after throwing, the potter may finish the surface of the pot with wet hands, a wet sponge, or something similar. This process may create a thin layer of slip. In both instances the slip is not applied but originates during the process of manufacture from the clay from which the pot was thrown, plus water. As such, the term "self-slip" is not an inaccurate one.

²⁰⁵ See catalogue for details. The term "mastic" is used by Robinson, *Agora* V, 8 n. 2.

²⁰⁶ *ARE*, 49 ff., where reference is made to Pliny's discussion of the properties of resins, *Naturalis Historia* XIV. 25. According to *ARE*, 183, resins referred to in *tituli picti* on Romanian finds could be the result of reuse.

²⁰⁷ Plus others not catalogued here. For graffiti on Type I amphorae cf. especially A. Radulescu, *Pontica* 6 (1973) 193-207, especially 202-3; D. Tudor, *Apulum* 7 (1968) 391-9.

²⁰⁸ On a fragment of the type from the 1981 season, the graffito is found on the body of the vessel below the band of spiral-grooving (inv. 81.1005).

²⁰⁹ The majority of inscriptions tabulated by Radulescu (*supra* n. 207) 202-3 are numerical notations. See also F.H. van Doorninck in *BCH Suppl.* XVIII, 247-58, especially 251 fig. 2.

²¹⁰ Cf., among others, *Agora* V, 69 pl. 14 K 119; *Tocra* II, 118 and fig. 52 no. 2563; *Saraçhane* II, 66, 62 fig. 22 no. 12.

ly to the period between the fourth to the later sixth or early seventh century A.C. The fragmentary amphora **14.379**, reused for an infant burial in a tomb excavated in 1981, was partly placed over one of the cover slabs of a stone-constructed tomb which, *inter alia*, contained five bronze coins, including four late issues of Constantine I (variously dated between A.D. 330 and 336) and one of Dalmatius (A.D. 336-7).²¹¹ The amphora was subsequently covered by a layer of earth in which the latest identifiable pottery was of the late fourth or early fifth century A.C.²¹² The vessel, therefore, should date to the later fourth or fifth century. The evidence from other sites in the eastern Mediterranean where the type is recorded suggests a slightly later date range, but this may be the result of inadequate understanding of the sequence of developments during the fifth century A.C.²¹³ At Carthage it is the latest amphora of those classified, first occurring in the late fifth century and continuing well into the seventh.²¹⁴ At Tocra the type was the second most common in the same period.²¹⁵ The evidence from Black Sea centres generally indicates a sixth to seventh-century date,²¹⁶ and an early sixth to mid seventh century date is suggested by the Saraçhane deposits,²¹⁷ though the type appears to be recorded in fourth century A.C. deposits at Tomis (Constanta).²¹⁸ Its occurrence in fourth-century deposits is also recorded at Athens.²¹⁹ Most scholars assume that production of the type ceases in the seventh century A.C.,²²⁰ though the recently published material from Saraçhane may suggest that later imitations of the type extend into the eighth century.²²¹

As Riley has pointed out,²²² although this type is widespread throughout the Mediterranean, including southern France,²²³ and is also found in Britain,²²⁴ it does not predominate at any site so far published. Bass has drawn attention to the great

²¹¹ I am grateful to Dr. Nicholas Hardwick for identifying these coins.

²¹² The latest pottery from this deposit includes a base fragment of a Phocaeen Red Slip Ware open vessel decorated with stamped palm-branches, dating to 360-450 A.C., cf. *LRP*, 350 fig. 72 motif 1.

²¹³ *LRP Supp.*, 516-7.

²¹⁴ Riley (1981) 118, 122.

²¹⁵ *Tocra II*, 116.

²¹⁶ Scorpan (1977) 274.

²¹⁷ *Saraçhane II*, 66.

²¹⁸ A. Radulescu, *Pontica* 9 (1976) 114, listed under no. 7.

²¹⁹ *Agora V*, 109 pl. 29 M 272 (late fourth century).

²²⁰ *ARE*, 184; cf. *Carthage I*, 2, 119; cf. J.W. Hayes, *DOP* 22 (1968) 215.

²²¹ *Saraçhane II*, 66 Type 10, 71 Type 29.

²²² Riley (1981) 122.

²²³ M. Bonifay and F. Villedieu in *BCH Suppl.* XVIII, 25-7 and fig. 6.

²²⁴ For distribution see *ARE*, 183 fig. 102.

number of Type I amphorae from Black Sea sites,²²⁵ citing especially the large concentration of about 120 examples of the type found in the vaulted rooms of the great Mosaic-Floored Edifice at Tomis,²²⁶ but it is uncertain whether the type was the most common at that site. The more recently published figures from Svetinja (Viminacium) are noteworthy since fragments of Torone Type I (= Popovic Type II) account for 42.3% of the total number of amphorae, outnumbered only by fragments of Torone Type II (= Popovic Type I), which accounts for 54.3% of the total.²²⁷ Further west in Pannonia the type is rare.²²⁸ For the Aegean it has been recorded at a number of sites including Argos, Athens, Chios, Corinth, Halieis, Kythera, Samos, Thasos, and Thessalonike, to name only a few,²²⁹ but evidence for its quantification is sadly lacking and it remains difficult to establish any statistical framework for the occurrence of the type in the Aegean. The type is well-known at Constantinople, where it is outnumbered by fragments of Torone Types II and V.²³⁰

The clear preponderance of Type I amphorae at Torone is therefore important for the question of distribution and lends further support for an Aegean origin, although, as has been noted above, the type may well have been produced at more than one centre.

Type II (14.413-14.419).

Type II amphorae are also common at Torone though less so than Type I. Only seven pieces are here catalogued; the comparatively well-preserved **14.413**, found in the excavation of the Lower City area in 1981, is also presented in order to illustrate the type better. It is a classic example of Peacock and Williams Class 44,²³¹ and cor-

²²⁵ Yassi Ada I, 163f.

²²⁶ *Ibid.*, 164 n. 15.

²²⁷ Popovic, 36; the figures for Popovic's Type II (Torone Type I) may, however, be slightly too high since the figure includes fragments of "all amphorae with combed ornament."

²²⁸ T. Bezeczky, *Roman Amphorae from the Amber Route in Western Pannonia*, BAR International Series 386 (1987) passim; O. Bruckner, *Rimska keramika u Jugoslavenskom delu Provincije donje Panonije* (1981) pl. 160 no. 53.

²²⁹ Argos: C. Abadie in *BCH Suppl.* XVIII, 51 fig. 7. Athens: e.g. *Agora* V, pl. 29 M 272, pl. 40 P 4129. Chios: e.g. Ballance *et al.* (*supra* n. 79). Corinth: e.g. C.K. Williams and O.H. Zervos, *Hesperia* 52 (1983) pl. 10 no. 72; J.C. Biers, *Corinth XVII. The Great Bath on the Lechaion Road* (1985) 80 fig. 6 pls. 34a-b nos. 128-129; B. Adamscheck, *Kenchreai. Eastern Port of Corinth IV. The Pottery* (1979) 114-5 pl. 26 no. RC14. Halieis: Rudolph (*supra* n. 196). Kythera: *Kythera*, 172 fig. 52 pl. 49 nos. 49-53, 55. Samos: e.g. Hautumn (*supra* n. 190) 182-8 figs. 17-41 nos. 1-20. Thasos: e.g. G. Daux, *BCH* 89 (1965) 947 and fig. 22. Thessalonike: e.g. Ph. Petsas, *AD* 21, B2, 1966, pl. 343 various fragments illustrated along with Turkish pottery and Roman fine ware (*cf. Stobi* I, 96 and pl. 82 nos. 700-1, pl. 184 [C-71-359]).

²³⁰ J.W. Hayes, *DOP* 22 (1968) 215 Type 3 (ca. 2-3% of the total); *Saraçhane* II, 66.

²³¹ *ARE*, 185.

responds also to the following: British B(ii);²³² Ballana Type 6;²³³ Kuzmanov Type XIII;²³⁴ Scorpan Type VIII,B;²³⁵ Carthage²³⁶ and Benghazi²³⁷ Late Roman Type 1; Keay Type LIII;²³⁸ Popovic Type I;²³⁹ and Saraçhane Type 5.²⁴⁰ It is the most common type at Tocra,²⁴¹ and the second most common among the cargo amphorae on the seventh-century Yassi Ada wreck.²⁴² The type is particularly common in Egypt,²⁴³ but also enjoyed a widespread distribution throughout the Mediterranean (especially eastern) and Black Seas.²⁴⁴ It is the most common amphora type in the eastern Mediterranean in Early Christian contexts.²⁴⁵ The principal commodity remains uncertain; oil, among other commodities, has been suggested,²⁴⁶ but seems unlikely on the basis of residue analysis.²⁴⁷ Wine and dry goods have also been suggested as possibilities.²⁴⁸

An Egyptian origin for the type had once been assumed,²⁴⁹ but was shown as unlikely by petrological analysis, which suggested several sources in the eastern

²³² Thomas (*supra* n. 185) 91-2.

²³³ W.B. Emery and L.P. Kirwan, *The Royal Tombs of Ballana and Qustul. Mission archéologique de Nubie 1929-1934* (1938) 388 and pl. 111 no. 6; S. Farid, *Excavations at Ballana 1958-1959* (1963) 138 fig. 70 no. 6.

²³⁴ Kuzmanov, 14-21 fig. 1 Type XIII.

²³⁵ Scorpan (1977) 277f, especially fig. 12 no. 3; Scorpan (1976) pls. VIII and XXXIII.

²³⁶ Riley (1981) 120 and 117 fig. 10 no. 1.

²³⁷ Riley (1979) 212-6 pl. XXXV nos. 346-7, fig. 91 nos. 337-47.

²³⁸ Keay, *Amphorae* I, 268-78.

²³⁹ Popovic, 16 fig. 13 nos. 1-5 and p. 36.

²⁴⁰ Saraçhane II, 63-4; and Type 21 for late imitations (p. 69).

²⁴¹ Tocra II, 116.

²⁴² Yassi Ada I, 155-7.

²⁴³ E. Quibell, *Excavations at Saqqara* IV (1912) 140 and pl. 48 no. 3; W.Y. Adams, *Kush* 10, 1962, 245-88; M. Egloff, *La poterie copte. Quatre siècles d'artisanat et d'échanges. Recherches Suisses d'Archéologie Copte* 3 (1977) 111-2, pls. 105 ff., Type 164, also pl. 57 nos. 4-6 (Types 164-166).

²⁴⁴ Riley (1981) 120; ARE, 186; for the Black Sea see especially Yassi Ada I, 163 n. 8; cf. D. Tudor, *Dacia* 7-8, 1937-1940, 384 no. 16, 383 fig. 15e; J. Cangova, *Bulletin de l'Institut Archéologique Sofia* 22 (1959) 243-62, especially 245 fig. 1 no. 8, 247 fig. 3; A.L. Jacobsen, *Sovetskaia Archeologia* 15 (1951) 329 fig. 3 no. 14. For the occurrence of the type in southern France see M. Bonifay and F. Villedieu in *BCH Suppl.* XVIII, 22-5 fig. 1. Examples of the type are also recorded in *Stobi* I, 96 and pl. 82 no. 699.

²⁴⁵ Saraçhane II, 64.

²⁴⁶ ARE, 187. The existence of a thriving contemporary oil trade at Antioch has prompted the suggestion that this amphora type was used for that commodity, see further J.H.W.G. Liebeschuetz, *Antioch: City and Imperial Administration in the Later Roman Empire* (1972) 79-81.

²⁴⁷ Rothschild-Boros, *op. cit.* (*supra* n. 191) 86 pl. 6.VII.

²⁴⁸ Saraçhane II, 64.

²⁴⁹ For example, J.A. Riley in J.H. Humphreys (ed.), *Excavations at Carthage 1975 Conducted by the University of Michigan* I (1976) 116.

Mediterranean, including north Syria;²⁵⁰ Cyprus was also considered a candidate.²⁵¹ Recently, however, Empereur and Picon have published the location of some twenty production sites which span an area from Antioch in the east to Rhodes in the west.²⁵² A similar situation occurs earlier in the Roman period with the amphora type Dressel 2-4 (= Peacock and Williams Class 10).²⁵³ Such a situation is in direct contrast to that of amphora production in the Classical and Hellenistic periods when, as Empereur and Picon state, "each large centre was intent on emphasizing the difference in appearance of its product with respect to those of its neighbours."²⁵⁴ The ramifications of this cannot be stressed enough and the possibility of more than one production centre may well apply to other classes of Roman amphorae, especially Torone Type I.

The shape of **14.413** is characteristic of the type and may be taken as typical of many of the more fragmentary pieces found at Torone (**14.414-14.419**). The body is wheel-ridged, almost in a "stepped" manner,²⁵⁵ with widely spaced ridging towards the middle, gradually narrowing at the shoulder and base. The point of maximum diameter is at the shoulder and there is a slight tapering in towards the base.²⁵⁶ Where preserved the base is rounded and the vessel relatively thin-walled. The vertical neck is surmounted by a rim which may be plain (**14.414, 14.416**), slightly flaring (**14.413, 14.415, 14.417**), or slightly thickened (**14.418**); the lip is usually rounded. In the majority of pieces there is a small ridge approximately 3 cm. below the lip, normally corresponding with the point of the upper handle attachment. The vertical handles are attached from the upper neck at a point directly below the lip, to the shoulder. The handles are invariably marked by a deep groove or slash, sometimes two as on **14.413**, on top of the handle and usually to one side. Sometimes the handles are

²⁵⁰ D.F. Williams, *Archaeometry* 21 (1979) 177-82, especially 181.

²⁵¹ See now the discussion in *Sarāḫane II*, 64.

²⁵² J.-Y. Empereur and M. Picon in R.E. Jones and H.W. Catling (eds.), *New Aspects of Archaeological Science in Greece. Proceedings of a Meeting held at the British School at Athens, January 1987*, BSA Fitch Laboratory Occasional Paper 3 (1988) 33 and 35 fig. 21. Hayes, though citing the results of Empereur and Picon states coastal Cilicia as the source, *Sarāḫane II*, 64.

²⁵³ H. Dressel, "Di un grande deposito di anfore rinvenuto nel nuovo quartiere del Castro Pretorio," *Bull. della Commissione archeologica comunale di Roma* 7 (1879) 36-112, 143-95; *ARE*, 105-6. For further discussion of this type see J.K. Papadopoulos, *AE* 1989, 88 ns. 100-2.

²⁵⁴ *Supra* n. 252, 33.

²⁵⁵ Cf. *Sarāḫane II*, 63-4; for the term "wheel-ridged" see *Agora V*, 6.

²⁵⁶ Peacock and Williams, *ARE*, 185 fig. 104, following Riley (1979) 212-6, distinguish a larger and smaller version labelled A and B (= Riley Type 1 and 1a).

placed asymmetrically. The relatively slender necks of many of the Torone pieces presented here are an early feature of the type.²⁵⁷

The fabric of most of the examples found at Torone is consistent. The clay body is quite gritty with limestone inclusions, and is often described as "sandy."²⁵⁸ Clay colour can range from reddish yellow 5YR 6/6 to very pale brown 10 YR 8/4-7/4. Judging from fragments preserving the juncture of body and neck, it is evident that the neck was made separately from the body and subsequently attached.

The majority of pieces from Torone, including **14.413**, derive from mixed levels which include both second century A.C. material as well as pottery of the late sixth or early seventh centuries. Chronological evidence from other sites in the eastern Mediterranean indicates a range for Type II amphorae from the early fifth century (as early as A.D. 400) to the early seventh. At Carthage the type first appears around A.D. 425, in Egypt *ca.* A.D. 400, and is very common during the sixth century.²⁵⁹ The earliest dated piece from Torone is an almost complete amphora, inv. 81.825 (not catalogued here), from the same amphora burial as a Type VI amphora presented below (**14.435**). The latter is identified as an *Africana* II "Grande," an amphora type which dates from the late second century A.C. to at least the late fourth;²⁶⁰ the context of this tomb would suggest a date in the later fourth or earlier fifth century A.C.

Type III (**14.420-14.421**).

Two examples of this type are presented here, both used in amphora burials excavated in 1981 and 1982. Diagnostic fragments of this type were not encountered among the deposits excavated in 1976 and 1978, although many of the 5,598 wheel-ridged fragments listed above should be of this type.

14.420 and **14.421** are similar to one another in details of shape and fabric and may be considered as representative. The body is ovoid, thin-walled and wheel-ridged. On **14.420** there is a pronounced offset at the junction of body and shoulder, at which point the ridging is more widely spaced. **14.421** lacks this offset and the ridges are more evenly spaced. The neck is vertical and short and is surmounted by a knobbed rim (i.e. a rim which is slightly thickened on both the interior and exterior), which may be either flat (**14.420**) or rounded (**14.421**) on top. The handles are almost loop-shaped, oval in section, and are attached from the neck to the upper shoulder.

²⁵⁷ *Saraçhane* II, 63-4.

²⁵⁸ For example, *ARE*, 187.

²⁵⁹ Riley (1981) 120; *Tocra* II, 116; *Saraçhane* II, 64.

²⁶⁰ *ARE*, 155-7 Class 34.

On the basis of comparative material from Samos (see below) and complete examples of the type from later campaigns at Torone, the lower body tapers to a short spike blunt on end.

Visible impurities in the fabric include both white inclusions (conceivably limestone) and darker ones, as well as mica.²⁶¹ The fabric of **14.420** is somewhat more "gritty" than that of **14.421**; blow-outs are visible on both. The fired colour of the clay is close to light red 2.5YR 6/6-6/8 and reddish yellow 5YR 7/6-6/6. The exterior surface is coated with a fine clay slip, more readily noticeable than that on most other amphora types discussed here; the slip is much lighter in colour than that of the body clay, approaching an off-white where best preserved.²⁶²

Type III amphorae are unclassified among the recognized types from sites in the Levant and North Africa,²⁶³ nor is the type classified among the more common amphorae assembled by Peacock and Williams. Amphorae similar, if not identical, to Torone Type III from Tomis in the Black Sea are listed by Scorpan, who provides the most detailed account of this form under the heading of Type III,²⁶⁴ while similar amphorae from Bulgaria are presented by Kuzmanov also as Type III.²⁶⁵ The evidence presented by Scorpan and Kuzmanov indicates a fourth or fifth century A.C. date for those examples similar to **14.420** and **14.421**, though later, developed, varieties continue into the sixth century A.C.²⁶⁶ The type is known at a number of other Black Sea sites.²⁶⁷ A few examples of the type, found in late sixth / early seventh century deposits at Saraçhane, have recently been published by Hayes as Type 17 (*cf.* Types 16 and 18).²⁶⁸

On the question of origin Scorpan states: "À l'origine se trouve un type d'amphore de Samos, au profil plus régulier, datant des IIIe-IVe siècles. Quelques exem-

²⁶¹ The darker impurities noted vary in colour from dark brown to black, as well as red (perhaps schist). The mica, more readily visible in the clay body of **14.420**, is golden.

²⁶² In the range of reddish yellow 7.5YR 7/6 and very pale brown 10YR 8/3, 8/4, 7/3 and 7/4.

²⁶³ The only complete published amphora known to me which is possibly, if not probably, of this type is one from Benghazi listed by Riley under the heading of miscellaneous Late Roman amphorae, Riley (1979) 233 no. D377, pl. XXXV and fig. 94.

²⁶⁴ Scorpan (1977) 272 fig. 5 nos. 1-2, 292 fig. 39 nos. 3 and 5; Scorpan (1976) 176 and pl. III Type III.

²⁶⁵ Kuzmanov, 16 and fig. 1 Type III.

²⁶⁶ Scorpan (1977) 272; Scorpan (1976) 158; *id.* *Pontica* 8 (1975) 269-70.

²⁶⁷ *Cf.* I.B. Zeest, *Materijali i issledovanija po arheologii SSSR* 83 (1960) pl. XXXI, 75; B. Böttger, *Klio* 48 (1967) 275-6 pl. XV no. 57; E. Condurachi, *Histria* I (1954) fig. 378; D. Belov, *Kratkie Soobschenja* 116 (1969) 83 fig. 24.

²⁶⁸ *Saraçhane* II, 69. Hayes suggests an east Aegean source for the type, which is in broad agreement with the Samian source I proposed for the type in *AE* 1989, 89-92.

plaires tardifs ont pu être produits localement, dans l'espace istro-pontique."²⁶⁹ Beyond the Black Sea, Scorpan lists the occurrence of the type in the Aegean, citing examples from Athens,²⁷⁰ and from the fourth-century shipwreck off Yassi Ada.²⁷¹ The latter is of particular importance since three types of cargo amphorae were distinguished among the 1,100 or so that were plotted from the wreck. Of these, the closest in details of form to the Toronean examples are those of Type I, though Type II are of similar fabric, ribbing and dimensions;²⁷² both of these are considered by Scorpan under his Type III.²⁷³ Elsewhere in the Aegean, published examples have been recorded from Samos,²⁷⁴ Thessalonike,²⁷⁵ a chance find recovered from the sea between Lesbos and Lemnos,²⁷⁶ and perhaps also from Corinth.²⁷⁷ Of these, the most notable and most frequent are those from Samos. The largest single group of the type published from the island was found in a Late Roman cistern at the site of the Heraion.²⁷⁸ Isler publishes a total of eleven complete or near-complete amphorae from the cistern, which were found in association with Phocaeen Red Slip Ware, largely of the sixth century A.C.,²⁷⁹ as well as bronze coins probably dating to the reign of Justinian (527-65 A.C.).²⁸⁰ These so-called "Spitzamphoren" vary in height from 55 to 70 cm., are wheel-ridged in a manner identical to **14.420** and **14.421**, and many preserve the characteristic offset on the upper body as seen on **14.420**.²⁸¹ With the exception of two amphorae, the diameter of the rims of the Samian examples is

²⁶⁹ Scorpan (1977) 272 with reference to V. R. Grace, *Hesperia* 10 (1956) 170.

²⁷⁰ Scorpan (1977) 272 n. 13 lists *Agora* V, pl. 29 M 305 (probably meaning pl. 30 M 305) and pl. 32 M 328 as examples of the type. The following are closer to the Torone examples: *Agora* V, 68 and pl. 15 K 112 dated to the middle of the third century A.C. and considered as a possible descendant of the more common first and second century A.C. type illustrated by pl. 8 G 197 and H 20; pl. 29 M 273.

²⁷¹ Bass and van Doorninck, *AJA* 75 (1971) 34, pl. 2 figs. 8-9; cf. T. Oguz Alpözen, *Türk Arkeoloji Dergisi* 22 (1975) 12-3, 21 *Levha* 5 nos. Sek. 7-8, 28 nos. 7-8.

²⁷² Bass and van Doorninck, *ibid.*

²⁷³ Scorpan (1977) 272.

²⁷⁴ A.M. Schneider, *AM* 54 (1929) 127 nos. 1-2, Beil. XLVIII, 1; H.P. Isler, *AM* 84 (1969) 206f pls. 85-88; cf. U. Jantzen and W.-R. Megow, *AM* 92 (1977) 187 Abb. 12.

²⁷⁵ Ph. Petsas, *AD* 21, B2, 1966, pl. 39γ.

²⁷⁶ H.-G. Buchholz, *Methymna. Archäologische Beiträge zur Topographie und Geschichte von Nordlesbos* (1975) pl. 26(c).

²⁷⁷ Cf. C.K. Williams and O.H. Zervos, *Hesperia* 52 (1983) 15, pl. 7 no. 28, though the fabric of this amphora is not unlike that of Torone Type VII (see below).

²⁷⁸ Isler, *op. cit.* (*supra* n. 274) 202-30.

²⁷⁹ *Ibid.* 206-7 for the amphorae; 222-3 figs. 43-56 for the Phocaeen Red Slip Ware.

²⁸⁰ *Ibid.* 229.

²⁸¹ Cf. especially *ibid.* pl. 85 no. 1 (K 3798), pl. 86 nos. 1-2 (K 3792, K 3793), pl. 87 no. 3 (K 3997).

proportionately wider than those from Torone.²⁸² Where preserved, the bodies of the amphorae from Samos taper to a narrow spike, of variable length, blunt on end. The Samian examples, like the few fragments of the type found at Constantinople, date mainly to the sixth century A.C. There is now enough evidence from the Late Roman cemetery on Terrace IV at Torone to suggest that the type is present at the site at least as early as the fourth or fifth century A.C. In a recent paper, Arthur has nominated the type as "the Samos cistern type" and notes examples from Naples, Rome, Kaukana (Sicily), Cuma and Albania.²⁸³

Significantly, the fabric of the Samian examples is similar to that of other coarseware vessels, notably pithoi and "Kannen," found in the cistern.²⁸⁴ On the basis of this evidence, coupled with the distribution of the type which, despite examples from central and southern Italy, Sicily and Albania, is primarily focused in the Aegean and Black Seas, it is tempting to see Samos as a production centre.

Type IV (14.422-14.432)

The examples of this type presented here are typical of the well-known amphora type (Peacock and Williams Class 49)²⁸⁵ generally thought to have come from Gaza in Palestine.²⁸⁶ Torone type IV corresponds to Ballana Type 10;²⁸⁷ Almagro,²⁸⁸ Beltran Lloris²⁸⁹ and Keay²⁹⁰ Type 54 (LIV); Carthage Late Roman Type 4;²⁹¹ Benghazi Late Roman Type 3;²⁹² Scorpan²⁹³ and Kuzmanov²⁹⁴ Type XIV; Popovic Type VI;²⁹⁵ and Saraçhane Type 6.²⁹⁶ A useful characterization of the fabric, accompanied by notes on manufacturing techniques, is published by Schuring.²⁹⁷

²⁸² The exceptions are *ibid.* pl. 85 nos. 1-2.

²⁸³ P. Arthur in *BCH Suppl.* XVIII, 83-4 fig. 4; cf. M.L. Stoppioni Piccoli in *Ravenna e il porto di Classe* (1983) 135, 145-6 no. 8.44.

²⁸⁴ Isler (*supra* n. 274) pls. 83-4, pls. 89-90.

²⁸⁵ *ARE*, 198-9.

²⁸⁶ J.A. Riley, *BASOR* 218 (1975) 25-63, especially 29; A. Zemer, *Storage jars in ancient sea trade* (1977) 61.

²⁸⁷ Emery and Kirwan (*supra* n. 233) 390 pl. 111 no. 10; cf. Farid (*supra* n. 233) 138 fig. 70 no. 8.

²⁸⁸ M. Almagro, *Las Necropolis Ampurias II. Necropolis Romanas y Necropolis Indigenas* (1955) 320 no. 58.

²⁸⁹ Beltran Lloris (*supra* n. 48) 547-8.

²⁹⁰ Keay, *Amphorae* I, 278-85.

²⁹¹ Riley (1981) 120 and 117 fig. 10 no. 4; cf. *Carthage* I, 2, 121-2 fig. 35 nos. 12-3.

²⁹² Riley (1979) 219-23.

²⁹³ Scorpan (1977) 279-81, especially 281 fig. 19 no. 4, 291 fig. 41 nos. 5-6; Scorpan (1976) 180 pl. XIII and pl. XXI no. 4. Not all the amphorae listed by Scorpan under his Type XIV are the same, cf. *Carthage* I, 2, 121.

²⁹⁴ Kuzmanov, 18 and fig. 1 Type XIV.

²⁹⁵ Popovic, 17 fig. 14 nos. 3-4, p. 36.

²⁹⁶ *Saraçhane* II, 64-5.

²⁹⁷ J.M. Schuring, *BABesch* 59 (1984) 172ff., 187 fig. 11.

The shape is characterized by a long cylindrical or "torpedo"-shaped body with a comparatively broad hole mouth (14.422) and a short upright collar rim which is normally everted (14.422-14.427). Vertical loop-handles, often set askew, are placed on the shoulder (14.422, 14.430). On complete examples there is a band of wheel-ridging on the shoulder and another near the base.²⁹⁸ The body tapers to a rounded or slightly flattened base (14.429). The accretions of clay around the upper shoulder and rim (14.422-14.428) are a characteristic feature to be seen on all rim fragments of the type at Torone. These accretions are explained by Schuring by the fact that once the upper part of the pot (which was made first) was cut away from the wheel, it was turned upside down and put in a chuck so that it could be fixed to the wheel and thereby allow the lower part of the vessel to be thrown.²⁹⁹

The fabric of all examples of the type found at Torone is consistent; the fired colour of the clay is invariably brown, close to 5YR 5/6-6/6, sometimes closer to strong brown 7.5YR 5/6.³⁰⁰ A solitary piece at Torone bears a fragmentary dipinto in red paint (14.432).

The distribution of the type and *testimonia* referring to Gaza products likely to have been carried in the amphorae are discussed by Riley, as is the dating evidence.³⁰¹ Gaza amphorae are common in Egypt as early as *ca.* A.D. 400,³⁰² while at Carthage they first occur in the late fourth and continue into the sixth century A.C.³⁰³

Type V (14.433-14.434)

Only small fragments of this type have been found at Torone, 14.434 being the largest, but the fabric is so distinctive as to permit straightforward identification. Amphorae and jars of this type have long been known as "micaceous water jars;" numerous examples from the Athenian Agora, many found in wells, preserve filling holes and, as such, were thought to have been used for drawing water from cisterns or wells.³⁰⁴ Robinson traces the long development of the shape from the first century

²⁹⁸ An almost complete example, reused for an infant burial, was found on Promontory 1 at Torone in 1989, see A. Cambitoglou and J.K. Papadopoulos, *MeditArch* 4 (1991) 156 fig. 11.

²⁹⁹ Schuring (*supra* n. 297) 173. See further J.K. Papadopoulos, *AE* 1989, 93 n. 145.

³⁰⁰ Cf. Schuring, *ibid.*; *ARE*, 199.

³⁰¹ See especially Riley (1979) 219-22; see also D. Whitehouse *et al.*, *BSR* 53 (1985) 203. For the occurrence of the type in south Arabia see, most recently, A.V. Sedov, *Arabian Archaeology and Epigraphy* 1 (1990) 94 fig. 2 no. 2. For the recently published examples at Stobi see *Stobi* I, 96-7 pls. 82 and 184 nos. 703-4.

³⁰² Egloff (*supra* n. 243) 111, 116-7, pl. 60 no. 3, pls. 99-100 Type 182.

³⁰³ Riley (1981) 120; Riley (1979) 220.

³⁰⁴ *Agora* V, 17. Similar filling holes were encountered on examples of the type from San Sisto Vecchio in Rome, and were probably necessary on account of the small size of the mouth, see M.B. Annis in *Festoen. Opgedragen*

B.C. to the late sixth century A.C.³⁰⁵ The type corresponds to Peacock and Williams 'Class 45'³⁰⁶ and has also been presented in the following typologies: British B(iv);³⁰⁷ Ballana Type 13a;³⁰⁸ Kuzmanov Type VIII;³⁰⁹ Scorpan Type V;³¹⁰ Zeest Type 95;³¹¹ Carthage Late Roman Type 3;³¹² Benghazi Late Roman Type 10;³¹³ Keay Type LIV bis;³¹⁴ and Saraçhane Type 3.³¹⁵ A number of sources have been suggested including Egypt,³¹⁶ Byzantium³¹⁷ and Thasos,³¹⁸ but the most probable origin is western Asia Minor, first proposed by Hayes and supported by petrological analysis.³¹⁹ Various scholars have narrowed the source to the Hermos or Meander Valleys;³²⁰ the type is particularly common at Ephesos.³²¹ Rothschild-Boros has determined that the principal content was probably an unguent.³²²

The fabric is characterized by a distinctive reddish brown colour, close to reddish brown 2.5YR 5/4, and loaded with fine mica. The slightly thickened rim of **14.433** is typical,³²³ as is the hollow base of **14.434**, which was sealed with a disk of clay

aan A.N. Zadoks-Josephus Jitta bij haar zeventigste verjaardag, *Scripta Archaeologica Groningana* 6 (1975) 29-40.

³⁰⁵ *Agora* V, 17 and pl. 41. The earliest example in Robinson's series is F 65, the latest M 373. Peacock and Williams, *ARE*, 189 wrongly state that the one-handled version (*Saraçhane* II, Type 3A) first appears in the late first century A.C., citing evidence from Ostia, cf. Panella, 460-2; cf. M. Lang, *Hesperia* 24 (1955) 277-8.

³⁰⁶ *ARE*, 188-90. The type is rare at Stobi, see *Stobi* I, 96 and pl. 82 no. 702.

³⁰⁷ Thomas (*supra* n. 185) 93; for the occurrence of the type in southern France see M. Bonifay and F. Villedieu in *BCH Suppl.* XVIII, 26-7 fig. 7.

³⁰⁸ Emery and Kirwan (*supra* n. 233) 390 pl. 111 no. 13a; cf. Farid (*supra* n. 233) 138 fig. 70 no. 9.

³⁰⁹ Kuzmanov, 17 and fig. 1 Type VIII.

³¹⁰ Scorpan (1977) 272-3 fig. 7; Scorpan (1976) 158-9, 177, pl. V. See also Barnea (*supra* n. 202) 237-59, especially 246 fig. 8 no. 2, 251 fig. 12 no. 1.

³¹¹ Zeest (*supra* n. 267).

³¹² Riley (1981) 118 and 117 fig. 10 no. 3.

³¹³ Riley (1979) 229-30.

³¹⁴ Keay, *Amphorae* I, 286ff.

³¹⁵ *Saraçhane* II, 63.

³¹⁶ V.R. Grace, *Amphoras and the Ancient Wine Trade* (1961) fig. 67, right hand side.

³¹⁷ A.C. Thomas, *Proc. Royal Irish Academy* 76 (1976) 245-55, especially 246.

³¹⁸ Cited by Bass, *Yassi Ada* I, 183 no. P 74; cf. O. Picard and J.-P. Sodini, *BCH* 96 (1972) 948 fig. 46.

³¹⁹ *Tocra* II, 117; *ARE*, 188-90.

³²⁰ For example: C.K. Williams and O.H. Zervos, *Hesperia* 51 (1982) 139; Rothschild-Boros (*supra* n. 191) 79; Hayes, *Saraçhane* II, 63.

³²¹ I am grateful to Dr. Veronika Mitsopoulos-Leon for this information. For the occurrence of the type at Pergamon see, among others, W. Radt, *Türk Arkeoloji Dergisi* 23 (1976) 95 fig. 35.

³²² *Supra* n. 191, 86.

³²³ *ARE*, 188 fig. 107; Williams and Zervos (*supra* n. 320) 139 n. 35 following Zemer (*supra* n. 286) note that everted or thickened rims are an earlier characteristic which disappears in the fifth and sixth centuries.

pushed into position during manufacture.³²⁴ The majority of body fragments of the type found at Torone are wheel-ridged, normally with the ridges set diagonally.³²⁵ On account of the fragmentary state of the pieces from Torone, distinguishing between Hayes sub-type A (jar) and B (amphora) is difficult.³²⁶

As already noted, the type has a long history from the first century B.C. through the late sixth A.C. The one-handled version (Hayes sub-type A) is the earliest, the production of which continues at least as late as the fourth century A.C. as is testified by an example from the fourth-century Yassi Ada shipwreck.³²⁷ Peacock and Williams, following Riley, cite an example from Rome as the earliest of the two-handled variety (Hayes sub-type B).³²⁸ The pieces from Torone are too fragmentary to permit any closer dating.

Type VI and related (14.435-14.438)

I have listed under this heading at least two north African amphora types. It is clear that both are comparatively rare at Torone, and apart from the few pieces presented here only scattered body fragments were recorded from the first three seasons.

Most informative is the small neck fragment **14.437**, which preserves the greater part of a stamped incuse inscription in Latin. In the top line are the letters which abbreviate the place name, *Colonia Hadrumetum* in the Roman province of Byzacena, now the Sahel region of central Tunisia.³²⁹ The bottom line abbreviates the name of the officinator, which is probably *Flaccus*.³³⁰ Such stamps can be found on both Africana I "Piccolo"³³¹ and Africana II "Grande"³³² amphorae, though **14.437**

³²⁴ This is sometimes hollow and open as, for example, the piece published by Annis (*supra* n. 304) 31 fig. 1, 32 fig. 5, or else hollow with the sides pushed slightly in as, for example, L. Neuru, *Antiquités africaines* 16 (1980) pl. VI no. 35.

³²⁵ This is a characteristic feature of the type, see, for example, C. Abadie in *BCH Suppl.* XVIII, 48 fig. 2.

³²⁶ *Saragane* II, 63; there do not appear to be any examples at Torone of Hayes version C.

³²⁷ Bass and van Doorninck, *AJA* 75 (1971) pl. 2 fig. 25.

³²⁸ *ARE*, 189; Riley (1979) 229; Riley (1981) 118. The type also occurs in a deposit dated A.D. 390-420 at Kellia, Egloff (*supra* n. 243) 111 and 116, pl. 99 Type 181, pl. 60 no. 2.

³²⁹ F. Zevi and A. Tcherna, *Antiquités africaines* 3 (1969) 173-214; Beltran Lloris (*supra* n. 48) 549 f.; Panella, 580 f.; *ARE*, 153 ff.; L. Foucher, *Hadrumetum* (1964) 108.

³³⁰ Cf. Zevi and Tcherna, *ibid.*, 192 fig. 16b; Beltran Lloris, *ibid.*, 553 no. 10(e) Form 56; D. Manacorda in A. Carandini and C. Panella (eds.), *Ostia IV. Le terme del Nuotatore. Scavo dell'ambiente XVI e dell'area XXV, Studi Miscellanei* 23, 1972-1976 (1977) 192 and 198 no. 44.

³³¹ Beltran Lloris, *ibid.*, Form 57; C. Panella in *Recherches sur les amphores Romaines* (1972) 69-106 Type IV; Keay, *Amphorae* I, 100 f., Type IV; *ARE*, 153-4 Class 33.

³³² Beltran Lloris, *ibid.*, 549-56 Form 56; Panella, *ibid.*, Type III; Keay, *Amphorae* I, Types IV-VII; *ARE*, 155-7 Class 34.

probably belongs to the latter type. Although not uncommon in the eastern Mediterranean, Africana I and II amphorae are widely distributed in the west³³³ and the occurrence of a stamped fragment in the north Aegean is an important addition to the known stamps from Greek sites.³³⁴

14.435³³⁵ is a typical example of an Africana II "Grande", which corresponds to Peacock and Williams Class 34; Beltran Lloris Form 56; Keay Types IV-VII; and Ostia Type III.³³⁶ The form has been divided into four sub-types by Panella, labelled A-D, largely on the basis of details of the necks and rims of examples found at Ostia.³³⁷ Since only part of the body and toe of **14.435** survive, it is difficult to assign it more specifically. It should be noted, however, that later Tunisian amphora types produced between the late fourth and sixth centuries A.C. are sometimes not unlike the earlier examples; these later types are conveniently assembled by Peacock and Williams under the heading of Class 35,³³⁸ following the typology presented by Keay.³³⁹ The possibility that **14.435** is of a later variety is unlikely,³⁴⁰ even though it was found in the same tomb as an example of a Torone Type II amphora (see above).

The fabric of **14.435** is hard; the fired colour of the clay is close to light red 2.5YR 6/6-6/8 and there are traces of a slightly darker outer zone (close to light brown 7.5YR 6/4, approaching grey at points). The exterior surface is an off-white colour (very pale brown 10YR 8/4-7/4), and bears vertical smoothing marks, features which are all typical for Africana II amphorae.³⁴¹ Characteristic also are the pronounced ridges on the interior which suggest that the body of **14.435** was made by a

³³³ For the distribution of Africana I and II amphorae see *ARE*, 154, 156; Manacorda (*supra* n. 330) 117-254, especially 124-5.

³³⁴ Zevi and Tchernia (*supra* n. 329) especially 183 n. 7 list only two stamps from the Aegean, both from the Athenian Agora (*Agora* V, 69 K 116 and K 117), and both from a deposit dating to the middle of the third century A.C. For a recently published fragment from ed-Dur see J. K. Papadopoulos, *Arabian Archaeology and Epigraphy* 5 (1994) 276-279.

³³⁵ J.K. Papadopoulos, *AE* 1989, 95-98 no. 11; *cf.* the intact no. 10 from the Late Roman cemetery on Terrace IV.

³³⁶ See ns. 330-332 above.

³³⁷ Panella, 580 ff.; Keay, *Amphorae* I, 110-126 Types IV-VII follow Panella's A-D.

³³⁸ *ARE*, 158-65.

³³⁹ Keay, *Amphorae* I, 179 ff. (e.g. Types XXIV, XXVII-XXXII, XXXV, XLVI, LV, LVII, LVIII, LX, LXII, LXXXIX) and various illustrations on pp. 86 ff. figs. 26 ff.

³⁴⁰ For the reasons given in J.K. Papadopoulos, *AE* 1989, 96.

³⁴¹ The most detailed and informative account of many characteristics of this class is that of Schuring, *BABesch* 59 (1984) 154 ff., Fabric A Shape 2. See further *ARE*, 154 where the characteristic surface is described as a "white skin," which is thought to be the result of the use of saline water during manufacture. The phenomenon is normally termed "scum" in potters' circles, or else "bloom" or "efflorescence," *cf.* Rye (*supra* n. 204) 57; F. Hamer, *The Potter's Dictionary of Materials and Techniques* (1975) s.v. scum; Schuring, *BABesch* 63 (1988) 38.

combined process of throwing and coiling; this aspect is well treated in Schuring's detailed study.³⁴²

Africana II amphorae enjoyed a healthy distribution in the western Mediterranean, but are also to be found in the eastern Mediterranean,³⁴³ the Black Sea,³⁴⁴ and in Britain.³⁴⁵ They normally date from the late second to at least the late fourth century A.C. at most published sites where they are found,³⁴⁶ and between the late third and fifth centuries A.C. on Catalan sites.³⁴⁷

Olive oil has traditionally been considered as the commodity carried by this type of amphora, though some scholars have also suggested fish products.³⁴⁸ Rothschild-Boros, however, using High Sensitivity Sequential Chromatography, has shown that the examples of the type analyzed by her carried both wine and oil, in addition to nothing, and thereby suggested that this amphora type need not be commodity specific.³⁴⁹

14.436 and **14.438** share a common fabric which, although not unlike that of **14.435** and **14.437**, is different. The rim fragment **14.436** accords with the distinctive Tripolitanian amphora, Peacock and Williams Classes 36-37³⁵⁰ (Panella's Tripolitanian I-III; Ostia Types II, XXIV and LXIV),³⁵¹ more specifically with Class 37 (Tripolitanian II).³⁵² The distribution and date range of the various Tripolitanian amphorae is summarized by Peacock and Williams; as a group they date from the first century A.C. through the fourth.³⁵³

Type VII (**14.439-14.443**).

Apart from **14.439**, which was reconstructed from fragments recovered from the Lower City area in 1981, only a few sherds could be positively assigned to this type.

³⁴² *BABesch* 59 (1984) 155 f., especially 155 n. 79.

³⁴³ *ARE*, 157 fig. 82.

³⁴⁴ E.g. Scorpan (1977) 271, some of the amphorae listed under his Type II.

³⁴⁵ See especially D.P.S. Peacock in *Méthodes classiques et méthodes formelles dans l'étude typologique des amphores. Actes du Colloque de Rome, 27-29 Mai 1974* (1977) 261-78, especially 270 ff. and 277 fig. 5.

³⁴⁶ *ARE*, 156. At Ostia, Africana II amphorae are very common from the second quarter of the third into the fourth century A.C., Panella, 580 ff.; see also A. Carandini and C. Panella in A. King and M. Henig (eds.), *The Roman West in the Third Century*, *BAR International Series* 109 (1981) 487-503.

³⁴⁷ Keay, *Amphorae* I, 392.

³⁴⁸ *ARE*, 156; see also Whitehouse *et al.* (*supra* n. 301) 202-3. For olive oil production in Libya, Tunisia and Spain see D.J. Mattingly, *JRA* 1 (1988) 33-56.

³⁴⁹ *Supra* n. 191, 86.

³⁵⁰ *ARE*, 166-70.

³⁵¹ Panella in *Recherches sur les amphores Romaines* (1972) 69-106.

³⁵² *ARE*, 169 fig. 87 A; Keay, *Amphorae* I, 126-31 Type IX (cf. Type VIIIB, fig. 48 no. 2 which is considered Tunisian); Schuring, *BABesch* 59 (1984) 158-60 and 183 fig. 4 Fabric B.

³⁵³ *ARE*, 166ff.

Superficially, the shape is not unlike that of Torone Type III amphorae, but the fabric is very different and highly distinctive.

The shape of **14.439** is characterized by an ovoid, slightly sagging, body with the point of maximum diameter towards the lower half of the vessel. The body tapers to a short, narrow spike, which is somewhat thicker towards the top, blunt on end (*cf.* **14.440**). The vessel has a comparatively tall, narrowish neck, preserving a distinct bulge. The rim is rolled,³⁵⁴ offset from the neck and rounded on top and on the exterior. The vertical handles are attached from the upper shoulder to the neck below rim. The lower two-thirds of the body are wheel-ridged. On the shoulder on one side there is a dipinto in red paint which is perhaps a monogram, though its meaning is unclear. A dipinto in red paint is also found on the body fragment **14.442**, which is perhaps of this type, and a graffito, incised after firing, is found on **14.443**. The fragment **14.441**, preserving the juncture of shoulder and neck, suggests that the neck was made separately and subsequently attached.

The fabric is highly distinctive and somewhat finer than that of Types I-VI. The clay body is thin-walled and contains a few visible impurities, primarily white and light-coloured (limestone?); there is some fine silvery mica visible on the surface, but noticeably less in the breaks. Blow-outs are to be seen all over **14.439**. The fired colour of the clay may be described as cream or off-white, close to pale brown 10YR 7/3-7/4; the surface has fired a slightly lighter hue, closer to very pale brown 10YR 8/3.

In *AE* 1989 I stated that this amphora, as far as I was aware, did not appear in any of the typologies from published sites in the Mediterranean and Black Seas, nor is it classified among the common amphora types assembled by Peacock and Williams. Since then, a solitary example from Sarāḫane, which appears to be related to this type, has been published by Hayes under his Type 2, and dated to the early fifth century A.C.³⁵⁵ The fabric of **14.439** is not unlike that of an amphora found at Corinth (inv. C-1982-11), already referred to above, the shape of which has been compared to that of Torone Type III.³⁵⁶ Another amphora from Corinth may be cited (inv. C-1982-120), closer in shape to **14.439** but missing its foot; the wheel-ridging is very similar to **14.439** and there are traces of a dipinto in red paint on the plain shoulder.³⁵⁷ It is worth noting that the form of **14.439** bears a general likeness to an amphora classi-

³⁵⁴ That is, one shaped by folding the rim outwards and down. This appears to be fairly standard practice in the manufacture of a number of Roman amphora types, see Schuring, *BABesch* 59 (1984) Fabrics A2, C, D, E and G.

³⁵⁵ *Sarāḫane* II, 62-3 fig. 22 no. 2.

³⁵⁶ Williams and Zervos, *Hesperia* 52 (1983) 15, pl. 7 no. 28; the fabric is described as "fine, sandy cream clay, towards 7.5YR 7/4 at core."

³⁵⁷ *Ibid.* 29, pl. 11 no. 76.

fied by Kuzmanov as Type IV,³⁵⁸ though normally referred to as Robinson Type M 238,³⁵⁹ but the foot is different, as is the fabric.

The examples of this type assembled here derive from contexts which permit no more precise dating than Late Roman. Provenance and principal commodity await to be determined.

IV. OTHER WARES

Open vessels

Small open vessels with knobbed rims (14.444-14.449).

A total of about twenty fragments were found in the Lower City and Isthmus areas which are of a homogenous series of small open vessels of similar shape and fabric; six fragments preserving rim are catalogued (14.444-14.449). The shape of these, particularly the rim form, is similar to that of Cooking Ware Type 8 rims, but the fabric is different and the majority are slipped and partially painted or colour-coated. Bases associated with 14.444-14.449 remain unattested, and although the overall shape is unknown, the vessels appear to be small bowls (diameter at rim 0.11-0.15), with steep, slightly curved body, normally wheel-ridged. They all have a knobbed, rolled or thickened rim, rounded on top.

The fabric is best described as semi-coarse and rather underfired. Small white inclusions and a little mica are visible on all examples. The clay colour is light, most often around light brown and pink 7.5YR 6/4-7/4. The vessels are slipped and interior surfaces are smoothed, with most pieces displaying fine brush-marks. The majority are partially painted (colour-coated); the colour of the paint can vary from red to brown / black, and is normally thinly applied on part of the exterior and over the top of the rim.

Other open vessels (14.450-14.453).

This is a miscellaneous grouping of largely unique pieces. Impressed decoration is found on the fragment 14.450; *comparanda* are given in the catalogue. The rim

³⁵⁸ Kuzmanov, fig. 1 Type IV.

³⁵⁹ *Agora V*, 106 and pl. 28 M 238, the piece is compared by Robinson to L 55 and M 305-306 (pls. 17 and 30); cf. M. Bonifay and F. Villedieu in *BCH Suppl.* XVIII, 36 fig. 14 no. 16; C. Abadie in *BCH Suppl.* XVIII, 48 fig. 3 (Argos 77.3046.15 = *BCH Suppl.* VI, 465, A12).

fragment **14.451** is possibly related to the small bowls **14.444-14.449**, but has a horizontal or outturned rim. The body fragments **14.452** and **14.453** share a common fabric and appear to be related to Hellström's "Fossette Ware," which is tentatively dated *ca.* 50-200 A.C.³⁶⁰

Closed vessels

Local (?) jugs/mugs (14.454-14.477)

The fragments listed under this heading are small vessels with distinctive profile and fabric perhaps best viewed as drinking vessels (mugs), but also well suited as jugs and as kyathoi.³⁶¹ Although of fairly open form, they are classed as closed vessels in order to distinguish them from bowls, dishes and the like. A total of eleven rim fragments (**14.454-14.464**), some preserving handle, and thirteen base fragments (**14.465-14.477**) have been selected in order to illustrate the basic form. This type of vessel is fairly numerous in the Late Roman levels at the Isthmus and Lower City areas. In addition to the 24 pieces catalogued here, another 64 diagnostic fragments were entered in the inventory,³⁶² bringing the total minimum number of individual vessels to 88, close to the quantity of cooking ware.

The shape, although no complete example survives, is very distinctive. The rim curves out from the body to a plain rounded lip; on some examples the rim is more everted (**14.456-14.457**). The shoulder is marked off from the rim by a small ridge, though a few pieces (e.g. **14.459**) lack the ridge. The most common type of base is a plain disk with a roughly finished underside, caused by the removal of the vessel from the potter's wheel by a taut string or wire (**14.464-14.473**); on many pieces the actual "string mark" is clearly seen. On this type of base the lower wall curves out sharply with the result that the junction of the base and wall is almost concave in section. An alternative form of base is typified by **14.474-14.477**: the flat disk base is in this case smoothed on the underside and bears a groove around the edge giving the impression of a small foot (i.e. false ring foot). With this type of base the lower wall curves up more gently to the body. At least four fragments preserve part of a handle

³⁶⁰ *Labraunda* II, 1, 39-40 and 73, pls. 15 and 37.

³⁶¹ Among the Late Roman ceramic assemblage from the first three seasons, this is the only shape which could conceivably be used for drinking. The basic form brings to mind the modern Greek *καραφάκι*, used primarily for pouring and ladling retsina.

³⁶² These are listed in the catalogue after **14.477**; they include 29 rim fragments, 9 handle fragments and 30 base fragments.

or a handle scar (**14.461-14.464**), and it is fairly clear that the majority of vessels, if not all, were equipped with a handle. The vertical handle, oval in section, sometimes bears grooves on the outer face (**14.461**); the upper attachment is to the rim, directly below the lip. The size of these vessels is very standard: the diameter at rim is 0.06-0.08; the diameter at base 0.03-0.04.

The clay is thin-walled and normally hard-fired; the clay core is often fired grey. The fabric is best described as semi-fine; a few flakes of golden mica are visible on most examples and some fragments have the occasional small white inclusion; on others there are no visible impurities apart from the mica. The clay colour can be variable, but a colour in the range of red, light red and reddish brown 2.5YR 6/4-6/6, 5/8-6/8 is most common; occasionally a deeper red, close to light red 10R 6/6 is found. Exterior surfaces are generally well-smoothed, particularly on the upper part of the vessel, and slipped; the slip, which is a refined version of the body clay and normally fired red, is either applied or has formed as a result of manufacture (self-slip).³⁶³ Finger marks and smears are common, especially near the base. Interiors are less well finished.

Related shapes, often referred to as "urnetta a collarino" shape, are found throughout the Aegean and beyond in later Roman contexts. At Knossos the basic shape is found in a variety of fabrics, including fine Italian imports, a distinctive cooking ware version presumed an import, as well as in the local buff ware.³⁶⁴ At Stobi a few fragments recovered from second and third century A.C. contexts are considered as either Italian or Aegean imports.³⁶⁵ At Demetrias examples very similar in shape to those from Torone are found in a grey-coloured, hard-fired fabric, also used for cooking vessels.³⁶⁶ Vessels very similar, if not identical, to the Toronean are common in Thessalonike.³⁶⁷

On the basis of their popularity at Torone, the fact that the fabric in a general sense is not unlike that of local wares of the Classical period, coupled with the existence of local versions of similar shapes at other Aegean sites (such as Knossos), it is tempting to see **14.454-14.477** as local products, though such a conclusion is any-

³⁶³ See above n. 204.

³⁶⁴ J.W. Hayes, *BSA* 78 (1983) 118 and 121 fig. 4 no. 48 (Italian); 122 and 124 fig. 6 nos. 72-74 (cooking ware); 128 and 130 fig. 11 nos. 150-152 (local ware).

³⁶⁵ *Stobi* I, 74 and pl. 60, especially nos. 511-2, 515-6; note that both types of base occur at Stobi as they do at Torone. Cf. also the earlier Thin-Walled Ware, *Stobi* I, 43 and pl. 26, with bibliography on p. 35 n. 52.

³⁶⁶ *Demetrias* IV, pl. 47 nos. III.336-342, 350-355; pl. 51 IIIa.84-87; Beil. 5 Ware III H Form V.

³⁶⁷ Few are adequately published, but the shape is very common in the Late Roman levels and tombs in the city, see, for example, Ph. Petsas, *AD* 22 (1967) B2, pl. 296 top row, middle; pl. 300 top right hand (four examples).

thing but certain. The similarity of the Torone and Thessalonike examples may suggest a north Aegean or Macedonian workshop.

Imported closed vessels (Attic) (14.478-14.506)

Although the distribution of Athenian colour-coated ware, which has close connexions with African Red Slip Ware, is well known,³⁶⁸ as is that of Athenian lamps, which were exported widely in the third and fourth centuries A.C.,³⁶⁹ the occurrence outside Attica of closed shapes of Athenian manufacture has attracted little comment. There are no certain examples of the distinctive Athenian dishes modelled on African Red Slip Ware forms from the excavations of the first three seasons at Torone, though several Athenian lamps have been recorded (Chapter 15). As Hayes has shown, Athenian ware, in general, has a local distribution only, though sporadic examples occur in northern and western Greece (for example Thessalonike and Corfu) and in Cyrenaica; only in nearby places such as Corinth is it found in any great quantity.³⁷⁰ Hayes postulates that the finds from further afield presumably reached their destinations in company with Athenian lamps.³⁷¹ It is now reasonably clear that in addition to the dishes and lamps, Athenian closed vessels were also exported. As Hayes further states for the Athenian dishes, "this ware is one of the few Mediterranean wares of the period whose place of manufacture is absolutely certain, for several of the kilns which produced it and a vast accumulation of potters' debris were brought to light in the course of the German excavations in the Kerameikos at Athens."³⁷² Kilns producing closed vessels have been found in the more recent excavations of the Athenian Kerameikos.³⁷³

Twenty nine fragments of Athenian closed vessels are catalogued here, and a further nine, entered on the inventory, are listed.³⁷⁴ An even greater number of intact examples was encountered in many of the Roman tombs on Terrace IV in later campaigns, mostly dating to the later fourth and fifth centuries A.C., and perhaps extending into the early sixth. The 38 examples from the first three seasons represent the majority of such pieces found in the Lower City and Isthmus areas in 1976 and 1978. Although fragmentary, this is one of the largest quantified groups of Athenian closed

³⁶⁸ *LRP*, 407-8; *LRP Supp.*, 534 n. 3.

³⁶⁹ *Agora VII*, 65-9; *LRP*, 408.

³⁷⁰ *LRP*, 408.

³⁷¹ *Ibid.*

³⁷² *LRP*, 407 with ns. 5-6.

³⁷³ See, for example, U. Knigge and A. Rügler, *AA* 1989, 81-99, especially 84-9.

³⁷⁴ Several inventoried fragments are listed under **14.487** and **14.488**, and another five after **14.505**.

vessels in the Aegean,³⁷⁵ and it is my impression that similar examples are more numerous in certain parts of the Aegean than is indicated in the current literature.

Although all of the fragments presented here are from jugs and the like, a good variety of shapes is represented, most of which find close parallels in Athens;³⁷⁶ *comparanda* for individual pieces are given in the catalogue. All are partially painted (colour-coated), particularly on the exterior and over the rim. In addition to grooves, many have either combed (14.489-14.499) or gouged (14.500-14.505) decoration.³⁷⁷

Of particular interest is the fact that the two most common fine wares at Torone, Çandarlı Ware (in the earlier period) and Phocaeen Red Slip Ware, specialized exclusively on the production of open vessels (dishes and bowls), and that the main series of African Red Slip Ware closed forms comes to an end before the close of the third century A.C.³⁷⁸ Hayes has suggested that the market for African closed vessels was perhaps ruined by increasing competition from cheap glassware,³⁷⁹ and he further notes that the production of closed forms had never been very large.³⁸⁰ When bearing in mind the total Roman ceramic assemblage presented in this volume, including the jugs/mugs thought to be produced in the north Aegean and the Athenian pieces discussed here, it seems clear that the demand for closed and semi-closed vessels was not totally satisfied by glassware. It would appear that, for the Aegean at least, a number of smaller regional workshops specialized or partly specialized in the production of such vessels. In this respect special mention may be made of several other classes of Aegean wares produced in the second to third century A.C. The first of these are the mould-made, relief-decorated flagons — the so-called “oinophoroi” — and related shapes thought to be of Knidian manufacture and widely exported well beyond the Aegean.³⁸¹ Another class is the well-known series of relief-decorated bowls of Corinthian manufacture studied by Spitzer, which also enjoyed a fairly wide market, including Spain.³⁸² Yet another class, related to the Knidian, is the series of

³⁷⁵ A solitary, intact, jug with gouged decoration has been recently published from Stobi, *Stobi* I, 128 pl. 127 no. 1081.

³⁷⁶ See especially *Agora* V, various examples, particularly pls. 24-33.

³⁷⁷ For combed and gouged decoration see, generally, *Agora* V, 6.

³⁷⁸ *LRP*, 17.

³⁷⁹ For the glassware of the Roman period from Torone, mostly found in the Late Roman deposits in the Isthmus and Lower City areas, see Chapter 17.

³⁸⁰ *LRP*, 17.

³⁸¹ *LRP*, 411-2 with full references, and pl. XXIIa; *LRP Supp.* 535; D.M. Bailey, *RCRFA* 14-5, 1972-3, 11-25; also I.C. Love, *AJA* 77 (1973) 415; *ead.*, *Türk Arkeoloji Dergisi* 2 (1974) 86.

³⁸² D.C. Spitzer, *Hesperia* 11 (1942) 162-92; *LRP*, 412; *LRP Supp.* 536; J.O. Granados Garcia in *Estudios de cerámica romana* V, *Studia Archaeologica* 50 (1978) 21-34. There is one possible fragment of this ware at Torone from the trenches opened in the Lower City area in 1981 (inv. 81.1023).

mould-made jugs from Pergamon, the "Gladiatorenware" studied by Türr.³⁸³ The existence of these various Aegean workshops largely specializing in shapes not produced in the standard fine wares, like Çandarlı, African and Phocaeen, is a phenomenon that has received inadequate attention in the modern literature, particularly the mechanics of marketing.³⁸⁴ Hayes has postulated that the pattern of distribution of the Knidian and Corinthian wares, found in small numbers all over the Mediterranean, may be the result of their special contents, perhaps medicinal.³⁸⁵ Although such a possibility is perhaps tempting in the case of the Knidian oinophoroi, it is less likely for the Corinthian bowls.³⁸⁶ Moreover, it can be questioned whether the Athenian closed vessels presented here, and the jugs/mugs typified by **14.454-14.477**, were all exported as containers for some unknown liquid, rather than as utility vessels in demand for their functional character.

Other closed vessels (14.507-14.508).

Only two fragments are presented under this heading. The first, **14.507**, is unique; the fragment preserves portion of the body, near the shoulder, of a small closed vessel, probably a jug, not unlike some of the intact specimens deposited in the tombs of the Late Roman cemetery on Terrace IV. The body is decorated with fine wheel-ridging. The joining fragments of **14.508** preserve portion of the shoulder of a medium-size close vessel, perhaps a small amphora. The fabric, which is loaded with golden mica, may be local. The fragment preserves two incised cross-monograms.

CONCLUDING REMARKS

Although it is still too soon to make any definitive statements as to the implications of the pottery of the Roman period from Torone, particularly in the light of the material recovered from the more recent excavations at the site, a few tentative concluding remarks may be made.

³⁸³ S. Türr in *Pergamenische Forschungen I: Pergamon - gesammelte Aufsätze* (1972) 208-22; cf. *LRP Supp.* 535.

³⁸⁴ See, however, the comments by Hayes in *LRP Supp.* 536 and, more recently in *The Proceedings of Graduate Seminars, Centro Universitario Europeo* (Ravello, forthcoming).

³⁸⁵ *Ibid.*

³⁸⁶ Many of these wares, particularly the Knidian and Corinthian are decorated with complex iconographic scenes, a feature that is difficult to account for in the case of medicinal containers.

The series of imported fine wares shows that the earliest major import to the site, found in any quantity, was Çandarli Ware, particularly the later series.³⁸⁷ As for earlier Roman wares, the only available evidence at this stage are a few scraps of Eastern Sigillata A and B from later excavations at the site, and three pieces of early Çandarli Ware presented here, dating to *ca.* 100-150 A.C. (14.15-14.17). As to the fate of Torone during the earlier Roman period, from the Third Macedonian War on, there is little clear evidence. In any case, by about A.D. 150 or so imports of Çandarli Ware become regular and continue, perhaps as late as the years of the early fourth century. Significantly, Çandarli Ware is virtually the only imported fine ware during this period, at a time when the fabric enjoyed a wide distribution in Greece and the Aegean.³⁸⁸ Moreover, the preponderance at Torone of the late Çandarli Ware Form 4 and the virtual absence of any contemporary north African products indicates that Çandarli Ware may have been imported to the site until such time as it ceased to be produced.³⁸⁹

From the late fourth century A.C. up to the years of the later sixth and earlier seventh, Phocaeen Red Slip Ware is clearly the predominant import to Torone. The various successive forms of this ware are all amply illustrated, except for the late Form 10, which is comparatively rare. African Red Slip Ware and Asia Minor 'Light Coloured' Ware were also imported during this period, but in no way did they threaten the stranglehold of the Phocaeen products at the site. Here the material from Torone is somewhat different from the basic patterns of distribution of the Late Roman fine wares in Greece and the Aegean. As Hayes has shown, African Red Slip Ware, from the middle of the third until the early fifth century, is the standard fine ware almost everywhere in Greece.³⁹⁰ The large quantity of the early Phocaeen Red Slip Ware Forms 1 and 2 indicates that this ware was common at Torone from the earliest period of its production, whereas the fragments of African Red Slip Ware presented here are spread in date from the late fourth to the sixth century.³⁹¹ The few fragments of Cypriot Red Slip Ware and Macedonian 'T.S. Grise' represent little more than sporadic imports.

³⁸⁷ *LRP*, 316-22.

³⁸⁸ *LRP*, 417.

³⁸⁹ As Hayes has pointed out, *LRP*, 317 and 417 (*cf.* Hayes, *RCAFAActa* 5-6 [1963-4] 31-6) Çandarli Ware during the middle and later third century A.C. was being ousted at sites such as Athens by north African products, and becomes rare at most sites where it was previously imported by the end of the third century. In its home region, however, it lingered on into the fourth century. At Torone Çandarli Ware is most common in the third century and does not appear to have been affected by the African competition.

³⁹⁰ *LRP*, 417.

³⁹¹ Only one fragment, 14.219 (Form 45), can be dated in the third century A.C.

It is during the period from the fourth through the sixth century that the main series of amphorae were imported, in addition to a series of small closed vessels of Athenian manufacture. Among the amphorae the most common variety is the large globular amphora of Aegean origin, Torone Type I. Although this amphora type enjoyed a wide distribution throughout the Mediterranean (particularly eastern), the Black Sea, and beyond, Torone represents one of the few sites where the type can be shown to predominate on any statistical basis. Furthermore, the dating evidence for this type at Torone, which is still problematic, seems to indicate that this amphora first appears, on the whole, slightly earlier than it does at other sites in the eastern Mediterranean. Torone Type II amphorae are also common, whereas other types are, in comparison, rare. Unlike the fine wares, the transport amphorae were used primarily, though apparently not exclusively,³⁹² as containers for trade in perishable goods. Their reuse as storage vessels or, as is the case at many sites, as burial urns for infants,³⁹³ no doubt played an important role and it may be the case that certain amphora types were sought after with other uses in mind. At Athens, for example, the well-known "micaceous water jars" (Torone Type V amphorae) were commonly used to draw water from wells, and certainly their slender proportions were well suited for the task.³⁹⁴ In the present state of knowledge it remains difficult to establish the precise nature and mechanism of the trade in amphorae and to what extent the presence of particular amphora types represents direct or indirect importation from the centre, or centres, producing them, whether they carried commodities from that centre or were sold empty, and to what extent redistribution took place. What also remains uncertain is the nature and state of the Toronean wine industry, which was a thriving concern in the Classical period.³⁹⁵

The evidence of both the fine wares and the amphorae shows clearly the degree to which Torone relied on foreign imports, not only for the ceramic products themselves, but also for any goods the amphorae may have contained. This well reflects the complex and intense trading network that existed during the years of the Empire, and the extent to which even a relatively small settlement like Torone took part. An important feature of the Late Roman imports at Torone is the fact that easily distinguishable Macedonian fine ware products are, on the whole, rare. This is particularly evident in the scarcity of Macedonian 'T.S. Grise,' a fabric common elsewhere in

³⁹² See above ns. 191 and 349.

³⁹³ See above n. 48.

³⁹⁴ *Agora V*, 17.

³⁹⁵ See Chapters 1 and 13. Also J.K. Papadopoulos and S.A. Paspalas, *Hesperia* 68 (1999) 161-188.

Macedonia.³⁹⁶ This aspect, however, appears to be the case primarily for the fine wares; the jugs/mugs discussed above (14.454-14.477) should be either local or produced somewhere nearby, while a fair number of the intact vases, particularly jugs, alabastra and the like deposited in the tombs of the Terrace IV cemetery excavated in later seasons are identical to vases found elsewhere in Macedonia.³⁹⁷ Although it is still too soon to draw any positive conclusions, it appears that the patterns of occurrence of the various imports at Torone is different from that of other known Macedonian sites, especially those inland.³⁹⁸ The large quantity of imports at Torone shows to what extent the site looked to the Aegean, particularly Asia Minor, for commercial links.

The latest diagnostic pottery of the Roman period from the site belongs to the first half of the seventh century A.C., though the quantity of seventh century material is far from great. On the basis of the evidence recovered from the excavations of 1975, 1976 and 1978, there appears to be something of a disruption sometime in the later sixth century A.C. In this respect, the scarcity of the late Phocaeen Red Slip Ware Form 10 is of some importance. This vessel form is very common at other sites in deposits of the late sixth and early seventh century, but rare at Torone, represented only by a handful of pieces (14.181-14.184). Similarly rare are common seventh-century shapes in African Red Slip Ware, and there is certainly no evidence to suggest a seventh-century revival of African products as is the case at Constantinople.³⁹⁹ The evidence of the terracotta lamps (Chapter 15) indicates that imports are rare after the middle of the sixth century, while the latest identified coin types (Chapter 20) are also sixth century.

On the basis of this evidence it is tempting to see Torone as one of the many victims of the turbulent years of the sixth century A.C. In A.D. 542 Kassandreia was devastated by the Huns (Oǔvvoi) after which time the city never fully recovered.⁴⁰⁰ The same year saw the "Justinianic Plague" at its height at Constantinople and Thessalonike.⁴⁰¹ More penetrating incursions, however, occurred in the 570s and

³⁹⁶ V.R. Anderson-Stojanović in B. Aleksova and J. Wiseman (eds.), *Studies in the Antiquities of Stobi* III (1981) 47-61; *Stobi* I, 61-72; *LRP*, 405 n. 5, 407 n. 1.

³⁹⁷ These will be presented in a future volume in the Torone series. Examples of such vessels from other Macedonian sites are occasionally published in *AD* and *Makedonika*; similar vessels have been recorded from Amphipolis, Edessa, Kozani, Palatiano, Philippi, Thessalonike and Veroia.

³⁹⁸ Cf. especially the situation at Stobi, *Stobi* I, 65 n. 104 where it is noted that the quantities of various imported fabrics at inland Macedonian sites are different from those of coastal sites.

³⁹⁹ *Saraçhane* II, 7.

⁴⁰⁰ Procopius II.4.5; Alexander (*supra* n. 54).

⁴⁰¹ See especially P. Allen, *Byzantion* 49 (1979) 5-20.

580s with the invasion of the Avars from the north;⁴⁰² their penetration, extending to central and southern Greece, is well recorded.⁴⁰³ This represented the first major Slavonic wave of invaders which culminated in the siege of Constantinople in A.D. 626,⁴⁰⁴ after which time Greece plunged into the so-called "second Dark Age."⁴⁰⁵ It was only during the ninth century that Thessalonike was to become the base from which Byzantine civilization was to reassert itself.⁴⁰⁶

As to what exactly befell Torone during these troubled times there is no clear information, except that pottery imports become very rare around the time of the Avar invasion. That occupation of Torone continued into the seventh century A.C. is clear enough, but for how long is uncertain, as there is, up to now, no material from the site that can be dated with certainty to the period between the mid seventh and the years of the twelfth or early thirteenth century.

CATALOGUE

I. FINE WARES

Çandarlı Ware

Form 1

14.1 (78.2022)

Fig. 111

Lower City TR1 (2).

Rim fr. Form 1.

P. H. 0.023; D. 0.300.

Clay red 2.5YR 5/6; slip red 2.5YR 4/6, lustrous on interior and over rim.

Sloping wall; horizontal or slightly down turned angular rim.

Cf. *LRP*, 319 no.1 (=Agora P 25219); Hayes, *BSA* 78 (1983) 119 fig. 2 no. 2.

Late second century to A.D. 250.

14.2 (78.1927)

Fig. 111

Lower City TR1 (2).

Rim fr. Form 1.

P.H. 0.033; D. 0.300.

Clay light red 2.5YR 6/6; slip as **14.1**.

Shape as **14.1** but with slightly heavier rim; small

⁴⁰² The bibliography on the Slavonic invasions is extensive; the following are only some of the main works which concentrate primarily on Macedonia: V. Tapkova-Zaimova, *Byzance et les Balkans à partir du VI^e siècle* (1979) especially papers II, V and VII; Theodorides (*supra* n. 34); P. Lemerle, *Les plus anciens recueils des Miracles de Saint Demetrios et la pénétration des Slaves dans les Balkans* I (1979); L. Hauptman, *Byzantion* 4, 1927/28, 137-170; P. Charanis, *DOP* 5 (1950) 139-166.

⁴⁰³ See, among others, G.L. Huxley, *Λακωνικά Σπονδαί* 3 (1977) 84-110; H.A. Thompson, *JRS* 49 (1959) 61-72; D.M. Metcalf, *Hesperia* 31 (1962) 134-57; P. Charanis, *Speculum* 27 (1952) 343-50; D.I. Pallas, *Ellenika* 14 (1955) 87-105; G.R. Davidson, *Hesperia* 6 (1937) 227-40; J.H. Finley, *Speculum* 7 (1932) 477-99; K.M. Setton, *Speculum* 25 (1950) 502-43.

⁴⁰⁴ F. Barisic, *Byzantion* 24, 1954, 371-95.

⁴⁰⁵ For the disappearance of the various Late Roman fine wares during the seventh century see *LRP*, 426-7; *Saragchane* II, 5-8.

⁴⁰⁶ R.F. Hodinott, *Early Byzantine Churches in Macedonia and Southern Serbia* (1963) viii.

offset below rim. Broad shallow groove on exterior below rim.

Cf. Hayes, *BSA* 78 (1983) 119 fig. 2 no. 1.

Late second century to A.D. 250.

14.3 (78.1906)

Fig. 111

Isthmus TR4 tr 1 (1)

Rim fr. Form 1.

P.H. 0.026; D. 0.230.

Clay as **14.2**; slip red 2.5YR 4/6, worn but lustrous on both interior and exterior.

Two thin grooves on outside edge of rim; rim a heavier version of **14.1**.

Cf. **14.2**.

Late second century to A.D. 250.

14.4 (78.2884) + (78.3600)

Fig. 111

Lower City TR1 S (3); Lower City TR1 (2).

Rim fr. (2). Form 1.

P.H. 0.022; D. 0.320.

Clay light red 2.5YR 6/6; slip red 2.5YR 4/6, lustrous on interior and over rim. Exterior poorly finished.

Rim shorter and tending more square than **14.1-14.3**.

Cf. *LRP*, 319 no. 3 (=Agora P 19189, *Hesperia* 18, 1949, 217, pl. 41, no. 2); also Hayes, *BSA* 78 (1983) 120 fig. 3 no. 14.

Mid third century.

14.5 (78.1949)

Fig. 111

Lower City TR1 (1).

Rim fr. Form 1.

P.H. 0.020; D. 0.220.

Clay as **14.4**; slip worn, red 2.5YR 4/6, lustrous on interior and over rim.

Rim as **14.4** but from smaller vessel.

Mid third century.

14.6 (78.2328)

Fig. 111

Lower City TR1 S (3).

Base fr. Form 1.

P.H. 0.023; D. (base) 0.210.

Clay light red 2.5YR 6/6; slip red 2.5YR 4/6-4/8, lustrous on interior, exterior and underside. Low heavy foot with flat resting surface; groove at junction of foot and wall.

Cf. *LRP*, 319 no. 1 (=Agora P 25219) and 318 fig. 63c. The diameter at base may suggest a more shallow form.

Ca. A.D. 200.

14.7 (78.1858)

Not illustrated

Lower City TR1 S (3).

Base fr. Form 1.

P.H. 0.022; D. (base) approx. 0.100.

Very worn.

Clay and slip as **14.6**.

Cf. *LRP*, 319 no. 1.

200-250 A.C.

14.8 (78.3609)

Fig. 111

Lower City TR2 (1).

Base fr. Form 1 or 2.

P.H. 0.024; D. (base) 0.080.

Clay slightly more coarse than normal, light red 2.5YR 6/6; slip red 2.5YR 4/8, less lustrous.

Cf. Hayes, *BSA* 78 (1983) 119 fig. 2 no. 4.

Ca. A.D. 200.

Other fr. of *Form 1* entered in the inventory:

78.1859

78.2075

78.2144

Form 2

14.9 (78.3196)

Fig. 111

Lower City TR1 (1).

Rim fr. Form 2.

P.H. 0.014; D. approx. 0.280.

Clay light red 2.5YR 6/6; slip worn, red 2.5YR 4/8. Shallow flaring wall; thickened rim.

Cf. *LRP* 319 no. 3 and fig. 64 (=Agora P 5750);

Hayes, *BSA* 78 (1983) 119 fig. 2 nos. 8, 10-13.

Mid to late second century.

14.10 (76.979)

Fig. 111

Isthmus TR1 tr1 (1).

Rim fr. Form 2.

P.H. 0.022; D. 0.200.

Clay light red 2.5YR 6/8; slip worn, red 2.5YR 5/8. Sloping wall; thickened rim, projecting slightly at bottom.

Mid to late second century.

14.11 (78.3480)

Fig. 112

Isthmus TR3 tr2 (1).

Base fr. Form 2.

P.H. 0.013; D. (base) approx. 0.100.

Clay and slip as **14.9**.Foot similar to Form 1 (cf. **14.6-14.8**) but lower.

Groove around centre of floor.

Cf. *LRP*, 319 no. 3 and fig. 64; Waagé, *Hesperia* 2 (1933) 283 fig. 1, no. 93; Hayes, *BSA* 78 (1983) 119 fig. 2 nos. 7-13.

Mid to late second century.

14.12 (78.1826)

Fig. 112

Isthmus TR4 tr2 (2).

Base fr. Form 2.

P.H. 0.019; D (base) 0.120.

Clay and slip as **14.9**.Foot as **14.11** but without the groove.Cf. *LRP Supp.*, 488 fig. 94; Waagé, *Hesperia* 2 (1933) Pl. VIII no. 90.

Mid to late second century.

14.13 (78.3590)

Fig. 112

Lower City TR1 (2).

Base fr. Form 2.

P.H. 0.015; D. (base) 0.110.

Clay and slip as **14.9**.Foot as **14.12**.

Mid to late second century.

Other fr. of *Form 2* entered in the inventory:

78.2567

78.3088

14.14 (78.3067)

Fig. 112

Lower City TR2 (1).

Rim and body fr. related to Forms 1 and 2.

P.H. 0.047; D. approx. 0.200.

Clay light red 2.5YR 6/6, with much golden mica; slip red 2.5YR 4/8, slightly lustrous on both interior and exterior.

Deep bowl with outcurved, almost horizontal, rim with rounded outside edge. Groove at junction of rim and wall on exterior.

Cf. Hayes, *BSA* 78 (1983) 119 fig. 2 no. 6 and 120 fig. 3 no. 16.

Mid to late second century or later.

*Form 3***14.15** (78.1851)

Fig. 112

Hill 2 TR3 (4).

Rim and body fr. Form 3 (early).

P.H. 0.028; max. P.D. (approx.) 0.180.

Lip not preserved.

Clay close to light reddish brown 5YR 6/4; slip worn, red 2.5YR 4/6.

Fr. of hemispherical flanged bowl with vertical rim; groove at junction of rim and wall on exterior.

Cf. Loeschcke, *AM* 37 (1912) pl. XXVIII, type 19; *LRP*, 318, fig. 63b; Hayes, *BSA* 78 (1983) 137 fig. 17 no. 199.

Ca. 100-150 A.C.

14.16 (78.2326)

Fig. 112

Lower City TR1 S (3).

Rim fr. Form 3 (early).

P.H. 0.028; D. (approx.) 0.180.

Clay and slip as **14.15**.Cf. **14.15**.

Ca. 100-150 A.C.

14.17 (78.1833)

Fig. 112

Lower City TR1 S (3).

Rim fr. Form 3 (early).

P.H. 0.033; D. 0.200.

Clay light red 2.5YR 6/6; slip red 2.5YR 4/8, lustrous on interior and exterior.

Shape of rim as **14.15** and **14.16** but slightly more upright. Grooves below rim on exterior.

Ca. 100-150 A.C.

14.18 (78.2296)

Fig. 112

Lekythos TR1 (1).

Rim fr. Form 3 (later version).

P.H. 0.028; D. 0.160.

Clay and slip as **14.17**, but slip slightly less lustrous.Rim similar to early versions of Form 3 (cf. **14.15-14.17**) but lower and more splayed.Cf. *LRP*, 321 and fig. 64 nos. 1 and 2 (=Agora P2005 and P18418); Hayes, *BSA* 78 (1983) 120 fig. 3 nos. 27 and 30.

Mid second to mid third century.

14.19 (78.3236)

Fig. 112

Lower City TR2 (1).

Rim fr. Form 3 (later version).

P.H. 0.021; D. 0.140.

Clay light red 2.5YR 6/6; slip worn, red 2.5YR 4/8, thinly applied on interior.

Cf. **14.18** and Hayes, *BSA* 78 (1983) 120 fig. 3 nos. 28-29 and 31.

Mid second to mid third century.

14.20 (78.3156)

Fig. 112

Lower City TR2 (1).

Rim fr. Form 3 (later version).

P.H. 0.023; D. 0.100.

Clay light reddish brown 5YR 6/4; slip worn, close to dark red 2.5YR 3/6.

Rim as **14.18** but smaller.Cf. Hayes, *BSA* 78 (1983) 120 fig. 3 no. 31.

Mid second to mid third century.

14.21 (78.3008)

Fig. 112

Lower City TR1 NW ext.

Rim and body fr. Form 3 (later version).

P.H. 0.029; max. P.D. (approx.) 0.180.

Lip not preserved.

Clay light red 2.5YR 6/6; slip red 2.5YR 4/6, lustrous on interior.

Rim as **14.18**; fine grooves below rim on exterior.

Mid second to mid third century.

14.22 (78.3046)

Fig. 112

Lower City TR1 (1).

Base fr. Form 3.

P.H. 0.019; D. (base) 0.070.

Clay colour lighter than normal, close to pink 7.5YR 7/4; slip between red 2.5YR 4/6 and dark red 2.5YR 3/6.

Low heavy foot with broad, flat resting surface.

For shape of foot cf. *LRP*, 318 fig. 63b (early version) and 320 fig. 64 no. 1 (later version); Waagé, *Hesperia* 2 (1933) pl. IX nos. 95-96.

Early second to mid third century.

14.23 (78.3610)

Fig. 112

Lower City TR2 (1).

Base fr. Form 3 (later version).

P.H. 0.020; D. (base) 0.080

Clay light red 2.5YR 6/6; slip very worn.

Low heavy foot as **14.22** but with rounded resting surface.Cf. *LRP*, 321 and fig. 64 no. 2 (=Agora P 18418).

Mid second to mid third century.

Other fr. *Form 3* entered in the inventory (all later versions):

a) Rim fr.:

76.1095

78.2165

78.2571

78.3571

78.3572

b) Base fr.:

76.1007

78.3045

78.3086

*Form 4***14.24** (78.3262A and B)

Fig. 113

Lower City TR1 S (3).

Rim and base fr. Form 4 (1 rim fr and 3 joining base fr.) profile restored.

H. 0.070; D. 0.290; D. (base) 0.136.

Clay reddish yellow 5YR 6/6; slip close to red 2.5YR 4/8.

Triangular tapering foot; shallow curving floor with slight offset at junction with foot (cf. **14.38**).

Incurved wall; plain rim.

Cf. *LRP*, 322 and fig. 64 no. 2 from Palatiano in Macedonia (=Petsas, *Makedonika* 9 [1969] 180-181, fig. 17, no. 5); Hayes, *BSA* 78 (1983) 120 fig. 3 nos. 20-23.

Third century.

14.25 (78.2321)

Fig. 113

Lower City TR1 S (3).

Rim and body fr. Form 4.

P.H. 0.046; D. 0.220.

Clay and slip as **14.24**; slip semi-lustrous on exterior.Cf. **14.24**.

Third century.

14.26 (78.1867)

Fig. 113

Lower City TR1 N (3).

Rim fr. Form 4.

P.H. 0.032; D. 0.280.

Clay and slip as **14.25**.

Cf. **14.24**.

Third century.

14.27 (78.3385)

Fig. 113

Lower City TR2 (1).

Rim fr. Form 4.

P.H. 0.030; D. 0.240.

Clay close to light red 2.5YR 6/6, fabric finer than **14.24-14.26**; slip red 2.5YR 4/6, worn but lustrous on interior and exterior, of good quality.

Rim as **14.24** but thinner walled.

Third century (perhaps slightly earlier than previous examples).

14.28 (76.1033)

Fig. 113

Isthmus TR2 tr1 (1).

Rim fr. Form 4.

P.H. 0.026; D. (est.) 0.240.

Clay red 2.5YR 5/6; slip worn, semi-lustrous on interior.

Third century.

14.29 (78.3018)

Fig. 113

Lower City TR1 NW ext.

Rim fr. Form 4.

P.H. 0.027; D. 0.275.

Clay close to red 2.5YR 5/8; slip red 2.5YR 5/6, semi-lustrous on interior and over rim. Exterior poorly finished below rim.

Third century.

14.30 (78.3016)

Fig. 113

Lower City TR1 NW ext.

Rim fr. Form 4.

P.H. 0.028; D. (est.) 0.260.

Clay light red 2.5YR 6/6; slip red 2.5YR 4/6, semi-lustrous on interior and over rim.

Third century.

14.31 (78.2339)

Not illustrated

Lower City TR1 S (3).

Rim fr. Form 4.

P.H. 0.033; D. (est.) 0.280.

Clay light red 2.5YR 6/6; slip close to red 2.5YR 4/6, semi-lustrous on exterior of rim.

Third century.

14.32 (78.3222)

Fig. 113

Lower City TR1 S (3).

Rim fr. Form 4.

P.H. 0.028; D. 0.200.

Clay close to light brown 5YR 6/4; slip between red 2.5YR 4/6 and reddish brown 2.5YR 4/4, semi-lustrous on exterior of rim.

Third century.

14.33 (78.3544)

Not illustrated

Lower City TR1 (2).

Rim fr. Form 4.

P.H. 0.032; D. (est) 0.290.

Clay and slip as **14.32**. Poorly finished with prominent wheel-marks on exterior.

Third century.

14.34 (78.2863)

Fig. 114

Lower City TR1 NE ext.

Rim fr. (2). Form 4.

P.H. 0.042; D. (est). 0.200 (?).

Clay light red 2.5YR 6/6; slip red 2.5YR 5/8, semi-lustrous on interior; exterior poorly finished.

Rim taller and vessel deeper than normal; thin-walled.

Cf. *LRP*, 322 and fig. 64 no. 3, but smaller.

Third century.

14.35 (78.3203)

Fig. 114

Lower City TR1 N (3).

Base fr. Form 4.

P.H. 0.027; D. (base) 0.240.

Clay light red 2.5YR 6/6; slip close to red 10R 4/6, semi-lustrous especially on interior.

Tall ring foot tapering slightly to narrow resting surface. Prominent wheel-marks/grooves on lower wall on exterior, including one at junction with foot. From large vessel.

Cf. the foot on *LRP*, 322 and fig. 64 no. 3.

Third century.

14.36 (78.3342)

Fig. 114

Lower City TR2 (1).

Base fr. Form 4.

P.H. 0.018; D. (base) 0.100.

Clay light red 2.5YR 6/6; slip red 2.5YR 4/6, semi-lustrous on interior, of good quality.

Triangular tapering foot; small offset at junction of foot and wall. Vessel smaller than **14.35**.

Foot similar to *LRP*, 322 and fig. 64 no. 2 from Palatiano (= *Makedonika* 9 [1969] 180-181 fig. 17 no. 5, which is of similar proportions).

Third century.

14.37 (78.1894)

Fig. 114

Lower City TR1 S (3).

Base fr. (2). Form 4.

P.H. 0.017; D. (base) 0.140.

Clay and slip as **14.36**, though slip less lustrous.

Cf. **14.36**; closely related: 76.2106.

Third century.

14.38 (76.581)

Fig. 114

Isthmus TR1 tr2 (3).

Base fr. Form 4.

P.H. 0.023; D. (base) 0.170.

Clay close to light red 2.5YR 6/6; slip between light red 2.5YR 6/8 and red 2.5YR 5/8.

Foot as **14.24**, *cf.* **14.36**.

Graffiti, faintly incised on interior: + (?) $\chi\alpha$ or $\chi\omega$; scratches below.

Third century.

14.39 (78.3232)

Fig. 114

Lower City TR2 (1).

Base and body fr. (2). Form 4.

P.H. 0.048; D. (base) 0.160.

Clay light red 2.5YR 6/6; slip worn, close to red 2.5YR 5/8. Exterior poorly finished.

Triangular tapering foot with rounded resting surface (unlike **14.24**, **14.35-14.38**); shallow curving floor. Slight offset at junction of foot and wall.

Cf. the foot on *LRP*, 321 no. 1 (= *LRP Supp.*, 488 fig. 94), also illustrated in Holwerda, *Leiden*, pl. III no. 395.

Third century.

14.40 (78.2338)

Fig. 114

Lower City TR1 S (3).

Floor fr. Probably Form 4.

0.048 x 0.035.

Clay close to light reddish brown 5YR 6/4; slip red 2.5YR 5/6.

Floor fr. from near centre of vessel.

Graffito, deeply incised on underside: Christian A.

Third century.

Other fr. *Form 4* entered in the inventory (the following fr. are all rim fr.):

78.1986 78.3176

78.2071 78.3234

78.2322 78.3276

78.2323 78.3380

78.2572 78.3467

78.3079 78.3491

78.3152 78.3546

78.3153 78.3605

78.3154

Çandarli Ware Form 4 / Phocaean R.S. Ware Form 1

14.41 (78.2833)

Fig. 114

Isthmus TR4 tr1 (1).

Rim fr. *Çandarli Ware Form 4 / Phocaean R. S. Ware Form 1*.

P.H. 0.032; D. (est.) 0.220.

Clay between light red 2.5YR 6/6 and red 2.5YR 5/6, with occasional specks of mica; slip red 2.5YR 4/8.

For shape *cf.* **14.24-14.32** and *LRP*, 325 fig. 65, especially Phocaean R.S. Ware Form 1 type A.

Fourth century (?).

14.42 (76.1015)

Fig. 114

Isthmus TR1 tr2 (3).

Rim fr. *Çandarli Ware Form 4 / Phocaean R. S. Ware Form 1*.

P.H. 0.026; D. 0.200.

Clay light red 2.5YR 6/6, with golden mica; slip close to red 2.5YR 5/6.

Shallow curving floor; upright rim (not incurved as **14.24-14.34** and **14.41**). Thin groove below lip on interior.

Rim closer to Phocaean R.S. Ware Form 1, cf. *LRP*, 325 fig. 65 no. 4.
Fourth century (?).

14.43 (78.3384) Fig. 114
Lower City TR2 (1).
Rim fr. Çandarlı Ware Form 4 / Phocaean Ware Form 1.
P.H. 0.040; D. 0.300.
Clay light red 2.5YR 6/6, with some golden mica; slip red 2.5YR 5/6, rather dull and poorly finished.
For shape cf. **14.41**.
Fourth century (?).

Form 5

14.44 (78.2263) Fig. 115
Isthmus TR1 tr3 (1).
Rim fr. Form 5.
P.H. 0.021; D. 0.090.
Clay light red 2.5YR 6/6; slip very worn. Vessel poorly finished.
Body slightly carinated; incurved rim, plain lip.
Cf. *LRP*, 322 and fig. 64 type specimen from Palatiano (=Petsas, *Makedonika* 9 [1969] 180-181 fig. 17 no. 7); cf. Williams and Zervos, *Hesperia* 52 (1983) 21 and fig. 10 no. 58 (=Corinth C-1982-65). Two more examples from 1981 season, inv. 81.919 and 81.1017.
Late second or third century.

Phocaean R.S. Ware

Form 1

14.45 (78.3032) Fig. 115
Isthmus TR1 tr2 (4).
Rim fr. Form 1A.
P.H. 0.041; D. (est.) 0.180.
Clay light red 2.5YR 6/8, with some mica; slip worn, red 2.5YR 5/8.
Rim curving into lip; body slightly carinated.
Cf. *LRP*, 326 and fig. 65 nos. 1 and 2, both from Thessalonike.
Late fourth to early fifth century.

14.46 (78.3489) Fig. 115
Lower City TR1 S (3).
Rim fr. Form 1A.
P.H. 0.039; D. 0.200.
Clay light red 2.5YR 6/6, with a little mica; slip light red 2.5YR 6/8.
Cf. **14.45** and especially *LRP*, 326 and fig. 65 no. 2.
Late fourth to early fifth century.

14.47 (78.1880 and 78.1881) Fig. 115
Lower City TR1 S (3).
Rim fr. (2 non-joining). Form 1A.
P.H. 0.034; D. 0.260.
Clay light red 2.5YR 6/6; slip red 2.5YR 5/8, slightly lustrous on exterior.
Cf. **14.45** and **14.46**.
Late fourth to early fifth century.

14.48 (76.1040) Fig. 115
Isthmus TR1 tr2 (2).
Rim fr. Form 1A.
P.H. 0.030; D. 0.260.
Clay and slip close to red 2.5YR 5/6. Exterior poorly finished.
Rim and body as **14.45** but thinner walled.
Cf. *LRP*, 326 and fig. 65 no. 3 (=Agora P 27170).
Late fourth to early fifth century.

14.49 (78.2888) Fig. 115
Lower City TR1 S (3).
Rim fr. (2). Form 1A (small variety).
P.H. 0.031; D. 0.122.
Clay light red 2.5YR 6/6; slip red 2.5YR 4/8.
Shape as **14.48** but considerably smaller. Two thin grooves (probably wheel-marks) on interior near junction of rim and wall.
For vessel of similar size cf. *LRP*, 326 and fig. 65 no. 1.
Late fourth to early fifth century.

14.50 (76.2105) Not illustrated
Isthmus TR1 tr2 (2).
Rim fr. Form 1A or B.
P.H. 0.030; D. (est.) 0.250.
Clay red 2.5YR 5/6; slip red 2.5YR 4/6.
Slight discolouration (darker red) on exterior of rim.
Early fifth century (?).

- 14.51** (76.2019) Fig. 115
Isthmus TR2 tr1 (1).
Rim fr. Form 1A or B.
P.H. 0.038; D. 0.250.
Clay light red 2.5YR 6/6; slip red 2.5YR 5/6.
Slight discolouration on exterior of rim.
Rim as Form 1A but slightly lower and tending to be more upright. Body not carinated.
Cf. LRP, 326 and fig. 65 no. 4.
Early to third quarter fifth century.
- 14.52** (78.3259) Fig. 115
Isthmus TR3 tr1 (2).
Rim fr. Form 1A or B.
P.H. 0.031; D. 0.160.
Clay and slip close to red 2.5YR 5/8.
Exterior of rim slightly discoloured.
Cf. 14.51 but smaller.
Early to third quarter fifth century.
- 14.53** (78.3597) Fig. 115
Lower City TR1 (2).
Rim fr. Form 1A or B.
P.H. 0.038; D. (est.) 0.320.
Clay close to light red 2.5YR 6/6; slip red 2.5YR 5/8.
Low incurved rim, thickened on interior; body not carinated.
Early to third quarter fifth century.
- 14.54** (76.938) Fig. 116
Isthmus TR1 tr2 (3).
Rim fr. Form 1A or B.
P.H. 0.034; D. 0.260.
Clay close to light red 2.5YR 6/6; slip red 2.5YR 5/6.
Rim similar to Form 1A but more upright; body not carinated.
Cf. 14.51.
Early to third quarter fifth century.
- 14.55** (76.937) Fig. 116
Isthmus TR1 tr2 (3).
Rim fr. Form 1B.
P.H. 0.035; D. 0.300.
Clay and slip close to light red 2.5YR 6/8. Slight discolouration (darker red) on exterior of rim.
- Exterior poorly finished, with prominent tool marks visible.
Shallow curving floor; short upright rim. Thin groove at junction of rim and floor on interior.
Early to third quarter fifth century.
- 14.56** (78.3033) Fig. 116
Isthmus TR1 tr2 (4).
Rim fr. Form 1B.
P.H. 0.033; D. (est.) 0.250.
Clay light red 2.5YR 6/6; slip not preserved.
Exterior poorly finished.
Shape as **14.55** but without the groove on interior. Vessel very shallow.
Early to third quarter fifth century.
- 14.57** (76.2071) Fig. 116
Isthmus TR1 tr1 (2).
Rim fr. Form 1B.
P.H. 0.039; D. 0.290.
Clay light red 2.5YR 6/8; slip red 2.5YR 5/8.
Rim shorter and thicker.
Cf. Antioch IV, 1, pl. XI no. 967; *Tocra II*, 109-110, fig. 48 no. 2461.
Early to third quarter fifth century.
- 14.58** (78.3130) Not illustrated
Lower City TR1 (2).
Rim fr. Form 1B.
P.H. 0.036; D. (est.) 0.205.
Clay and slip as **14.57**.
Shape as **14.57** but smaller.
Early to third quarter fifth century.
- 14.59** (78.1853) Fig. 116
Lower City TR1 S (3).
Rim fr. Form 1D.
P.H. 0.026; D. 0.190.
Clay and slip close to red 2.5YR 5/8.
Very slight discolouration on exterior of rim.
Cf. LRP, 326 and fig. 65 no. 7 (=Thessalonike 441).
Early to third quarter fifth century.
- 14.60** (76.308 and 76.877) Fig. 116
Isthmus TR1 tr1 (2).
Rim fr. (3 joining and one non-joining). Form 1D.

P.H. 0.023; D. 0.155.
Clay red 2.5YR 5/6, hard-fired; slip red 10R 4/6.
Rim fired black on exterior.
For shape *cf.* **14.59**.
Early to third quarter fifth century.

14.61 (78.3012) Fig. 116

Lower City TR1 NW ext.
Rim fr. (2). Form 1D.
P.H. 0.033; D. 0.180.
Clay and slip close to red 2.5YR 5/8.
Cf. **14.59**. The fragment is perhaps from the same vessel.
Early to third quarter fifth century.

14.62 (78.3357) Fig. 116

Isthmus TR1 tr2 (5).
Rim fr. Form 1D.
P.H. 0.028; D. 0.190.
Clay red 2.5YR 5/6; slip close to red 2.5YR 4/8.
Shape as **14.59-14.61** but with rim thickened slightly on exterior.
Early to third quarter fifth century.

14.63 (78.3852) Fig. 116

Isthmus TR2 tr2 (1).
Rim fr. Form 1D (?).
P.H. 0.029; D. (est.) 0.180.
Clay abnormally light in colour, close to light reddish brown 5YR 6/4, with some mica (compare the fabric of Asia Minor 'Light-Coloured Ware'); slip not preserved.
Shape as **14.59-14.61**.
Early to third quarter fifth century (?).

14.64 (78.3035) Fig. 117

Isthmus TR1 tr2 (4).
Rim fr. Form 1, variant.
P.H. 0.029; D. 0.180.
Clay close to red 2.5YR 5/8; slip very worn.
Body slightly carinated; vertical rim. Prominent tool marks on exterior.
Cf. *Antioch* IV, 1, pl. XI no. 965, which is close in shape.
Fifth century (?)

Rim fr. *Form 1* (all types) entered in the inventory:

76.988	78.2145	78.3094
76.1013	78.2190	78.3111
76.1014	78.2191	78.3148
76.1041	78.2199	78.3150
76.2072	78.2259	78.3177
78.1811	78.2261	78.3179
78.1849	78.2264	78.3219
78.1866	78.2544	78.3233
78.1878	78.2830	78.3235
78.1884	78.2831	78.3381
78.1890	78.2832	78.3382
78.1901	78.2971	78.3396
78.1923	78.2972	78.3422
78.1928	78.2973	78.3424
78.1969	78.2984	78.3490
78.1972	78.3017	78.3492
78.1973	78.3034	78.3535
78.1987	78.3068	78.3565
78.1988	78.3092	78.3607
78.2143	78.3093	

Form 2

14.65 (78.2068) Fig. 117

Isthmus TR2 tr2 (2).
Rim and body fr. Form 2A.
P.H. 0.037; D. 0.260.
Clay light red 2.5YR 6/8, rather underfired; slip red 2.5YR 5/8.
Shallow curved body; broad flaring rim, flat on top.
Cf. *LRP*, 327 and fig. 66 no. 1 (=Agora P 27046); *Antioch* IV, 1, pl. X no. 910.
Late fourth to early fifth century.

14.66 (78.1939) Fig. 117

Lower City TR1 N (3).
Rim and body fr. Form 2A.
P.H. 0.035; D. 0.300.
Clay and slip red 2.5YR 5/6.
Shape as **14.65**; *cf.* *LRP*, 327 and fig. 66 no. 2 (=Agora P 27057).
Late fourth to early fifth century.

14.67 (78.2962) Fig. 117

Lower City TR1 (2).
Rim and body fr. Form 2A.

P.H. 0.046; D. 0.300.

Clay between light red 2.5YR 6/6 and red 2.5YR 5/6; slip: slightly darker. Exterior edge of rim slightly discoloured.

Shape as **14.66**, but with shallow groove on top of rim near lip.

Late fourth to early fifth century.

14.68 (78.2649)

Fig. 117

Lower City TR1 (2).

Rim and body fr. Form 2A.

P.H. 0.032; D. 0.300.

Clay close to light red 2.5YR 6/6; slip not preserved. Exterior poorly finished with prominent tool marks.

Shape as **14.66**.

Late fourth to early fifth century.

14.69 (78.2358)

Fig. 117

Isthmus TR1 tr3 (3).

Rim fr. Form 2A (?).

P.H. 0.031; D. 0.320.

Clay and slip as **14.65**.

Shallow curved body; broad rim tending to continue the line of the wall on exterior. Shallow groove on top of rim near inside edge.

Rim tending to Form 2C, *cf.* *LRP*, 328 no. 7 (=Agora P 11341), and **14.82-14.84** (below).

Late fourth to early fifth century.

Other rim fr. *Form 2A* entered in the inventory:

76.1043

78.1790

78.2974

78.3006

78.3216 + 78.3220

14.70 (78.2300)

Fig. 117

Lekythos TR1 (1).

Rim fr. (2). Form 2B (medium sized).

P.H. 0.031; D. 0.200.

Clay and slip fired reddish grey. Exterior poorly finished (*cf.* **14.68**).

Rim narrower than type A; thin groove on top of rim near lip. Groove below junction of rim and wall on exterior.

Cf. *LRP*, 327 and fig. 66 no. 4.

Late fourth to early fifth century.

14.71 (78.3606)

Fig. 117

Lower City TR2 (1).

Rim fr. Form 2B (medium sized).

P.H. 0.033; D (est.) 0.220.

Clay close to red 10R 5/8, hard-fired; slip close to red 10R 5/6, with slight metallic sheen at rim.

Rim edge fired black.

Rim as **14.70** but shorter.

Late fourth to early fifth century.

14.72 (78.3065)

Fig. 118

Lower City TR2 (1).

Rim fr. Form 2B (medium sized).

P.H. 0.027; D. 0.250.

Clay between light red 2.5YR 6/8 and red 2.5YR 5/8; slip worn.

Rim more horizontal than **14.70** and **14.71**; groove below rim at junction with wall.

Late fourth to early fifth century.

14.73 (76.601)

Fig. 118

Isthmus TR1 tr2 (3).

Rim fr. Form 2B (medium sized).

P.H. 0.020; D. (est.) 0.170.

Clay and slip close to light red 2.5YR 6/8, rather underfired.

Horizontal rim, *cf.* **14.72**.

Late fourth to early fifth century.

14.74 (78.1966)

Fig. 118

Isthmus TR1 tr3 (1).

Rim fr. Form 2B (medium sized to small).

P.H. 0.023; D. 0.160.

Clay and slip between red 10R 4/6 and red 2.5YR 5/6. Slight discolouration on exterior of rim.

Two thin grooves on underside of rim.

Late fourth to early fifth century.

14.75 (78.2470)

Fig. 118

Isthmus TR2 tr2 (1).

Rim fr. Form 2B (small).

P.H. 0.035; D. 0.130.

Clay and slip between light red 2.5YR 6/8 and red 2.5YR 5/8. Exterior poorly finished.

Small bowl with shallow curved body; flaring rim, slightly convex on top.

Many similar fr. in Thessalonike Museum.
Late fourth to early fifth century.

14.76 (78.2054) Fig. 118
Lower City TR1 (2).
Rim fr. Form 2B (small).
P.H. 0.023; D. 0.120.
Clay close to light red 2.5YR 6/8, underfired; slip not preserved.
Shape as **14.75**.
Late fourth to early fifth century.

14.77 (78.3146) Fig. 118
Isthmus TR3 tr2 (3) B14.
Rim fr. Form 2B (small).
P.H. 0.025; D. 0.110.
Clay and slip between light red 2.5YR 6/8 and red 2.5YR 5/8, rather underfired.
Shape as **14.75**.
Late fourth to early fifth century.

14.78 (78.3007) Not illustrated
Lower City TR1 NW ext.
Rim fr. Form 2B (small).
P.H. 0.032; D. 0.104.
Clay and slip close to red 2.5YR 4/8. Rim edge slightly discoloured (white).
Shape as **14.75**.
Late fourth to early fifth century.

14.79 (78.2970) Fig. 118
Lower City TR1 (2).
Rim fr. Form 2B (small).
P.H. 0.026; D. 0.102.
Clay and slip close to light red 2.5YR 6/8. Top of rim slightly discoloured (white).
Shape as **14.75**.
Late fourth to early fifth century.

14.80 (78.2889) Fig. 118
Lower City TR1 S (3).
Rim fr. Form 2B (small).
P.H. 0.025; D. 0.150.
Clay light red 10R 6/6; slip close to red 10R 5/8.
Shape as **14.75**, but with slightly deeper bowl; thin-walled.
Late fourth to early fifth century.

14.81 (78.3468) Fig. 118
Isthmus TR1 tr3 (2).
Bowl fr. (preserving complete profile). Form 2B (small).
P.H. 0.025; D. 0.120; D. (base) 0.068.
Clay and slip close to red 2.5YR 5/6.
False ring foot; shallow curved body. Heavy rim tending to be knobbed rather than flaring; slight offset marking rim from floor on interior.
Cf. **14.75-14/80**; also *LRP*, 341 and fig. 70 no. 2 (Form 6).
Late fourth to early fifth century or later.

Other rim fr. *Form 2B* (medium-sized and small) entered in the inventory:

76.1011	78.3191
78.1902	78.3401
78.1929	78.3563
78.2256	78.3568
78.2466	78.3598
78.3005	78.3688

14.82 (78.1967) Fig. 118
Isthmus TR1 tr3 (1).
Rim fr. Form 2C.
P.H. 0.035; D. 0.280.
Clay and slip between light red 2.5YR 6/8 and red 2.5YR 5/8, slightly darker at rim.
Shallow curved body; broad flaring rim, but with the distinction between rim and body not as pronounced on exterior as Form 2 types A and B.
Rim stepped on top to form two flat bands.
Cf. *LRP*, 328 no. 7; *Tocra* II, 110 and fig. 49 no. 2483; *cf.* also **14.69**.
Mid to late fourth century.

14.83 (76.1032) Fig. 118
Isthmus TR2 tr1 (1).
Rim fr. Form 2C.
P.H. 0.031; D. 0.290.
Clay close to light red 2.5YR 6/6-6/8, underfired; slip not preserved.
Fr. very worn.
Shape as **14.82**.
Mid to late fourth century.

14.84 (76.2170) Fig. 118

Isthmus TR1 tr2 (1).
 Rim fr. Form 2C.
 P.H. 0.027; D. 0.270.
 Clay light red 2.5YR 6/8; slip red 2.5YR 6/8.
 Shape as **14.82** but with rim tending to continue the line of the wall on exterior.
Cf. **14.69**.
 Mid to late fourth century.

Form 3

14.85 (78.3010) Fig. 119
 Lower City TR1 NW ext.
 Rim fr. (2). Form 3A.
 P.H. 0.041; D. 0.300.
 Clay light red 2.5YR 6/6-6/8; slip between light red 2.5YR 6/8 and red 2.5YR 5/8. Traces of secondary burning. Exterior poorly finished.
 Curved body which is comparatively deeper than other types of Form 3; vertical to incurved rim tapering towards lip, with concave outer face. Angle formed at junction of rim and wall on exterior.
 For this rather rare type see *LRP*, 329 and 337 (but with no published examples). Compare Form 1C, *LRP*, 326 and 337 (but with no complete published examples). Compare especially Form 1C, *LRP*, 326 and fig. 65 no. 6 (believed to be its predecessor); also Form 4, *LRP*, 338 and fig. 69 no. 1. Compare profile with African R.S. Ware Form 61 (*cf.* **14.231-14.236** below).
 First half fifth century.

14.86 (78.2462) Fig. 118
 Isthmus TR2 tr2 (1).
 Rim fr. Form 3A.
 P.H. 0.027; D. 0.284.
 Clay light red 2.5YR 6/6; slip red 2.5YR 5/6.
 Rim fired black on exterior.
 Shape as **14.85**.
 First half fifth century.

Other rim fr. *Form 3A* entered in the inventory:
 76.917
 76.2042

14.87 (78.1802) Fig. 119
 Isthmus TR1 tr3 (1).

Rim fr. (2). Form 3B.
 P.H. 0.054; D. 0.340.
 Clay close to light red 2.5YR 6/6; slip red 2.5YR 5/6-4/8. Slight discolouration on exterior of rim.
 Band of fine rouletting on exterior of rim.
 For shape *cf.* *LRP*, 331 and fig. 67 no. 1 (which is close to type A); *Labraunda* II, 1, 74 and pl. 37 no. 332 (= *LRP*, 331 no. 3); *Demetrius* IV, ii, pl. 3 no. II.22.
Ca. mid fifth century.

14.88 (76.561) Fig. 119
 Isthmus TR2 tr1 (2).
 Rim fr. Form 3B.
 P.H. 0.034; D. (est.) 0.320.
 Clay light red 2.5YR 6/6; slip red 2.5YR 5/8.
 Rim fired black on exterior.
 Triple row of fine rouletting on exterior of rim.
 Shape as **14.87** but with top of rim concave (not rounded).
Cf. *LRP*, 331 and fig. 67 no. 2; *Samaria-Sebaste* III, 359 fig. 84 no. 12.
 Second half fifth century.

14.89 (78.2198) Fig. 119
 Isthmus TR1 tr2 (4).
 Rim fr. Form 3B.
 P.H. 0.030; D. (est.) 0.230.
 Clay light red 2.5YR 6/8; slip red 2.5YR 5/8.
 Triple row of fine rouletting on exterior of rim.
 Shape as **14.88** but smaller.
 Second half fifth century.

14.90 (78.2142) Fig. 119
 Isthmus TR1 tr2 (5).
 Rim fr. Form 3B.
 P.H. 0.030; D. 0.280.
 Clay red 2.5YR 5/8; slip: close to red 2.5YR 4/8.
 Slight discolouration on exterior of rim.
 Triple row of rouletting on exterior of rim.
 Top of rim concave as **14.88**; flange at bottom less pronounced.
Cf. *LRP*, 331 and fig. 67 no. 4.
 Second half fifth century.

14.91 (78.3109) Not illustrated
 Lower City TR1 (2).

Rim fr. Form 3B.

P.H. 0.029; D. (est.) 0.270.

Clay between light red 2.5YR 6/6 and red 2.5YR 5/6; slip red 2.5YR 5/8. Rim fired black on exterior.

Double row of rouletting on exterior of rim.

Shape as **14.90**.

Second half fifth century.

14.92 (78.2100)

Fig. 119

Isthmus TR1 tr2 (4).

Rim fr. Form 3B.

P.H. 0.017; D. 0.300.

Clay and slip close to red 2.5YR 5/8. Rim fired black on exterior.

Single row of faintly impressed rouletting on exterior of rim.

Shape as **14.88** and **14.89** but with top of rim flat, approaching types C and E.

Cf. Antioch IV, 1, pl. XI no. 941 f.

Second half fifth century.

14.93 (78.1950)

Fig. 119

Lower City TR1 (1).

Rim fr. Form 3B.

P.H. 0.036; D. 0.240.

Clay red 2.5YR 5/8; slip close to red 2.5YR 4/8.

Double row of rouletting on exterior of rim; triple preserved row of rouletting around centre of floor on interior.

Shape as **14.90** but with top of rim sloping inwards.

Cf. Antioch IV, 1, pl. XI no. 940.

Second half fifth century.

14.94 (78.3427)

Fig. 119

Isthmus TR2 tr1 (3A).

Rim fr. Form 3B.

P.H. 0.025; D. (est.) 0.330.

Clay and slip light red 2.5YR 6/8, rather under-fired.

Triple row of rouletting on exterior of rim.

Top of rim concave with highest point at outer edge; tending to type C.

Cf. LRP, 331 and fig. 67 no. 5 (=Agora P 3079).

Close in shape to *Samaria-Sebaste III*, 359 fig. 84 no. 14.

Second half fifth century.

14.95 (78.2687A)

Fig. 120

Isthmus TR2 tr2 (1).

Rim fr. Form 3B/C.

P.H. 0.029; D. 0.300.

Clay close to red 2.5YR 5/6; slip red 2.5YR 4/8.

Rim fired black on exterior.

Single row of faintly impressed rouletting on exterior of rim.

Shape similar to **14.92**, *cf. Antioch IV, 1, pl. XI no. 941 f (type B) and no. 941 k (type C).*

Second half fifth century.

14.96 (78.2027)

Fig. 120

Lower City TR1 (2).

Fr. preserving portion of rim and body. Related to Form 3B (?).

P.H. 0.050; D. 0.340.

Clay light red 2.5YR 6/8; slip red 2.5YR 5/6-4/8. Band of deeply impressed "notch" rouletting on exterior of rim.

Thick-walled, comparatively deep vessel; rim tapering towards lip (which is not preserved), with slight overhang below. Thin grooves at junction of rim and wall on exterior.

Not unlike *LRP*, 331 and fig. 67 no. 1 which is type B close to type A; *cf. 14.87*.

Second half fifth century (?).

Rim fr. *Form 3B* and related entered in the inventory:

76.973	78.3112
78.2886	78.3249
78.3053	78.3513
78.3066	78.3575

14.97 (78.2953)

Fig. 120

Isthmus TR4 tr1 (2).

Rim fr. Form 3C.

P.H. 0.038; D. (est.) 0.160.

Clay close to light red 2.5YR 6/6; slip close to red 2.5YR 5/6.

Top of rim rounded.

Cf. LRP, 333 and fig. 67 no. 7 (=Agora P 8650); Tocræ II, 110 and fig. 48 no. 2431; Waagé, Hes-

peria 2 (1933) pl. IX no. 203; Frend and Johnston, *BSA* 57 (1962) 221, fig. 14 no. 22.
Second half fifth century.

14.98 (78.3087) Fig. 120
Lower City TR1 Baulk (3).
Rim fr. Form 3C.
P.H. 0.041; D. (est.) 0.190.
Clay and slip between light red 2.5YR 6/8 and red 2.5YR 5/8. Slight discolouration on exterior of rim; traces of secondary burning on interior and exterior.
Cf. **14.97**.
Second half fifth century.

14.99 (78.2033) Fig. 120
Lower City TR1 (2).
Rim fr. Form 3C.
P.H. 0.029; D. 0.160.
Clay light red 2.5YR 6/6-6/8; slip red 2.5YR 5/8.
Cf. **14.97**.
Second half fifth century.

14.100 (78.2327 + 78.3493) Fig. 120
Lower City TR1 S (3).
Rim fr. (2). Form 3C.
P.H. 0.036; D. 0.165.
Clay and slip close to red 2.5YR 5/6-4/8 and red 10R 5/6, hard fired. Rim fired black on exterior. Pronounced wheel-marks on interior.
Cf. **14.97**.
Second half fifth century.

14.101 (78.2325) Fig. 120
Lower City TR1 S (3).
Rim fr. (3). Form 3C.
P.H. 0.034; D. 0.146.
Clay and slip red 2.5YR 5/6-5/8.
Shape as **14.97** but with projection at bottom of rim bevelled.
Second half fifth century.

14.102 (78.1879) Fig. 120
Lower City TR1 S (3).
Rim fr. Form 3C.
P.H. 0.037; D. 0.190.
Clay close to light red 2.5YR 6/8; slip red 2.5YR

5/8. Slight discolouration on exterior of rim. Exterior poorly finished.
For shape *cf.* Frend and Johnston, *BSA* 57 (1962) 221, fig. 14 no. 18.
Second half fifth century.

14.103 (78.3009) Fig. 120
Lower City TR1 NW ext.
Rim fr. Form 3C.
P.H. 0.031; D. (est.) 0.180.
Clay and slip between light red 10R 6/8 and light red 2.5YR 6/8.
Shape as **14.97** but with slightly taller rim and thinner walled.
Cf. Waagé, *Hesperia* 2 (1933) pl. IX no. 203.
Second half fifth century.

14.104 (76.927) Fig. 121
Isthmus TR1 tr2 (3).
Rim fr. Form 3C.
P.H. 0.037; D. 0.170.
Clay and slip close to red 2.5YR 5/6; partially blackened due to burning.
Shape as **14.103**.
Second half fifth century.

14.105 (78.3365) Fig. 121
Lower City TR3 (1) N.
Rim fr. Form 3C.
P.H. 0.038; D. 0.260.
Clay light red 2.5YR 6/6-6/8; slip red 2.5YR 5/8. Slight discolouration (brown) on rim exterior. Rim top flattened, with highest point at outside edge. Projection below more pronounced.
Cf. *LRP*, 333 nos. 9 and 10 (=Agora P 2499 and P 27027); *Antioch* IV, 1, pl. XI no. 941 k; *Tocra* II, 110 and fig. 48 no. 2438; Frend and Johnston, *BSA* 57 (1962) 221, fig. 14 no. 21.
Second half fifth century.

14.106 (78.3429) Not illustrated
Lower City TR3 (3) N upper.
Rim fr. Form 3C.
P.H. 0.034; D. (est.) 0.260.
Clay and slip close to red 2.5YR 5/6. Slight discolouration on exterior of rim.

Rim as **14.105**, cf. especially *LRP*, 333 and fig. 67 no. 9.

Second half fifth century.

14.107 (78.939) Fig. 121

Isthmus TR1 tr2 (3).

Rim fr. Form 3C.

P.H. 0.030; D. 0.300.

Clay light red 2.5YR 6/6-6/8, underfired; slip red 2.5YR 5/8, worn.

Rim as **14.105** but slightly larger.

Second half fifth century.

14.108 (78.3419) Fig. 121

Lower City TR2 (1).

Rim fr. Form 3C.

P.H. 0.026; D. 0.260.

Clay light reddish brown 2.5YR 6/4, rather underfired and soft textured; slip close to red 2.5YR 5/6. Slight discolouration on exterior of rim.

Single row of rouletting on exterior of rim.

For shape cf. *LRP*, 333 and fig. 68 no. 10; for rouletting *LRP*, 333 and fig. 67 no. 9.

Second half fifth century.

14.109 (78.1842) Fig. 121

Isthmus TR4 tr2 (3) B7.

Rim fr. Form 3C.

P.H. 0.027; D. 0.160.

Clay close to light red 2.5YR 6/6-6/8; slip not preserved.

Shape as **14.100-14.101** but with groove at junction of rim and floor on interior; shallow groove below rim on exterior.

Second half fifth century.

14.110 (76.259) Fig. 121

Isthmus TR1 tr1 (2).

Rim fr. Form 3C or E.

P.H. 0.032; D. 0.280.

Clay and slip red 2.5YR 5/6, hard-fired, with some golden mica.

Top of rim rounded; overhang below more pronounced; approaching type E.

Cf. *Tarsus* I, fig. 208 p.

Second half fifth century or slightly later.

14.111 (78.1791) Fig. 121

Isthmus TR1 tr3 (1).

Rim fr. Form 3C or F.

P.H. 0.063; D. 0.150.

Clay between light red 10R 6/8 and light red 2.5YR 6/8; slip red 2.5YR 5/8.

Rim as **14.100** (cf. **14.97**) but with small offset below rim; approaching type F.

Cf. *Tarsus* I, fig. 208 r.

Early sixth century (?).

Rim fr. Form 3C entered in the inventory:

76.1031

78.1813 78.3064

78.1839A 78.3217

78.1839B 78.3293

78.1956 78.3375

78.2178 78.3466

78.2835 78.3689

14.112 (76.258) Fig. 121

Isthmus TR1 tr1 (2).

Rim fr. Form 3D.

P.H. 0.026; D. (est.) 0.200.

Clay and slip light red 2.5YR 6/8. Slight discolouration on exterior of rim.

Triple row of deeply impressed rouletting on exterior of rim.

Cf. *LRP*, 333 and fig. 68 no. 13 (=Agora P 27055), but smaller and without the offset below rim; also *Demetrias* IV, ii, pl. 4 nos. II.24-26.

Late fifth century.

14.113 (78.3213) Fig. 121

Lower City TR1 (2).

Rim fr. Form 3D.

P.H. 0.022; D. 0.325.

Clay red 2.5YR 5/6; slip close to red 2.5YR 5/8.

Triple row of deeply impressed rouletting on exterior of rim.

Cf. **14.112** but larger, closer to Agora P 27055.

Late fifth century.

14.114 (76.180) Fig. 122

Isthmus TR2 tr1 (1).

Rim fr. Form 3D.

P.H. 0.026; D. 0.290.

Clay reddish yellow 5YR 6/6, underfired; slip light red 2.5YR 6/8.

Shape and rouletting as **14.113**.

Late fifth century.

14.115 (78.436)

Fig. 122

Isthmus TR1 tr2 (4).

Rim fr. Form 3D or E.

P.H. 0.031; D. (est.) 0.300.

Clay reddish brown 5YR 5/4, hard-fired; slip red 2.5YR 5/6. Rim fired black on exterior.

Triple row of deeply impressed rouletting on exterior of rim, as **14.112-14.114**. Small offset below rim. Shape closer to type E.

Late fifth to early sixth century.

14.116 (78.1992 + 78.3469)

Fig. 122

Isthmus TR1 tr3 (1) + (2).

Rim fr. (2). Form 3D or E.

P.H. 0.028; D. 0.250.

Clay and slip close to reddish brown 5YR 5/4-4/4. Slight discolouration on exterior of rim.

Rouletting as **14.115**. Small offset below rim.

Cf. **14.115**.

Late fifth to early sixth century.

14.117 (78.3327)

Fig. 122

Lower City TR3 (2) N.

Rim fr. Form 3E (*cf.* Type C).

P.H. 0.033; D. 0.290.

Clay light red 2.5YR 6/6; slip red 2.5YR 5/6.

Cf. *LRP*, 333 and fig. 68 no. 15 (=Corinth C-34-309/2452), approaching type C; *cf.* *Antioch* IV, 1, pl. XXI no. 941 k (type C) and no. 943 (type E).

Late fifth century.

14.118 (78.3456)

Fig. 122

Lower City TR3 (1) N.

Rim fr. Form 3E (*cf.* Type C).

P.H. 0.032; D. 0.250.

Clay and slip between red 10R 5/6 and red 2.5YR 5/6. Slight discolouration on exterior of rim.

Rim as **14.117**, slightly more vertical; top of rim flat.

Late fifth century.

14.119 (78.3428)

Fig. 122

Lower City TR3 (3) N upper.

Rim fr. (3). Form 3E.

P.H. 0.053; D. 0.350.

Clay: close to light reddish brown 2.5YR 5/6; slip red 2.5YR 5/6.

Shape as *LRP*, 333 and fig. 68 no. 14 (from Delos) but without rouletting. Small offset below rim; two grooves on body on exterior.

Cf. *Antioch* IV, 1, pl. XI no. 943.

Late fifth to early sixth century.

14.120 (78.693)

Fig. 122

Lower City TR1 (1).

Rim fr. Form 3E.

P.H. 0.040; D. 0.320.

Clay and slip between reddish brown 2.5YR 5/4 and red 2.5YR 5/6, hard fired. Rim fired black on exterior.

Small offset below rim.

Cf. **14.119**.

Late fifth to early sixth century.

14.121 (78.2252)

Fig. 122

Isthmus TR1 tr3 (1).

Rim fr. Form 3E.

P.H. 0.029; D. 0.280.

Clay light red 2.5YR 6/8, underfired; slip very worn.

Small offset below rim.

Cf. **14.119** and **14.120**.

Late fifth to early sixth century.

14.122 (78.2029)

Not illustrated

Lower City TR1 (2).

Rim fr. Form 3E.

P.H. 0.033; D. 0.325.

Clay close to red 10R 5/6; slip slightly darker. Slight discolouration on exterior of rim.

Small offset below rim.

Cf. **14.119**.

Late fifth to early sixth century.

14.123 (78.2099)

Fig. 123

Isthmus TR1 tr2 (4).

Rim fr. Form 3E.

P.H. 0.032; D. 0.260.

Clay and slip close to light red 2.5YR 6/6. Slight discolouration on exterior of rim.

Small offset below rim; cf. **14.119** but with top of rim concave. Shape closer to *LRP*, 333 and fig. 68 no. 16 (=Agora P 25032).

Late fifth to early sixth century.

14.124 (78.1823)

Fig. 123

Lower City TR3 (3) N upper.

Rim fr. Form 3E.

P.H. 0.023; D. (est.) 0.300.

Clay light red 2.5YR 6/8, underfired; slip not preserved.

Single row of rouletting on exterior of rim. Small offset below rim.

Late fifth to early sixth century.

Other rim fr. *Form 3E* entered in the inventory:

76.2045 78.3531

76.2077 78.3534

78.3113 78.3558

78.3192

14.125 (76.1037)

Fig. 123

Isthmus TR1 tr2 (2).

Rim fr. Form 3F.

P.H. 0.023; D. (est.) 0.360.

Clay light red 2.5YR 6/8, underfired; slip worn, close to red 2.5YR 5/8.

Rim close to type E. Small offset below rim.

Cf. *LRP*, 335 and fig. 69 nos. 19 and 25 (=Agora P 19629 and P 26088); *Agora V*, 116 and pls. 33, 36 and 71, M350; *Khirbat al-Karak*, pl. 52 nos. 18-20; *Labraunda II*, 1, 74 and pl. 37 no. 334.

Sixth century.

14.126 (76.2095)

Fig. 123

Isthmus TR1 tr2 (2).

Rim fr. Form 3F.

P.H. 0.041; D. (est.) 0.280.

Clay and slip close to light red 2.5YR 6/6-6/8, underfired.

Small offset below rim.

Cf. **14.125** and especially *LRP*, 335 and fig. 69 no. 25; *Tocra II*, 110 and fig. 49 no. 2484.

Sixth century.

14.127 (78.3275)

Not illustrated

Lower City TR2 (1).

Rim fr. Form 3F.

P.H. 0.034; D. (est.) 0.250.

Clay and slip close to red 10R 5/6, hard fired.

Rim fired black on exterior.

Double row of rouletting on exterior of rim.

Small offset below rim.

Sixth century.

14.128 (78.2195)

Fig. 123

Isthmus TR1 tr2 (4).

Rim fr. Form 3F.

P.H. 0.021; D. (est.) 0.220.

Clay close to light red 2.5YR 6/8, underfired; slip worn, slightly darker.

Small offset below rim.

Cf. **14.125** and **14.126**, and *Samaria-Sebaste III*, 359-360, no. 16.

Sixth century.

14.129 (76.2169)

Fig. 123

Isthmus TR1 tr1 (2).

Rim fr. Form 3F.

P.H. 0.028; D. 0.250.

Clay and slip close to red 10R 5/6. Rim fired black on exterior.

Pronounced offset below rim; groove at junction of rim and floor on interior.

Cf. *LRP*, 335 and fig. 69 no. 24 (=Corinth C-34-2070).

Sixth century.

14.130 (76.932)

Fig. 123

Isthmus TR1 tr2 (3).

Rim fr. Form 3F.

P.H. 0.028; D. 0.300.

Clay and slip close to light red 2.5YR 6/8, underfired. Slight discolouration (white) on exterior of rim.

Projection of rim more pronounced; small offset below rim.

Cf. *Khirbat al-Karak*, pl. 54 no. 9; not unlike *Kythera*, 170 and fig. 51 no. 20 and *Samaria-Sebaste III*, 359-360 no. 15.

Sixth century.

14.131 (78.46)

Fig. 123

Isthmus TR1 tr2 (4).

Rim fr. Form 3F.

P.H. 0.026; D. 0.215.

Clay and slip close to red 2.5YR 5/6. Slight discolouration on exterior of rim.

Double row of rouletting on exterior of rim.

Small offset below rim.

Cf. Waagé, *Hesperia* 2 (1933) pl. IX no. 204.

Sixth century.

14.132 (78.3532)

Fig. 123

Lower City TR3 (1) N.

Rim fr. Form 3F.

P.H. 0.029; D. (est.) 0.320.

Clay red 2.5YR 5/6, with some mica (cf. the fabric of Form 3H); slip red 2.5YR 5/8. Slight discolouration (white) on exterior of rim.

Double row of deeply impressed rouletting on exterior of rim. Small offset below rim.

Cf. *Tocra* II, 110 and fig. 48 nos. 2432 and 2433; *Demetrias* IV, ii, pl. 6 no. II.69.

Sixth century.

14.133 (78.1365)

Fig. 124

Isthmus TR3 tr2 (3) B14.

Rim fr. Form 3F.

P.H. 0.026; D. (est.) 0.290.

Clay light red 2.5YR 6/6; slip red 2.5YR 5/8.

Triple row of deeply impressed rouletting on exterior of rim. Small offset below rim.

Cf. *LRP*, 335 and fig. 69 no. 23 (=Agora P 3590); *Antioch* IV, 1, pl. XI no. 944 f.

Sixth century.

14.134 (78.3195)

Fig. 124

Lower City TR1 (1).

Rim fr. Form 3F.

P.H. 0.019; D. N/R.

Clay light red 2.5YR 6/8; slip red 2.5YR 5/8, worn.

Triple row of deeply impressed rouletting on exterior of rim. Small offset below rim.

Cf. **14.133**, also Hood, *BSA* 62 (1967) 54-55, fig. 5 no. 39; *Demetrias* IV, ii, pl. 4 nos. II.27 and II.29.

Sixth century.

14.135 (78.1846)

Fig. 124

Isthmus TR4 tr2 (1).

Rim fr. (2). Form 3F.

P.H. 0.025; D. 0.280.

Clay light red 2.5YR 6/8, underfired; slip very worn.

Small offset below rim.

Cf. **14.133** but without the rouletting; cf. *Tocra* II, 110 and fig. 48 no. 2453.

Sixth century.

14.136 (78.1843)

Fig. 124

Isthmus TR1 tr3 (1).

Rim fr. Form 3F.

P.H. 0.027; D. (est.) 0.280.

Clay between reddish yellow 5YR 6/6 -7/6 and light red 2.5YR 6/6; slip very worn.

Triple row of deeply impressed rouletting on exterior of rim. Small offset below rim.

Cf. **14.134**; *Resafa* I, pl. 27 no. 3 (= Qseir es-Seile no. 3).

Sixth century.

14.137 (78.2461)

Fig. 124

Isthmus TR2 tr2 (1).

Rim fr. Form 3F.

P.H. 0.030; D. 0.300.

Clay and slip close to red 2.5YR 5/8.

Pronounced offset below rim.

Similar to *Labraunda* II, 1, 74 and pl. 37 no. 335.

Sixth century.

14.138 (76.279)

Fig. 125

Isthmus TR2 tr1 (2).

Rim fr. Form 3F.

P.H. 0.020; D. N/R.

Clay close to reddish brown 2.5YR 5/4; slip red 2.5YR 5/6. Rim fired black on exterior.

Double row of rouletting on exterior of rim. Small offset below rim.

Cf. *Antioch* IV, 1, pl. XI nos. 944 f, p and u; *Tocra* II, 110 and fig. 48 nos. 2432 and 2433; *Khirbat al-Karak*, pl. 52 no. 17.

Sixth century.

14.139 (76.154)

Fig. 125

Isthmus TR1 tr1 (1).

Rim fr. Form 3F.
 P.H. 0.018; D. (est.) 0.310.
 Clay and slip light red 2.5YR 6/6-6/8. Slight discolouration on exterior of rim.
 Deeply impressed "notch" rouletting on exterior of rim. Small offset below rim.
 For shape cf. **14.138**; *Resafa* I, pl. 25 no. 2 (= *Al-Qusair* p. 84 no. 2, labelled Form 3E).
 Sixth century.

14.140 (76.633) Fig. 125
 Isthmus TR1 tr1 (3).
 Rim fr. Form 3F.
 P.H. 0.016; D. N/R.
 Clay light red 2.5YR 6/6; slip red 2.5YR 5/8. Slight discolouration on exterior of rim.
 Shape and rouletting as **14.139**. Small offset below rim.
 Sixth century.

14.141 (78.2064) Fig. 124
 Isthmus TR2 tr2 (1).
 Rim fr. Form 3F.
 P.H. 0.035; D. 0.290.
 Clay abnormal, close to light reddish brown 5YR 6/4, hard fired; slip close to reddish brown 5YR 5/4, semi-lustrous on interior where smoothed.
 Rim fired black on exterior.
 Shallow groove along exterior of rim; small offset below rim.
 Cf. *Tocra* II, 110 and fig. 48 no. 2463, there classified as Form 3F/H.
 Sixth century.

Other rim fr. *Form 3F* entered in the inventory:

76.935	76.2074	78.2202
76.967	78.1900	78.2203
76.968	78.1932	78.2205
76.972	78.1946	78.2246
76.982	78.1971	78.2262
76.1034	78.1989	78.2460
76.1035	78.2105	78.2465
76.1038	78.2106	78.2467
76.1096	78.2194	78.2952
76.2026	78.2196	78.2954
76.2046	78.2197	78.2986

78.3210	78.3313	78.3458
78.3211	78.3343	78.3476
78.3273	78.3361	78.3511
78.3274	78.3455	78.3514
78.3288	78.3457	78.3585
78.3309		

14.142 (78.2458A) Fig. 124
 Isthmus TR2 tr2 (1).
 Rim fr. (5 joining and 1 non-joining). Form 3G (cf. Type F).
 P.H. 0.038; D. 0.300.
 Clay red 2.5YR 5/6, hard fired; slip close to red 2.5YR 5/8, well smoothed on interior. Rim fired black on exterior.
 Triple row deeply impressed rouletting on exterior of rim. Small offset below rim.
 Cf. *Tocra* II, 110 and fig. 48 no. 2453 (type F) and 2454 (type G); *Antioch* IV, 1, pl. XI nos. 947 a and u (type G).
 Sixth century.

14.143 (78.2070) Fig. 124
 Isthmus TR2 tr2 (2).
 Rim fr. Form 3G.
 P.H. 0.025; D. 0.300.
 Clay light red 2.5YR 6/6, rather underfired; slip red 2.5YR 5/6.
 Small offset below rim.
 Cf. *Antioch* IV, 1, pl. XI nos. 947 a and u and especially Schneider, *AM* 54 (1929) 127-128, fig. 19 no. 5 (which is of similar dimensions); Unterkircher, *AM* 98 (1983) 191, Abb. 6 no. 24, 4.
 Sixth century.

14.144 (78.2390) Fig. 124
 Lower City TR3 (1) N.
 Rim fr. Form 3G.
 P.H. 0.031; D. 0.300.
 Clay and slip as **14.143**. Slight discolouration on exterior of rim.
 Small offset below rim.
 Cf. **14.143**.
 Sixth century.

14.145 (76.2165) Fig. 125
 Isthmus TR1 tr1 (2).

Rim fr. Form 3G.

P.H. 0.027; D. 0.300.

Clay and slip as **14.143**.

Small offset below rim.

Cf. **14.143**; *Antioch* IV, 1, pl. XI nos. 947 a and u (type G) and *cf.* no. 949 a (Form 10A).

Sixth century.

14.146 (78.2295)

Fig. 125

Lekythos TR1 (1).

Rim fr. Form 3H.

P.H. 0.033; D. 0.320.

Clay reddish brown 2.5YR 5/4, with some golden mica; slip thick and slightly lustrous on interior where smoothed, between weak red 10R 5/4 and red 10R 5/6.

Very slight offset below rim.

Cf. *LRP*, 335 and fig. 68 nos. 28 and 29 (=Agora P 13084 and P 4166); *cf.* the fabric of late Çandarli Ware.

Sixth century.

14.147 (76.1010 + 78.2200)

Fig. 125

Isthmus TR1 tr2 (3) + (4).

Rim fr. (3). Form 3H.

P.H. 0.026; D. 0.300.

Clay and slip as **14.146**. Shape as **14.146** but without the offset below rim.

Sixth century.

14.148 (78.3212)

Fig. 125

Lower City TR1 (2).

Rim fr. Form 3H (?).

P.H. 0.029; D. 0.300.

Clay coarser than **14.146** and **14.147** with more mica, variegated in colour between reddish yellow 5YR 6/6 and grey; slip worn, but also variegated in colour (light red to light brown), semi-lustrous on interior where preserved.

Cf. *LRP*, 335 and fig. 68 no. 28; shape not unlike Form 4, *cf.* **14.163** (below).

Sixth century (?)

Other rim fr. *Form 3H* entered in the inventory:

78.2162

78.3184

78.3208

78.3351

Form 3 Small Varieties (all types)

14.149 (78.3533)

Fig. 125

Lower City TR3 (1) N.

Rim fr. Form 3 small variety, Type C.

P.H. 0.016; D. 0.124.

Clay light red 2.5YR 6/6-6/8, underfired; slip not preserved. Slight discolouration on exterior of rim.

Similar in shape to *LRP*, 335 and fig. 69 no. 31 (=Thessalonike 4998).

Second half fifth century.

14.150 (76.934)

Fig. 125

Isthmus TR1 tr2 (3).

Rim fr. Form 3 small variety, Type C.

P.H. 0.012; D. (est.) 0.140.

Clay and slip as **14.149**. Rim fired black on exterior.

Cf. **14.149**.

Second half fifth century.

14.151 (76.2076)

Fig. 125

Isthmus TR1 tr1 (2).

Rim fr. Form 3 small variety, Type C.

P.H. 0.019; D. 0.096.

Clay and slip as **14.149**.

Cf. **14.149**.

Second half fifth century.

14.152 (78.2545)

Fig. 125

Isthmus TR1 tr2 (4a).

Rim fr. Form 3 small variety, Type C.

P.H. 0.019; D. 0.160.

Clay light red 2.5YR 6/6; slip red 2.5YR 5/8, worn.

Cf. **14.149**.

Second half fifth century.

14.153 (76.294)

Fig. 126

Isthmus TR2 tr1 (1)

Rim fr. Form 3 small variety, related to Form 4.

P.H. 0.025; D. 0.130.

Clay red 2.5YR 5/8; slip worn, slightly darker. Slight discolouration on exterior of rim.

Cf. *LRP*, 335 and fig. 69 no. 32 (=Agora P 3082).

Fifth century.

14.154 (78.1974) Fig. 126
Isthmus TR1 tr3 (1).
Rim fr. Form 3 small variety, related to Form 4.
P.H. 0.027; D. 0.156.
Clay close to light red 2.5YR 6/8; slip worn, slightly darker.
Rim as **14.153**.
Fifth century.

14.155 (78.1914) Fig. 126
Isthmus TR1 tr2 (5).
Rim fr. Form 3 small variety, related to Form 4.
P.H. 0.026; D. 0.160.
Clay and slip close to light red 2.5YR 6/8. Slight discolouration (white) on exterior of rim.
Rim as **14.153** and **14.154** but slightly thicker.
Fifth century.

14.156 (76.980) Fig. 126
Isthmus TR1 tr1 (1).
Rim fr. Form 3 small variety, Type F.
P.H. 0.014; D. 0.160.
Clay and slip between light red 2.5YR 6/6 and red 2.5YR 5/6.
Small offset below rim.
Cf. LRP, 336 and fig. 69 no. 37 (=Agora P 4133) and no. 40 (=Tocra II, 110 and fig. 48 no. 2462).
Sixth century.

14.157 (76.981) Fig. 126
Isthmus TR1 tr1 (1).
Rim fr. Form 3 small variety, Type F.
P.H. 0.014; D. 0.160.
Clay and slip close to light red 2.5YR 6/6.
Small offset below rim.
Cf. 14.156.
Sixth century.

14.158 (76.1012 + 78.2204) Not illustrated
Isthmus TR1 tr2 (3) + (4).
Rim fr. (2). Form 3 small variety, Type F.
P.H. 0.021; D. (est.) 0.170.
Clay and slip between light red 2.5YR 6/6 and red 2.5YR 5/8.
Small offset below rim.
Sixth century.

14.159 (76.936) Fig. 126
Isthmus TR1 tr2 (3).
Rim fr. Form 3 small variety, Type F.
P.H. 0.015; D. 0.136.
Clay and slip close to red 2.5YR 5/8. Slight discolouration on exterior of rim.
Small offset below rim.
Sixth century.

14.160 (76.2096) Not illustrated
Isthmus TR1 tr2 (2).
Rim fr. Form 3 small variety, Type F.
P.H. 0.020; D. 0.162.
Clay and slip between light red 2.5YR 6/8 and red 2.5YR 5/8. Slight discolouration on exterior of rim.
Small offset below rim.
Sixth century.

14.161 (76.2017) Fig. 126
Isthmus TR2 tr1 (1).
Rim fr. Form 3 small variety, Type F.
P.H. 0.022; D. 0.140.
Clay close to light red 2.5YR 6/6; slip close to red 10R 5/6.
Small offset below rim.
Rim closer to *LRP*, 336 and fig. 69 no. 40.
Sixth century.

14.162 (78.2391) Fig. 126
Lower City TR3 (1) N.
Rim fr. Form 3 small variety, Type F.
P.H. 0.018; D. (est.) 0.120.
Clay and slip as **14.161**.
Small offset below rim.
Rim closer to *Antioch* IV, 1, pl. XI no. 944 u.
Sixth century.

Other rim fr. *Form 3* small varieties (all types) entered in the inventory:

76.930	76.1063	78.1812
76.931	76.1082	78.2975
76.933	76.1093	78.3054
76.974	76.2027	78.3517
76.1036	76.2075	78.3567

Form 4

14.163 (78.1938) Fig. 126

Lower City TR1 N (3).

Rim fr. Form 4.

P.H. 0.015; D. (est.) 0.340.

Clay close to light red 2.5YR 6/6; slip red 2.5YR 5/8. Slight discolouration on exterior of rim.

Wall thickening towards flaring rim, with outer face of rim concave, creating a small flange.

Cf. LRP, 338 and fig. 69 no. 1 (=Agora P 8648).

Rim form not unlike Form 3A, *cf.* **14.85** and **14.86**; *cf.* **14.153-14.155**.

First half fifth century (?)

Form 5

14.164 (76.2107+78.3267+78.3310) Fig. 127
Isthmus TR1 tr2 (2)+TR2 tr2 (3)+TR1 tr1 (4).

Rim fr. (4). Form 5 Type A or B.

Clay close to 2.5YR 6/8, soft textured; slip close to red 2.5YR 5/8, worn.

Shallow curved body; broad horizontal rim, slightly concave on top and underneath, thickening towards rounded edge; shallow groove along outer edge of rim.

Cf. LRP, 339 and fig. 70 no. 1 (type A = Agora P 8647) and no. 2 (type B = Agora P 4169). Also *Antioch* IV, 1, pl. X nos. 913; *Tocra* II, 113 and fig. 51 nos. 2527-2528; *Labraunda* II, 1, 74 and pl. 37 no. 336.

Late fifth to early sixth century.

14.165 (76.2120) Fig. 127
Isthmus surface.

Rim fr. (2). Form 5 Type A or B.

P.H. 0.023; D. 0.330.

Clay light red 2.5YR 6/6, soft textured; slip worn, slightly darker.

Shape as **14.164** but without the groove along outside edge.

Late fifth to early sixth century.

14.166 (78.3366) Fig. 127
Lower City TR3 (1) N.
Rim fr. Form 5, Type B.
P.H. 0.022; D. 0.300.
Clay and slip as **14.164**.
Rim as **14.164** but with outer edge chamfered.
Small offset below rim at junction with wall.

Cf. LRP, 339 and fig. 70 nos. 2 and 3; very close to *Antioch* IV, 1, pl. X no. 913 u.

First half of sixth century.

Form 6

14.167 (78.3030) Fig. 127
Isthmus TR1 tr2 (4).

Rim fr. Form 6.

P.H. 0.023; D. (est.) 0.260.

Clay light red 2.5YR 6/6, soft textured (as **14.164-14.166**); slip close to red 2.5YR 5/8. Slight discolouration on exterior of rim.

Preserved fr. indicating deep curved body, heavy knobbed rim concave on top and chamfered on underside. Small offset below rim at junction with wall.

Cf. LRP, 341 and fig. 70 no. 1 (from Lechaion).

Early sixth century.

14.168 (78.2463) Fig. 127
Isthmus TR2 tr2 (1).

Rim fr. Form 6.

P.H. 0.023; D. 0.260.

Clay light red 2.5YR 6/6-6/8; slip close to red 2.5YR 5/8, well smoothed on interior, exterior poorly finished. Slight discolouration (white) on exterior of rim.

Rim similar to **14.167** but flattened on top and with more rounded outside edge. Underside of rim chamfered with small offset at junction with wall. Pronounced lip on interior (approaching Form 7?).

Cf. **14.167**.

Early sixth century.

14.169 (76.1094) Fig. 127
Isthmus TR2 tr1 (1).

Rim fr. Form 6.

P.H. 0.017; D. (est.) 0.240.

Clay light red 2.5YR 6/6-6/8; slip not preserved. Small offset below rim. Heavy knobbed rim as *LRP*, 341 and fig. 70, no. 2 (=Istanbul, Sarāḥane, RP 42) but larger.

Early sixth century.

14.170 (78.1916) Fig. 127

Isthmus TR1 tr2 (5).

Rim fr. Form 6 (?), small.

P.H. 0.017; D. (est.) 0.140.

Clay light red 2.5YR 6/8, underfired; slip worn, slightly darker.

Thickened rim continuing line of wall; concave on top.

Perhaps related to Forms 1 and 4 (?) cf. **14.153-14.155**, but with thicker rim.

Early sixth century (?).

Form 7

14.171 (76.159)

Fig. 127

Isthmus TR1 tr1 (1).

Rim fr. Form 7.

P.H. 0.020; D. (est.) 0.250 or greater.

Clay reddish brown 5YR 6/4, hard fired; slip between red 10R 5/6 and red 2.5YR 5/6. Rim fired black on exterior.

Thick out-turned rim with upper and outer edges concave; small flange on top of rim along inner edge. Small offset below rim.

Cf. *LRP*, 341 and fig. 70 no. 1 (=Agora P 27066).

Early sixth century (?).

Form 8

14.172 (78.2976)

Fig. 128

Lower City TR1 (2).

Rim fr. Form 8.

P.H. 0.016; D. (est.) 0.140.

Clay light reddish brown; slip similar colour, with slight metallic sheen on exterior. Slight discolouration on exterior of rim.

Broad down-turned tapering rim, concave on top, bearing grooves. Small offset below rim at junction with wall.

Cf. *LRP*, 342 and fig. 70 no. 1 (=Agora P 2501); *Antioch* IV, 1, pl. X, no. 918.

Second half of fifth century.

14.173 (78.3197)

Fig. 128

Lower City TR1 (1).

Rim fr. Form 8.

P.H. 0.013; D. 0.156.

Clay light red 2.5YR 6/6; slip light red 2.5YR 6/8.

Shape as **14.172** but without the offset below rim.

Cf. *LRP*, 342 and fig. 70 no. 2 (=Agora P 2505); Frend and Johnston, *BSA* 57 (1962) 221 and fig. 14 no. 23.

Second half fifth century.

14.174 (78.969 + 78.3432)

Fig. 128

Lower City TR3 (3) N upper.

Bowl fr. (2 non-joining). Form 8, preserving almost complete profile.

H. 0.037; D. 0.114; D. (base) 0.050.

Clay light red 2.5YR 6/6; slip close to red 10R 5/6 and light red 2.5YR 6/6, completely worn around centre of floor on interior.

Low ring foot; carinated body; broad down-turned tapering rim, slightly concave on top. Small offset below rim.

Cf. **14.172** but without the grooves on top of rim.

Second half of fifth century.

14.175 (76.580)

Fig. 128

Isthmus TR1 tr2 (3).

Rim fr. Form 8.

P.H. 0.018; D. 0.140.

Clay and slip as **14.174**.

Shape of rim as **14.174**.

Second half of fifth century.

14.176 (76.1009)

Fig. 128

Isthmus TR1 tr2 (3).

Rim fr. Form 8.

P.H. 0.019; D. 0.130.

Clay and slip close to light red 2.5YR 6/8, rather underfired.

Shape of rim as **14.174** but with more pronounced offset below rim.

The fragment 78.941 is perhaps from the same vessel.

Second half of fifth century.

14.177 (78.3328)

Fig. 128

Lower City TR3 (2) N.

Rim fr. Form 8.

P.H. 0.025; D. 0.150.

Clay light red 2.5YR 6/6, underfired; slip between light red 2.5YR 6/8 and red 2.5 YR 5/8. Slight discolouration on exterior of rim.

Cf. **14.174.**

Second half of fifth century.

14.178 (76.969)

Not illustrated

Isthmus TR2 tr1 (2).

Rim fr. Form 8.

P.H. 0.011; D. (at outside edge) 0.144.

Clay and slip close to red 10R 5/6, hard-fired.

Slight discolouration on exterior of rim.

Shape of rim as **14.174.**

Second half of fifth century.

14.179 (76.783)

Fig. 128

Isthmus TR2 tr1 (3).

Base fr. Form 8.

P.H. 0.021; D. (base) 0.050.

Clay light red 2.5YR 6/8; slip not preserved.

Low ring foot; carinated body.

Cf. **14.174.**

Second half of fifth century.

Form 9

14.180 (76.113+76.986

Fig. 128; Pl. 78

+76.2097+78.2474)

Isthmus TR1 tr1 (1), TR2 tr2 (1), TR1 tr2 (2).

Rim and body fr. (10, not all joining). Form 9.

P.H. 0.036; D. 0.100.

Clay and slip red 2.5YR 5/6. Brush-marks. prominent on interior.

Small bowl with steep, slightly curved body; plain rim. Multiple band of rouletting on exterior.

For shape *cf.* *LRP*, 342 and fig. 70 no. 1 (=Istanbul, Sarāḥane, RP 17); *DOP* 22 (1968) 208 and 211, fig. F no. 65. I know of no published example with similar rouletting.

Ca. 520-600 A.C.

Form 10

14.181 (78.2963A and B)

Fig. 128

Lower City TR1 (2).

Rim fr. (2). Form 10A.

P.H. 0.032; D. 0.300.

Clay coarser than previous forms, with some larger lime inclusions, close to red 2.5YR 5/8; slip similar colour. Brush-marks prominent on interior.

Sloping wall; heavy knobbed rim. Small offset below rim.

Cf. *LRP*, 343 and fig. 71 nos. 1-6 and especially no. 2 (=Agora P 27071); *Tocra* II, 110 and figs. 48-49 nos. 2464 and 2486, 113 and fig. 51 no. 2533; *Antioch* IV, 1, pl. XI no. 949 a; *Kythera*, 170 and fig. 51 no. 19.

Late sixth century.

14.182 (78.3341)

Fig. 128

Lower City TR2 (1).

Rim fr. Form 10A.

P.H. 0.021; D. 0.260.

Clay close to reddish yellow 5YR 7/8, under-fired; slip not preserved.

For shape *cf.* **14.181** and especially *LRP*, 343 and fig. 71 no. 4 (=Corinth C-56-30). The more squarish profile of this piece is not unlike some examples of Form 3G, *cf.* **14.142-14.145.** *Cf.* *Antioch* IV, 1, pl. XI nos. 947 a and u (Form 3G) and nos. 949 a, f and k (Form 10A); *Resafa* I, pl. 19 no. 6 (=p. 77 no. 28).

Late sixth century.

14.183 (78.3193)

Fig. 128

Lower City TR1 (1).

Rim fr. Form 10B.

P.H. 0.018; D. 0.270.

Clay close to red 2.5YR 5/6, hard fired; slip close to red 10R 5/6-4/6. Slight discolouration on exterior of rim.

Rim as type A but more elongated; with rounded outside edge. Small offset below rim.

Cf. *LRP*, 343 and fig. 71 no. 7 (=Agora P 27068) which is of similar proportions; *Khirbat al-Karak*, pl. 54 no. 6 (=LRP, 343 no. 10); and especially *Antioch* IV, 1, pl. XI no. 949 s.

Late sixth to early seventh century.

14.184 (78.3214)

Fig. 128

Lower City TR1 (2).

Rim fr. Form 10C.

P.H. 0.015; D. (est.) 0.240.

Clay and slip as **14.183**. Rim fired black on exterior.

Sloping wall; elongated rim, flattened on top. Small offset below rim.

Cf. LRP, 343 and fig. 71 especially no. 11 (from Emporio, Chios), not unlike no. 7 (type B). *Cf. also Antioch IV*, 1, pl. XI nos. 949 p and u; *Tocra II*, 113 and fig. 51 no. 2534; *Khirbat al-Karak*, pl. 52 nos. 44-48; Hood, *BSA* 62 (1967) 55, fig. 5 nos. 42 and 50; *Resafa I*, pl. 11 nos. 9-10 (= p. 64 nos. 22 and 24) and especially pl. 15 nos. 14-16 (= p. 72 Schnitt 4 "Aus Versturzt" nos. 1 and 3, p. 72 Schnitt 4 "Aus lockerer Ascheschicht südlich von Hypokaestraum 4" no. 1), pl. 16 no. 13, pl. 21 no. 21. Early to mid seventh century.

Base fragments (various forms)

14.185 (78.2331) Fig. 129
Lower City TR1 S (3).
Base fr. (3). Form 1A.
P.H. 0.027; D. (base) 0.100.
Clay light red 2.5YR 6/6; slip red 2.5YR 5/8.
Tapering ring foot, chamfered on exterior; flat resting surface. Slight offset at junction of foot and wall. Grooves or pronounced wheel-marks (probably accidental) on lower wall.
Cf. LRP, 326 and fig. 65 no. 2.
Late fourth to early fifth century.

14.186 (78.3091) Fig. 129
Lower City TR1 Baulk (3).
Base fr.
P.H. 0.019; D. (base) 0.100.
Clay and slip between light red 10R 6/6 and red 10R 5/6, soft-textured.
Flat base, hollowed out on underside to form a false foot, with narrow resting surface. Such bases are associated with Forms 1D, 2, 3, 4, 5, 6 and 10. Very common.
Late fourth to late sixth century.

14.187 (78.2392) Fig. 129
Lower City TR3 (1) N.
Base fr. (2) small vessel.
P.H. 0.021; D. (base) 0.052.
Clay and slip between red 10R 5/6 and red 2.5YR 5/6.
False ring foot as **14.186** but from smaller vessel. Base associated with smaller varieties of Forms 1D, 2, 3, 4 and 6.

Late fourth to late sixth century.

14.188 (78.3115) Fig. 129
Isthmus TR1 tr2 Baulk NE.
Base fr.
P.H. 0.013; D. (base) 0.140.
Clay light red 2.5YR 6/6; slip red 2.5YR 5/8.
Low ring foot of normal type, with narrow resting surface; small offset at junction with wall. Base associated with Forms 1B, 2, 3, 4, 5, 6 and 10, very common.
Late fourth to early seventh century.

Similar:

76.920
76.2047
78.3089

14.189 (78.2985) Fig. 129
Lower City TR2 (1).
Base fr.
P.H. 0.017; D. (base) 0.170.
Clay light red 2.5YR, soft-textured; slip slightly darker, well smoothed on interior.
Foot as **14.188**.
Two bands, each consisting of probably four rows of rouletting around centre of floor.
Perhaps Form 3B, *cf. LRP*, 331 and fig. 67 no. 2, 4 and 5.
Second half fifth century (?).

14.190 (78.2471) Fig. 129
Isthmus TR2 tr2 (1).
Base fr.
P.H. 0.012; D. (base) est. 0.140.
Clay and slip close to red 10R 5/6 and red 2.5YR 5/6, hard fired.
Foot as **14.188** but without the offset.
Triple row of deeply impressed rouletting around centre of floor.
Perhaps Form 3B, *cf. 14.189*.
Second half fifth century (?).

14.191 (76.582) Fig. 129
Isthmus TR1 tr2 (3).
Base fr. (3).
P.H. 0.019; D. (base) 0.180.

Clay red 2.5YR 5/8; slip red 2.5YR 5/6.

Low ring foot as **14.190**, from large vessel.

Four rows of rouletting around centre of floor surrounded by two shallow grooves, over which are two more rows of partially impressed rouletting.

Perhaps Form 3B, cf. **14.189** and **14.190**; also *Resafa* I, pl. 11 nos. 15-16.

Second half fifth century (?)

Floor or base fragments with stamped decoration

The following fragments have stamped decoration at or near the centre of the floor of the vessel. In all cases (unless otherwise noted) the interior of the vessel only has been smoothed.

(i) *Palm-branch style (Hayes Group I).*

14.192 (78.3503) Fig. 130

Isthmus TR1 tr2 (6).

Floor fr. with stamped decoration.

0.029 x 0.023.

Clay and slip close to red 2.5YR 6/8, rather underfired.

Two preserved palm branches radiating around centre of floor.

Cf. *LRP*, 350 fig. 72 motif 1, especially no. a.

Ca. 360-450 A.C.

14.193 (78.2689) Fig. 130

Isthmus TR2 tr2 (1).

Floor fr. (very worn) with stamped decoration.

0.034 x 0.032.

Clay light red 2.5YR 6/6; slip red 2.5YR 5/6, worn.

At least three preserved palm branches radiating around centre of floor.

Motif as **14.192**.

Ca. 360-450 A.C.

14.194 (78.2964) Fig. 130; Pl. 78

Lower City TR1 (2).

Floor fr. with stamped decoration.

0.055 x 0.044.

Clay close to light red 2.5YR 6/6; slip red 10R 5/6.

Seven preserved palm branches alternating, between tips, with two-ringed dotted concentric circles (portion of one preserved), radiating around central two-ringed dotted concentric circles.

Cf. *LRP*, 350, fig. 72 motifs 1a and b, 2a and b.

Ca. 360-450 A.C.

14.195 (78.801 + 78.872) Figs. 130, 131; Pl. 78

Isthmus TR1 tr3 (2).

Floor fr. (2) with stamped decoration.

0.083 x 0.062.

Clay close to reddish brown 2.5YR 5/4, hard fired; slip red 10R 4/6.

Six palm branches alternating with two-ringed dotted concentric circles (portions of three preserved), radiating from central two-ringed dotted concentric circles; surrounded by shallow groove.

Cf. *LRP*, 350, fig. 72 motifs 1 and 2. Graffito on underside: "K" (?).

Ca. 360-450 A.C.

14.196 (78.2253+78.3245) Fig. 130; Pl. 78

Isthmus TR1 tr3 (1).

Base fr. (2) with stamped decoration.

P.H. 0.012; D. (base) 0.120, max. L. x W. 0.099 x 0.051.

Clay light red 2.5YR 6/6-6/8, rather underfired; slip very worn.

False ring foot as **14.186**. Four preserved palm branches radiating around centre of floor; above these and near their tips circular motifs, perhaps rosettes (at least three preserved); surrounded by shallow groove.

Cf. *LRP*, 350, fig. 72 motifs 1 (especially a-e), 3 and 4. The fr. 78.3595 is from the same vessel.

Ca. 360-450 A.C.

14.197 (78.581) Fig. 130; Pl. 78

Isthmus TR1 tr3 (1), TR1 tr2 (4).

Floor fr. (3) with stamped decoration.

0.072 x 0.056.

Clay between light red 2.5YR 6/6 and red 2.5YR 5/8, underfired; slip not preserved.

Palm-branches, some of which are only partially impressed, alternating with at least two preserv-

ed circular motifs, radiating from centre and surrounded by shallow groove.

Cf. LRP, 350, fig. 72 motifs 1, 3 and 4. The palm-branch is exceptional; long and oval in shape with the lower ribs down-turned, below which is a horizontal line forming a kind of exergue. The closest parallel is *LRP*, 350 fig. 72 motif 1 h; *cf. ARS LRP*, 230, fig. 38, motifs 1 and 2.

Ca. 360-450 A.C.

14.198 (76.537) Fig. 130; Pl. 78
Isthmus TR1 tr2 (2).

Floor fr. with stamped decoration.

0.068 x 0.053.

Clay between pale red 10R 6/4 and light red 10R 6/6; slip close to red 10R 5/6, well smoothed on interior.

Six palm-branches alternating with two-ringed dotted concentric circles resembling spirals (five preserved), radiating from central two-ringed dotted concentric circles and surrounded by shallow groove. The palm-branches are double-ribbed, *cf. LRP*, 350, fig. 72 motif 1 j (which is probably late) and 2.

Ca. 360-450 A.C.

14.199 (78.589) Fig. 130; Pl. 78
Isthmus TR1 tr3 (1).

Floor fr. (2) with stamped decoration.

0.062 x 0.040.

Clay and slip between light red 2.5YR 5/8.

Stamped decoration in band around centre of floor enclosed by two shallow grooves. One preserved palm branch, alternating with two preserved dotted circles, *cf. LRP*, 350, fig. 72 motif 2 b. The palm branch has a row of dots as central rib.

Ca. 360-450 A.C.

14.200 (78.2255) Fig. 130
Isthmus TR1 tr3 (1).

Base fr. with stamped decoration.

P.H. 0.013; L. x W. 0.060 x 0.050.

Clay light red 2.5YR 6/6; slip red 2.5YR 5/8, well smoothed on interior; exterior poorly finished.

Low ring foot.

Two preserved dotted concentric circles, *cf. LRP*, 350, fig. 72 motif 2, surrounded by shallow grooves. These probably alternated with the tips of palm branches which are not preserved.

Ca. 360-450 A.C.

(ii) *Floral and geometric motifs (Hayes Groups II-III)*

14.201 (78.3591) Fig. 130; Pl. 78
Lower City TR1 (2).

Floor fr. (2) with stamped decoration.

0.093 x 0.041.

Clay close to reddish brown 2.5YR 5/4; slip red 10R 5/6, well smoothed on interior.

Two shallow grooves around centre of floor enclosing band of rosettes (five preserved).

Cf. LRP, 350, fig. 72 motif 3; closer to *ARS* motif 44, *LRP*, 238, fig. 41. Probably Hayes Group I (?)

Ca. 360-450 A.C. (?)

14.202 (78.1390) Fig. 130; Pl. 78
Isthmus TR4 tr1 (1).

Base fr. with stamped decoration.

D. (base) 0.180; L. (max.) 0.085.

Clay light red 2.5YR 6/6; slip not preserved.

Foot as **14.188**, from large vessel.

Band of palmettes (two preserved) in outer zone, surrounded by triple row of rouletting.

Cf. LRP, 351 and fig. 73 motifs 8e and f, but with two instead of three leaves (as preserved). Hayes Group IIA. Perhaps vessel of Form 3B.

Ca. 440-490 A.C.

14.203 (76.181) Figs. 130, 131; Pl. 78
Isthmus TR2 tr1 (1).

Floor fr. with stamped decoration.

0.050 x 0.042.

Clay and slip between light red 2.5YR 6/6 and red 2.5YR 5/8.

Lozenge with volutes with four pelta-shaped motifs at sides (one and part of second preserved), radiating around central concentric circles.

Cf. LRP, 353 and fig. 73 motif 17w and 350, fig. 72 motif 2j for central concentric circles. Hayes Group IIB and III. Unidentified graffito on underside.

Late fifth to early sixth century.

14.204 (78.3123)

Fig. 130

Lower City TR1 centre (1).

Base fr. with stamped decoration.

0.057 x 0.037.

Clay light reddish brown 2.5YR 6/4; slip close to red 10R 5/8.

Foot as **14.188**.

Stamped decoration at centre of floor; motif as preserved unidentified; surrounded by four shallow grooves and double preserved row of rouletting. Perhaps vessel of Form 3B (?).

Second half of fifth century (?).

*(iii) Animals (Hayes Groups II-III)***14.205** (78.1957)

Fig. 130; Pl. 78

Lower City TR1 (1).

Base fr. with stamped decoration.

P.H. 0.017; D. (base) est. 0.150; L. (max.) 0.050.

Clay light red 2.5YR 6/6; slip light red 2.5YR 6/8, worn, but well smoothed on interior.

Foot as **14.188**.

Stamped decoration in zone enclosed by shallow grooves around centre of floor. Band (?) of small running hares (one preserved).

Cf. LRP, 357 and figs. 74-75 motif 35, especially fig. 74 p, fig. 75 b, c and d. Hayes Group II.

Ca. 440-490 A.C.

14.206 (78.3459)

Fig. 130

Lower City TR3 (1) N.

Floor fr. with stamped decoration.

0.038 x 0.026.

Clay and slip close to light red 2.5YR 6/8.

Stamped decoration at centre of floor: part of one preserved running hare (?).

Cf. LRP, 357 and figs. 74-75 motif 35, especially fig. 74 u and fig. 75 c. Hayes Group II.

Ca. 440-490 A.C.

14.207 (76.985)

Fig. 130

Isthmus TR1 tr1 (1).

Floor fr. with stamped decoration.

0.024 x 0.016.

Clay light reddish brown 2.5YR 6/4, hard fired; slip close to red 10R 4/6.

Very thin-walled fr., probably not at very centre

of floor. Head of running hare preserved.

For motif *cf.* **14.205** and **14.206**, but with head more menacing than meek. Hayes Group II (?).

Ca. 440-490 A.C. (?).

14.208 (78.967)

Fig. 130

Lower City TR1 (2).

Floor fr. with stamped decoration.

0.035 x 0.019.

Clay close to red 10R 5/6, hard fired; slip red 10R 4/6. Underside fired black.

Running stag (early type, *cf. LRP*, 359 and fig. 75 motif 40t) face to face with another animal, only partially preserved, perhaps chick (?) (*cf. LRP*, 361 and fig. 77 motif 46, especially no. d). Probably only two stamps at centre of floor. Both motifs Hayes Group II.

Ca. 440-490 A.C.

14.209 (78.1079)

Fig. 130; pl. 78

Isthmus TR1 tr3 (3).

Floor fr. with stamped decoration.

0.057 x 0.034.

Clay between light red 2.5YR 6/6 and red 2.5YR 5/6, rather underfired; slip close to red 2.5YR 5/8.

Portion of preserved stamp at centre of floor: running stag (later version), *cf. LRP*, 359 and fig. 76 motif 41, especially nos. b and g; *cf. Knigge et al.*, AA 1984, 47 Abb. 30. Hayes Group III.

Ca. 470-580 A.C.

14.210 (76.2111)

Fig. 130

Isthmus TR1 tr2 (2).

Floor fr. (very worn) with stamped decoration.

0.032 x 0.027.

Clay close to red 10R 5/6; slip close to red 10R 5/8, very worn.

At least one stamped motif at centre of floor, only partially preserved, probably dolphin.

Cf. LRP, 361 and fig. 76 motifs 44 and 45; *cf. Popescu, Studii si cercetari de istorie veche* 16.4 (1965) 708 fig. 7 no. 1. Hayes Groups II-III.

Mid fifth to late sixth century.

14.211 (78.3853)

Fig. 130

Isthmus TR2 tr2 (1).

Floor fr. (very worn) with stamped decoration.
0.061 x 0.043.

Clay light red 2.5YR 6/6-6/8; slip not preserved.
Portion of large stamped motif preserved at centre of floor, unidentified (perhaps running stag, later version? *cf.* **14.209**, or conceivably human figure?). The relatively large size of the motif might argue for Hayes Group III (?).
Late fifth to late sixth century (?).

(iv) *Crosses and cross-monograms (Hayes Groups II-III)*

14.212 (78.1088) Fig. 131; Pl. 79
Lower City TR3 (1) N.
Base fr. with stamped decoration.
P.H. 0.011; D. (base) 0.090.
Clay and slip close to red 2.5YR 5/6-5/8.
Foot as **14.188** but from smaller vessel.
Part of single stamped motif preserved at centre of floor: double-ribbed cross-monogram (cross with splaying tips), with *alpha* and *omega* (?) below arms. Only the lower portion of the cross and a small part of the presumed *alpha* are preserved.
Cf. *LRP*, 363 and fig. 78 motif 65 g. Hayes Group II or III.
Late fifth century.

14.213 (78.940) Fig. 131; Pl. 79
Isthmus TR1 tr2 Baulk NE.
Floor fr. (2) with stamped decoration.
0.056 x 0.042.
Clay close to light red 10R 6/6; slip red 10R 5/6.
Portion of single stamped motif preserved at centre of floor: cross-monogram with two pendants below arms; the *rho* is in single outline.
Cf. *LRP*, 363-365 and fig. 78 motif 67, especially no. j. Hayes Group III.
Late fifth to early sixth century.

14.214 (76.255) Fig. 131; Pl. 79
Isthmus TR1 tr1 (2).
Floor fr. (worn) with stamped decoration.
0.063 x 0.058.
Clay close to light red 2.5YR 6/8; slip light red 10R 6/6-6/8, worn.

Portion of single stamped motif preserved at centre of floor; motif as **14.213**.
Late fifth to early sixth century.

14.215 (76.1046 + 76.1980) Fig. 131
Isthmus TR1 tr2 (2), TR1 tr3 (1).
Floor fr. (2, very worn) with stamped decoration.
0.058 x 0.044.
Clay close to light red 2.5YR 6/6, rather under-fired; slip not preserved.
Part of single stamped motif preserved at centre of floor: cross with double outline.
Cf. *LRP*, 365-367 and fig. 79 motif 71, especially nos. b and c. Hayes Group III.
Late fifth to early sixth century.

14.216 (78.1919) Fig. 131; Pl. 79
Isthmus TR1 tr2 (5).
Floor fr. with stamped decoration.
0.058 x 0.032.
Clay close to light red 2.5YR 6/6; slip close to red 2.5YR 5/6.
Portion of single stamped motif preserved near centre of floor: motif as **14.215** but larger, *cf.* *LRP*, 365-367 and fig. 79 motif 71 d. Hayes Group III.
Late fifth to early sixth century.

14.217 (78.1727) Fig. 131; Pl. 79
Lower City TR3 (1) N.
Floor fr. with stamped decoration.
0.050 x 0.035.
Clay and slip light red 2.5YR 6/8.
Tool marks prominent on interior.
Portion of two preserved crosses in double outline at centre of floor. Motif as **14.215** and **14.216** but smaller, *cf.* *LRP*, 365-367 and fig. 79 motif 71 f (which belongs to Hayes Group II). Hayes Group II or III.
Later fifth to early sixth century.

14.218 (76.675) Fig. 131; Pl. 79
Isthmus TR2 tr1 (3).
Floor fr. with stamped decoration.
0.045 x 0.035.
Clay close to light reddish brown 2.5YR 6/4, hard fired; slip red 2.5YR 5/6.

Single preserved stamped motif at centre of floor: plain cross.

Cf. LRP, 367 and fig. 79 motif 73, especially no. j. Hayes Group III.

Late fifth to late sixth century.

African Red Slip Ware

Form 45

14.219 (78.3502) Fig. 131

Isthmus TR1 tr2 (6).

Rim fr. Form 45, Type A.

P.H. 0.019; D. 0.310.

Clay fine, between light red 10R 6/6 and light red 2.5YR 6/6; slip colour as clay, fine and glossy with mottled appearance.

Thin-walled, broad horizontal rim with groove on top near lip.

Single preserved row of fine rouletting on top of rim.

Cf. LRP, 62 and fig. 11, especially no. 2 (=Agora P 3001/26547) and no. 3 (illustrated in *Agora V*, 60, K3, pls. 12 and 64); *cf. LRP Supp.*, 494; Charleston, *RP*, pl. 13B; Lamboglia, *Rivista di studi liguri* 29 (1963) 152-153, Form 42; *Antioch IV*, 1, fig. 28 no. 1 and pl. VIII nos. 812, especially no. a; *Samaria-Sebaste III*, 358 and fig. 84 no. 3; *Tarsus I*, 276 figs. 165 and 207, nos. 816 and 817; Hayes, *BSA* 78 (1983) 121 fig. 4 no. 41; Unterkircher, *AM* 98 (1983) 191, Abb. 6 no. 25, 3. *Ca.* mid third century.

Form 50

14.220 (78.3114) Fig. 131

Isthmus TR1 tr2 Baulk NE.

Rim fr. Form 50.

P.H. 0.024; D. 0.290.

Clay rather fine, light red 10R 6/6; slip: fine, colour as clay, applied on interior and over rim only.

Flaring wall; plain rim. Very thin grooves or wheel marks on exterior below rim (probably accidental).

Cf. LRP, 69-73 and fig. 12 nos. 1-60 and especially no. 55 (from Thessalonike, *cf. Petsas, Arch Delt* 21 [1966] pl. 350 β); *cf. LRP Supp.*, 495 and

fig. 94; Lamboglia, *Rivista di studi liguri* 29 (1963) 147-151 Form 40; *Agora V*, pl. 64, K1, K2 and M139; *Antioch IV*, 1, pl. IX nos. 836 p, u, w and x; Williams and Zervos, *Hesperia* 52 (1983) 15, fig. 4 no. 25; *Hesperia* 54 (1985) 62-63, fig. 3 nos. 15-16. Perhaps transitional Type A/B.

Fourth century.

14.221 (78.3397) Not illustrated

Isthmus TR2 tr1 (2).

Rim fr. (2) Form 50, Type B.

P.H. 0.014; D. (est.) 0.220.

Clay similar to **14.220** but slightly coarser; slip dull, close to red 10R 5/8.

Shape as **14.220**, but vessel smaller and thicker walled.

Cf. LRP, 71 and fig. 12 Form 50 type B, nos. 56-60.

Ca. 350-400 A.C. +.

14.222 (78.3059) Fig. 131

Lower City TR1 (2).

Base fr. Form 50.

P.H. 0.008; D. (base) est. 0.150.

Clay fine, between pale red 10R 6/4 and light red 10R 6/6; slip semi-lustrous on interior, red 10R 5/8. Tiny bevelled foot.

Cf. LRP, 69-73 and fig. 12 Form 50, especially bases of type A.

Fourth century.

14.223 (78.3095) Fig. 131

Lower City TR1 Baulk (3).

Base fr. Form 50.

P.H. 0.010; D. (base) 0.170.

Clay rather less fine than **14.220-14.222**, pale red 10R 6/4; slip fine and glossy on interior and exterior, red 10R 5/6-5/8.

Foot as **14.222**, *cf.* especially *Agora V*, 60, pls. 12 and 64, K1; Lamboglia, *Rivista di studi liguri* 29 (1963) 148-149, Form 40.

Probably fourth century.

Form 52

14.224 (78.2651) Fig. 132

Lower City TR1 (2).

Rim fr. Form 52.

P.H. 0.025; D. 0.200.

Clay fine, red 10R 5/6; slip rather dull, applied on interior and top of rim only, close to red 2.5YR 5/8. Underside of rim poorly finished.

Steep wall (only partially preserved); broad flaring rim with slightly hooked lip. Shallow groove on top of rim near lip and another along outside edge of lip.

Cf. *LRP*, Form 52 Type B (large size), especially 77-78 and fig. 13 no. 22, which is particularly close in shape; cf. also no. 19 and *LRP Supp.*, 496. This form, normally examples of type B, is decorated with appliqué which, in this case, is not preserved (less than one-fifth of the rim is actually preserved).

The large size of this vessel and the grooves at or near the lip would suggest a fourth or early fifth century date.

Form 53

14.225 (78.1993)

Fig. 132

Isthmus TR1 tr3 (1).

Rim fr. (2). Form 53.

PH 0.033; D 0.180.

Clay fine, close to light red 10R 6/8; slip fine and lustrous on interior only, close to red 10R 5/8. Exterior rather poorly finished.

Steep flaring rim; plain lip. Two grooves below lip on interior.

Cf. *LRP*, 78-82 and fig. 13, especially nos. 14, 17 and 18 (for shape); cf. *LRP Supp.*, 496-497; *Antioch* IV, 1, pl. X no. 891. This vessel form is normally decorated on the interior, below the grooves, either with appliqué (type A) or "feather-rouletting" (type B). The fr. is too small for any such decoration to have been preserved.

Ca. mid fourth century to A.D. 430.

Form 54 (?)

14.226 (78.579)

Pl. 79

Lower City TR1 (1).

Rim fr. Form 54 (?).

P.W. (of rim) 0.027; D. N/R.

Clay fine, close to light red 10R 6/8.

Broad flaring rim with scalloped edge. The rim appears to have been mould-made, with the underside poorly finished. Moulded decoration on top of rim.

Cf. *LRP*, 82-83 and fig. 13, also pl. XIb for examples with appliqué decoration; *LRP Supp.*, 497.

Mid to late fourth century (?).

Form 59

14.227 (78.3244A + B)

Fig. 132

Lower City TR2 (1).

Rim fr. (2). Form 59A.

P.H. 0.038; D. 0.360.

Clay coarse and misfired, brown-grey; slip similar colour, thin and matt.

Shallow curved wall; broad horizontal rim, which is stepped up in two fasciae, the outer bears a groove near the outside edge. Shallow groove on underside of rim. Lower wall decorated with vertical gouges (three preserved).

Cf. *LRP*, 96-100 and fig. 15 type A, especially no. 1; *LRP Supp.*, 500-501; Lamboglia, *Rivista di studi liguri* 29 (1963) 183 and 195, Form 51A; *Antioch* IV, 1, fig. 28 no. 8 and pl. VIII nos. 818 a and p; Unterkircher, *AM* 98 (1983) 191, Abb. 6 no. 25, 9; C.K. Williams and O.H. Zervos, *Hesperia* 53 (1984) 94 Lot 1983-94 no. 5.

Ca. 320-380/400 A.C.

14.228 (78.1909 + 78.2956)

Fig. 132

Isthmus TR4 tr1 (1) + (2).

Base fr. (2). Form 59A.

P.H. 0.028; D. (base) est. 0.210.

Clay finer than **14.227** but still thick and rather coarse, light red 10R 6/8; slip similar colour, thick and semi-lustrous on interior, not preserved on exterior.

Flat base, marked only by a slight offset. Shallow curved body decorated with vertical gouges (five preserved). Shallow groove around centre of floor on interior.

Cf. **14.227**, but of finer fabric; cf. also **14.236** (Form 61).

Ca. 320-380/400 A.C.

14.229 (78.1864)

Fig. 132

Lower City TR1 N (3).

Rim fr. Form 59B.

P.H. 0.027; D. 0.300.

Clay: as **14.228**; slip close to red 10R 5/8, thick and semi-lustrous on interior and exterior.

Shape as **14.227** but without the groove on underside of rim. Body probably plain.

Cf. LRP, 97-100 and fig. 15 type B, especially no. 19; *Antioch IV*, 1, pl. VIII no. 817 k; Holwerda, *Leiden*, pl. V no. 644 and pl. VI no. 646; *Labraunda II*, 1, 74 and pl. 37 no. 324; *Tarsus I*, 276 and fig. 207 no. 819.

Ca. 320-420 A.C.

14.230 (78.2441)

Not illustrated

Isthmus TR3 tr2 (2).

Rim fr. Form 59, type A or B.

P.H. 0.009; D. (est.) 0.350.

Clay as **14.228** but slightly darker in colour, weak red 10R 5/4; slip thick, red 10R 4/6.

Rim as **14.227** and **14.229**; body not preserved.

Ca. 320-420 A.C.

Form 61

14.231 (78.3483)

Fig. 132

Lower City TR1 (2).

Rim fr. Form 61A.

P.H. 0.024; D. 0.300.

Clay rather coarse, close to light red 2.5YR 6/8; slip not preserved.

Shallow body; incurved rim, with external chamfer, meeting wall at a sharp angle.

Cf. LRP, 100-107 and figs. 16 and 17, type A, many examples, especially nos. 4, 7, 18 and 21; *LRP Supp.*, 501; Lamboglia, *Rivista di studi liguri* 29 (1963) 183 and 198-199, Form 54.

Ca. 325-400/420 A.C.

14.232 (78.3043)

Fig. 132

Lower City TR1 (1).

Rim fr. Form 61A.

P.H. 0.025; D. (est.) 0.300.

Clay as **14.231**; slip similar colour, semi-lustrous on interior.

Rim as **14.231**; *cf. Antioch IV*, 1 pl. VIII no. 830.

Ca. 325-400/420 A.C.

14.233 (78.3420)

Fig. 132

Lower City TR2 (1).

Rim fr. Form 61A.

P.H. 0.029; D. 0.320.

Clay and slip as **14.232**.

Rim as **14.231-14.232** but thicker walled.

Cf. especially LRP, 103 and fig. 16 no. 13.

Ca. 325-400/420 A.C.

14.234 (78.2650)

Not illustrated

Lower City TR1 (2).

Body fr. preserving lower portion of rim. Form 61A.

P.H. 0.043; D. N/R.

Clay and slip as **14.232**.

Thick walled version as **14.233**.

Ca. 325-400/420 A.C.

14.235 (78.3608)

Fig. 133

Lower City TR2 (1).

Rim fr. Form 61B.

P.H. 0.038; D. 0.400.

Clay and slip as **14.232**.

Rim as type A but more vertical and with overhang on the underside; groove below rim at junction with wall.

Cf. LRP, 105-107 and figs. 16 and 17, type B, nos. 29-36; *LRP Supp.*, 501; *Antioch IV*, 1, pl. VIII especially no. 831 k, *cf.* also no. 831 u (=LRP, 105 no. 24, transitional).

Ca. 400-450 A.C.

14.236 (78.3435)

Fig. 133

Lower City TR3 (3) N upper.

Base fr. Form 61 or 59.

P.H. 0.018; D. (base) est. 0.240.

Clay and slip as **14.232**, worn on exterior.

Flat base, marked only by a slight offset on underside; shallow groove around floor on interior, *cf.*

14.228 (Form 59). *Cf.* bases for Form 61, *LRP*, figs. 16 and 17, and Form 59, *LRP*, fig. 15.

Fourth or early fifth century.

Other fr. *Form 61* entered in the inventory:

78.1924

Form 63

14.237 (78.1845)

Fig. 133

Isthmus TR4 tr2 (1).

Rim fr. Form 63.

P.H. 0.028; D. (est.) 0.360.

Clay close to light red 10R 6/6-6/8, rather coarse, *cf.* the fabric of Forms 59 and 61; slip worn.

Wall almost vertical; plain rim. Two grooves below rim on exterior.

Cf. *LRP*, 109 and fig. 18 no. 1; *LRP Supp.*, 502; Lamboglia, *Rivista di studi liguri* 29 (1963) 187, Form 9; Neuru, *Antiquités africaines* 16 (1980) 200 and pl. III no. 6 (from Carthage).

Late fourth to mid fifth century or slightly later.

14.238 (78.3431)

Fig. 133

Lower City TR3 (3) N upper.

Rim fr. Form 63.

P.H. 0.039; D. (est.) 0.320.

Clay as **14.237**; slip light red 10R 6/6.

Shape as **14.237**, with grooves below rim on exterior. *Cf.* **14.237**.

Late fourth to mid fifth century or slightly later.

Related: 78.3383

Form 63 or 80A/81

14.239 (78.691)

Fig. 133

Lower City TR2 (1).

Rim fr. Form 63 or 80A/81.

P.H. 0.017; D. (est.) 0.200.

Clay as **14.237**; slip close to red 2.5YR 5/8, semi-lustrous on interior, worn on exterior.

Shape similar to **14.237** and **14.238** but with more flaring wall. Groove on exterior immediately below lip, below which is a band of gouged decoration consisting of four preserved vertical slashes.

The rim form and gouged decoration are close to *LRP*, 109 and fig. 18 no. 1 (Form 63); the size of the vessel and the flaring wall are closer to *LRP*, 127 and fig. 22 no. 1 (Form 80A); *cf.* Form 81, *LRP*, 128 and fig. 22; the gouged decoration may be a variant of crude rouletting (?). *Cf.* also Neuru, *Antiquités africaines* 16 (1980) 200 and pl. III nos. 1-3 (Form 80).

Late fourth to late fifth century.

Form 67

14.240 (78.2929)

Fig. 133

Lekythos TR2 (1).

Rim fr. Form 67.

P.H. 0.030; D. 0.290.

Clay close to light red 10R 6/6, rather coarse (*cf.* the fabric of Forms 59 and 61); slip thick but rather dull on interior, red 10R 5/8.

Two part flaring rim consisting of a flat member (only partially preserved) surmounted by a curved, everted member; thickened lip. Groove at junction of the two members; two grooves on top of rim near lip.

Cf. *LRP*, 112-116 and fig. 19; *LRP Supp.*, 503; Lamboglia, *Rivista di studi liguri* 29 (1963) 182 and 192-193, Form 42; *Antioch* IV, 1, pl. IX nos. 869-873, especially no. 869 p; Holwerda, *Leiden*, pl. V nos. 649-653; *Labraunda* II, 1, 74 and pl. 37 no. 323; *Kythera*, 170 and fig. 51 no. 24; Hood, *BSA* 62 (1967) 55, fig. 5 no. 24; Waagé, *Hesperia* 2 (1933) pl. IX nos. 176-177. *Ca.* 360-470 A.C.

14.241 (78.3547)

Fig. 133

Lower City TR1 NW ext.

Rim fr. Form 67.

P.H. 0.022; D. 0.300.

Clay and slip as **14.240**, but slightly lighter in colour.

Rim as **14.240**, with groove at junction of the two members and two grooves on top of rim near lip, but with heavier rolled lip. Slight offset below lip.

Cf. **14.240** and especially *LRP*, 112 and fig. 19 nos. 1-4; *Tarsus* I, fig. 207 nos. A and B.

Ca. 360-470 A.C.

14.242 (78.3205)

Fig. 133

Isthmus TR3 tr2 (2).

Rim fr. Form 67.

P.H. 0.030; D. 0.310.

Clay as **14.240**; slip not preserved.

Rim as **14.241** but thicker-walled and with only one faintly preserved groove at lip; no groove at junction of the two members.

Cf. **14.240-14.241** and Holwerda, *Leiden*, pl. V no. 653; *Antioch IV*, 1, pl. IX no. 871 p.
Ca. 360-470 A.C.

14.243 (78.2472) Fig. 133
Isthmus TR2 tr2 (1).
Rim fr. Form 67.
P.H. 0.019; D. 0.380.
Clay and slip as **14.240**.
Rim as **14.242** but with only one groove on top of rim near lip.
Cf. **14.240** and especially *Antioch IV*, 1, pl. IX no. 871 f.
Ca. 360-470 A.C.

14.244 (76.943) Fig. 134
Isthmus TR1 tr2 (3).
Rim fr. (2) Form 67.
P.H. 0.022; D. 0.320.
Clay and slip as **14.242**.
Rim as preceding, especially **14.242**, but with small ridge on top of rim near lip; heavy rolled lip with slight offset on underside.
Cf. especially Waagé, *Hesperia* 2 (1933) pl. IX nos. 176-177.
Ca. 360-470 A.C.

14.245 (78.3131) Fig. 134
Lower City TR1 (2).
Rim fr. Form 67/71.
P.H. 0.025; D. 0.180.
Clay finer, close to light red 10R 6/6; slip applied on interior and over lip, red 10R 5/8. Tool marks clearly visible on interior and exterior.
Rim as **14.240-14.244** but vessel smaller and thinner-walled. Only one groove on top of rim near lip.
Cf. *LRP Supp.*, 485 and 503, Form 67/71 (with references).
Late fourth to early fifth century (?).

Other rim fr. Form 67 entered in the inventory:
76.911
76.942+76.1019
76.989
76.2079
78.3399

Form 72

14.246 (76.538) Fig. 134
Isthmus TR1 tr2 (2).
Rim fr. Form 72, Type A or B.
P.H. 0.031; D. 0.170.
Clay very fine, close to light red 10R 6/6; slip thin and of good quality, applied on interior and over rim, close to light red 2.5YR 6/8.
Small bowl with broad flaring rim rising gently to hooked lip. Inner face of lip chamfered; two grooves on top of rim near lip; single groove on underside of rim.
Cf. *LRP*, 120-121 and fig. 21 especially no. 4 (type A or possibly B); *Antioch IV*, 1, pl. IX no. 866 u.
Early fifth century.

14.247 (76.2098+78.2000) Fig. 134
Isthmus TR1 tr2 (2), TR1 tr3 (1).
Rim fr. (7). Form 72B.
P.H. 0.022; D. 0.150.
Clay and slip as **14.246**.
Shape as **14.246** but with two grooves on underside of rim (one at junction with wall). Group of punched dots (five preserved), punched along the matching groove on underside of rim.
Cf. *LRP*, 120-121 and fig. 21 nos. 5 and 6; *LRP*, 281-283. The fragment 78.2001 is probably from the same vessel.
Early fifth century.

Related fr. entered in the inventory:
78.2359
78.2919

Form 73

14.248 (78.1915) Fig. 134
Isthmus TR1 tr2 (5).
Rim fr. Form 73B.
P.H. 0.012; D. 0.180.
Clay fine, but less fine than Form 72, close to light red 10R 6/6; slip thin, applied on interior and over rim, red 10R 5/8.
Small bowl with horizontal rim and knobbed lip; two grooves on middle of rim on top.

Cf. LRP, 121-124 and fig. 21, especially type B; *LRP Supp.*, 504; Lamboglia, *Rivista di studi liguri* 29 (1963) 183 and 204, Form 57; also *Antioch* IV, 1, pl. IX no. 866 k, but without the notches on lip.

Ca. 420-475 A.C.

14.249 (76.2080)

Fig. 134

Isthmus TR1 tr1 (2).

Rim fr. Form 73B.

P.H. 0.017; D. 0.150.

Clay as **14.248**; slip slightly lighter in colour.

Rim as **14.248** but with groove at junction of rim and lip; no preserved grooves on middle of rim on top.

Cf. 14.248.

Ca. 420-475 A.C.

Form 76

14.250 (78.999)

Fig. 134

Lekythos TR2 (1).

Rim fr. Form 76.

P.H. 0.025; D. 0.255.

Clay light red 2.5YR 6/6; slip close to light red 2.5YR 6/8, thin and dull on interior and over rim. Broad flaring rim rising to a knobbed lip; pronounced groove on top near lip. Two shallow grooves below lip at junction with wall.

Cf. LRP, 124-125 and fig. 21, especially nos. 1-3; *cf. LRP Supp.*, 485-6 and 504 (for type B).

Ca. 425-475 A.C.

14.251 (78.3350)

Fig. 134

Isthmus TR1 tr2 (5).

Rim fr. Form 76.

P.H. 0.023; D. 0.300.

Clay and slip as **14.250**.

Rim as **14.250** but without the grooves below.

Cf. especially LRP, 124-125 and fig. 21 no. 3.

Ca. 425-475 A.C.

14.252 (78.3218)

Fig. 134

Lower City TR1 S (3).

Rim fr. Form 76 (?).

P.H. 0.023; D. 0.290.

Clay close to red 10R 5/6; slip red 10R 5/8,

slightly thicker on interior than on **14.250-14.251**.

Shape as **14.251** but with thickened rather than knobbed lip.

Ca. 425-475 A.C.

Form 78

14.253 (78.1904)

Fig. 135

Isthmus TR4 tr1 (1).

Rim fr. Form 78.

P.H. 0.009; D. between 0.140 and 0.170.

Clay rather coarse and granular, close to light red 2.5YR 6/6; slip red 10R 5/8, thick on interior and over rim.

Broad down-curved rim; groove at junction of rim and wall on exterior.

Fabric, shape and dimensions of this fr. are particularly close to *LRP*, 127 and fig. 22, Form 78 no. 1.

Fifth century (?).

Form 84

14.254 (78.3494)

Fig. 134

Lower City TR1 S (3).

Rim fr. (2). Form 84.

P.H. 0.045; D. 0.310.

Clay fine, light red 10R 6/8; slip red 10R 5/8, semi-lustrous and well smoothed on interior and over rim.

Steep wall; triangular projecting rim with rounded underside and with two grooves on exterior face. Feather-rouletting on exterior covering all of preserved wall.

Cf. LRP, 132-133 and fig. 23, especially nos. 1 and 2; *cf. Waagé, Hesperia* 2 (1933) 295, fig. 2 nos. 132, 134, pl. IX nos. 129, 132 and 134; see further *Antioch* IV, 1, 48 (discussion for no. 828).
Ca. 440-500 A.C.

14.255 (78.3044)

Fig. 135

Lower City TR1 (1).

Rim fr. Form 84.

P.H. 0.033; D. 0.350.

Clay and slip as **14.254**.

Shape and rouletting as **14.254**.

Cf. especially *LRP*, 132-133 and fig. 23 no. 1; for rouletting cf. Waagé, *Hesperia* 2 (1933) 295, fig. 2 no. 132.

Ca. 440-500 A.C.

Form 87

14.256 (78.2107)

Fig. 135

Isthmus TR1 tr2 (4).

Rim fr. Form 87A.

P.H. 0.022; D. 0.280.

Clay rather coarse, close to light red 2.5YR 6/6; slip not preserved.

Upright knobbed rim, flattened on interior and marked off from floor by shallow groove; small hook at lip on exterior.

Cf. *LRP*, 135-136 and fig. 24 no. 2 (=Corinth C-36-548) type A. Cf. also type B variant, no. 4 (=Agora P 27157); *LRP Supp.*, 504; *Tocra* II, 113 and fig. 49 no. 2493 (labelled Form 87?).

Second half of fifth century.

14.257 (78.2192)

Fig. 135

Isthmus TR1 tr2 (4).

Rim fr. Form 87B.

P.H. 0.025; D. 0.320.

Clay and slip as **14.256**.

Rim as **14.256** but more elongated, corresponding to type B.

Cf. *LRP*, 135 and fig. 24 type B nos. 3 and 4; close to *Antioch* IV, 1, pl. VIII no. 810 f.

Early sixth century.

Other rim fr. *Form 87* entered in the inventory:

78.1847

78.1848

Form 88

14.258 (78.3421)

Fig. 135

Lower City TR2 (1).

Rim fr. Form 88.

P.H. 0.020; D. 0.380.

Clay between light red 10R 6/6 and red 10R 5/6, fine-grained; slip red 10R 5/8, semi-lustrous and well smoothed on interior.

Broad thickened rim, convex on interior, flat-

tened on exterior; pronounced offset at junction with wall on exterior.

Cf. *LRP*, 136 and fig. 24 no. 1 (=Agora P 27053); Lamboglia, *Rivista di studi liguri* 29 (1963) 202-203, Form 55B.

Early sixth century.

Form 91

14.259 (78.3566)

Fig. 135; Pl. 79

Isthmus TR1 tr3 (2).

Base fr. Form 91.

P.H. 0.012; D. (base) 0.070.

Clay rather coarse, close to light red 10R 6/8; slip red 10R 5/8, semi-lustrous on interior.

Low ring foot with flat resting surface. Preserved interior decorated with feather-rouletting.

Cf. *LRP*, 140-144 and fig. 26, bases of types A and B (probably type B ?); *LRP Supp.*, 486 and 505; *Antioch* IV, 1, pl. X no. 883 m; Hayes, in Dore and Greene ed., *Roman Pottery Studies in Britain and Beyond* (1977) 284, fig. 21.1 nos. 1 and 4; *Resafa* I, pl. 22 no. 31 (= p. 81 FP 132 no. 16).

Ca. mid fifth to early sixth century, or perhaps earlier.

14.260 (78.2025)

Fig. 135; Pl. 79

Lower City TR1 (2).

Base fr. Form 91.

P.H. 0.009; D. (base) 0.060.

Clay and slip as **14.259**.

Foot as **14.259** but slightly lower. Preserved interior decorated with feather-rouletting.

Probably type B, cf. **14.259**.

Ca. mid fifth to early sixth century, or perhaps earlier.

14.261 (78.2024)

Fig. 135; Pl. 79

Lower City TR1 (2).

Base fr. Form 91.

P.H. 0.009; D. (base) 0.070.

Clay fine-grained, light red 10R 6/8; slip close to red 10R 5/8, semi-lustrous on interior; exterior well smoothed.

Flat base; shallow lower wall. Band of feather-rouletting around centre of floor.

Cf. LRP, 140-144 (types A, B, and C); *cf.* also Form 92 (which is rare outside Tunisia).
Mid-fifth to early sixth century.

14.262 (78.3187) Fig. 135

Lower City TR1 S (3).

Fr. preserving portion of body and flange. Form 91.

P.H. 0.021; D. N/R, greater than 0.280.

Clay and slip as **14.259-14.260**.

Curved flange from large vessel bearing groove at lip; shallow groove at junction with wall on top. *Cf. LRP*, 143 and fig. 26 no. 29 (which is similar to type B).

Ca. mid fifth to early sixth century.

Other fr. *Form 91* entered in the inventory:

76.1045

78.629

78.3013

78.3599

Form 93B (?)

14.263 (78.3376) Fig. 135

Lower City TR2 (1).

Rim fr. *Form 93B* (?)

P.H. 0.019; D. 0.240.

Clay rather coarse, close to light red 2.5YR 6/8; slip worn, but thick and semi-lustrous on preserved interior and exterior.

Curved body; short horizontal rim, flat on top. The preserved fr. is too small to determine form with certainty.

Cf. LRP, 145-148 and fig. 27, *Form 93B*, especially no. 19; *LRP Supp.*, 506; *Antioch IV*, 1, pl. IX nos. 859 and 862; *Tocra II*, 110 and fig. 48 nos. 2435, 2446-7, 113 and fig. 50 no. 2498. The fr. may be compared with Forms 32 and 58 (*cf.* *Form 32/58*), *cf.* especially *LRP*, 55 and fig. 9 no. 1 (*Form 32*); 93-96 and fig. 14 (*Forms 58 and 32/58*); *cf. Antioch IV*, 1 pl. VIII nos. 820 and 821. *Ca.* 500-540 A.C. (if *Form 93B*).

Related:

78.3307

78.3308

Form 103 (?)

14.264 (78.1905) Fig. 135

Isthmus TR4 tr1 (1).

Rim fr. *Form 103* (?)

P.H. 0.034; D. 0.240.

Clay rather coarse and granular, close to red 10R 5/6; slip similar colour, thick and semi-lustrous on interior.

Steep, curved wall; large hooked rim chamfered on exterior. Rim offset from floor by pronounced groove.

Cf. LRP, 157-160 fig. 29, especially type A no. 1; *Antioch IV*, 1, pl. X no. 877; *Tocra II*, 113 and fig. 50 no. 2502. All three cited parallels lack the groove on interior.

Early sixth century (?).

Form 104

14.265 (78.2201) Fig. 135

Isthmus TR1 tr2 (4).

Rim fr. *Form 104A*.

P.H. 0.021; D. 0.300.

Clay thick and granular, close to light red 2.5YR 6/8; slip colour as clay, thick, well smoothed and semi-lustrous on interior and over rim.

Shallow sloping floor; vertical knobbed rim, rising well above floor and tending to come to a point at top and bottom. Groove on interior and exterior close to rim.

Cf. LRP, 160-166 figs 29-30 type A, especially nos. 2, 3 and 13; *LRP Supp.*, 507-508; *Antioch IV*, 1, pl. VIII especially no. 803; *Demetrias IV*, ii, various examples pl. 2.

Ca. 530-580 A.C.

14.266 (78.3227) Fig. 136

Isthmus TR4 tr1 (2).

Rim fr. *Form 104A*.

P.H. 0.032; D. 0.320.

Clay and slip as **14.265**.

Shape as **14.265**; *cf. Antioch IV*, 1, pl. VIII no. 804 a.

Ca. 530-580 A.C.

14.267 (78.2069) Fig. 136

Isthmus TR2 tr2 (2).

Base fr. Form 104A.

P.H. 0.024; D. (base) 0.200.

Clay and slip as **14.265**; slip applied on interior only.

Flaring foot of medium height, tapering towards resting surface. Three preserved grooves around centre of floor. Portion of unidentified stamped motif at centre.

Cf. bases of Form 104A, especially *LRP*, 160-163 and figs. 29 and 30, nos. 2, 3 and 13.

Ca. 530-580 A.C.

Form 105

14.268 (78.2965)

Fig. 136

Lower City TR1 (2)

Rim fr. Form 105.

P.H. 0.042; D. 0.360.

Clay coarse, with a little mica, close to light red 2.5YR 6/6; slip dull and thinly applied only on interior, with a tendency to streak, close to red 2.5YR 5/8.

Shallow sloping floor; knobbed, almost vertical rim with a slight hook on underside; rim offset from floor on interior. Rim chamfered on interior, convex on exterior, with slight groove on lower edge.

Cf. *LRP*, 166-169 and figs. 31 and 32, especially nos. 3 and 6; *LRP Suppl.* 508; *Antioch IV*, 1, pls. VII and VIII nos. 802 a-u; *Tocra II*, 110 and fig. 49 nos. 2480-2481 and cf. 113 and fig. 50 no. 2516.

Late sixth or early seventh century.

Floor or base fragments with stamped decoration

14.269 (76.2073)

Fig. 136; Pl. 79

Isthmus TR1 tr1 (2).

Floor fr. with stamped decoration.

0.041 x 0.032.

Clay thin-walled but rather coarse, between light red 10R 6/6 and red 10R 5/6; slip close to red 10R 5/8, thick and dull on interior.

Palm-branches (one preserved) cf. *LRP*, 229 and fig. 38 types 1 and 3, alternating, between tips,

with small rosettes (three preserved) cf. *LRP*, 239 and figs. 39-41 types 44A and 46, and surrounded by shallow groove. Probably Style A(i).

Ca. 320-350+ A.C.

14.270 (78.946)

Fig. 136; Pl. 79

Isthmus TR1 tr3 (2).

Base fr. with stamped decoration.

0.077 x 0.034.

Clay light red 10R 6/6, fine, with a tendency to splinter; slip close to red 10R 5/6, thick and well smoothed on interior.

Foot as for Forms 67, 69, 76 and others. Stamped decoration preserved in three registers around centre of floor, each separated by broad shallow groove.

Radiating palm-branches (cf. *LRP*, 229-231 and fig. 38 types 2 d, 4 i, k) alternating, between tips, with rosettes (cf. *LRP*, 239 and fig. 41, type 44B nos. h and i); horizontal palm-branches alternating with two small circles (one preserved, cf. *LRP*, 235 and fig. 40 type 24b and c); horizontal palm-branches (one preserved). All three stamp-types belong to Style A(ii).

Ca. 350-420 A.C.

14.271 (78.3258)

Fig. 136

Lower City TR3 SE.

Floor fr. with stamped decoration.

0.036 x 0.035.

Clay and slip as **14.270**.

Stamped decoration preserved in two registers separated by two narrow grooves.

Radiating palm-branches (cf. *LRP*, 229 and fig. 38 especially type 3 g) alternating with two small circles (part of one preserved, cf. *LRP*, 235 and fig. 40 types 24 b and c); portion of two palm-branches preserved in second register. Cf. Styles A(ii) and B.

Ca. 350-425 A.C.

14.272 (78.188)

Fig. 136; Pl. 80

Isthmus TR3 tr2 (2).

Floor fr. with stamped decoration.

0.032 x 0.022.

Clay close to light red 2.5YR 6/6, rather coarse; slip red 2.5YR 5/8, thick and dull on interior.

Radiating palm-branches (*cf. LRP*, 229 and fig. 38 types 1 and 3) alternating, between tips, with concentric circles with dot fringes (only two partially preserved, *cf. LRP*, 236-237 and fig. 40 types 30-40). *Cf. Styles A(ii) and B.*
Ca. 350-425 A.C.

Similar: 76.2043

14.273 (78.1882) Fig. 136; Pl. 80
 Lower City TR1 S (3).
 Floor fr. with stamped decoration.
 0.040 x 0.038.
 Clay thin-walled and fine, close to light red 10R 6/6; slip red 10R 5/8, well smoothed on interior.
 Dart-shaped palm-branch (*cf. LRP*, 231 and fig. 39 type 9e and especially 233 and fig. 39 types 12 and 13) alternating with concentric circles with dot-fringe (*cf. LRP*, 236-237 and fig. 40 types 30-40). *Cf. Styles A(iii) (?)*, C.
 Late fourth to early fifth century.

14.274 (78.1975) Fig. 136; Pl. 80
 Isthmus TR1 tr3 (1).
 Floor fr. with stamped decoration.
 0.044 x 0.030.
 Clay as **14.273**; slip very worn.
 Palm-branches (five preserved) arranged in two bands around centre of floor.
Cf. LRP, 231 and fig. 38 type 7 m (with curving leaves). *Cf. Style A(iii).*
Ca. 410-470 A.C.

14.275 (78.1789) Fig. 136; Pl. 80
 Isthmus TR1 tr3 (1).
 Floor fr. with stamped decoration.
 0.038 x 0.025.
 Clay rather coarse, close to light red 2.5YR 6/8; slip similar colour, worn.
 Chevrons (?) (*cf. LRP*, 243 and fig. 42 types 75-77) alternating with unidentified stamped motif, perhaps clover leaves or trefoil patterns (?) (*cf. LRP*, 245 and fig. 43 types 78-83). The latter motif, as preserved, is stamped right next to one arm of a presumed chevron. Probably Style A(iii) (?)
Ca. 410-470 A.C.(?).

14.276 (78.2447) Fig. 136; Pl. 80
 Lower City TR1 N (3).
 Base fr. with stamped decoration.
 P. H. 0.013; L. (max.) 0.061.
 Clay rather coarse, hard-fired, close to pale red 10R 6/4; slip thick and dull, close to red 10R 5/8.
 Underside poorly finished.
 Two thin grooves around centre of floor enclosing band of rosettes (two complete and two partially preserved).
Cf. LRP, 239 and fig. 41, especially type 44B.
 Stamp type normally Style A(ii); decorative scheme *cf. Style A(iii).*
Ca. mid fourth to mid fifth century.

14.277 (78.1223) Fig. 136; Pl. 80
 Lower City TR1 (2).
 Floor fr. with stamped decoration.
 0.067 x 0.057.
 Clay colour darker than normal, reddish brown 5YR 4/4; slip colour as clay, semi-lustrous on interior.
 Plain ring at centre of floor (*cf. LRP*, 237 and fig. 41 type 42) surrounded by two thin grooves enclosing band of toothed rings (three preserved, *cf. LRP*, 237 and fig. 41 type 41 b and c). Style A(ii)-(iii); motif normally associated with Form 61, *cf. 14.231-14.236* and *LRP*, pl. XV b.
 Early to mid fifth century.

14.278 (78.563) Fig. 136; pl. 80
 Isthmus TR1 tr3 (1).
 Floor fr. with stamped decoration.
 0.061 x 0.056.
 Clay light red 2.5YR 6/6, fabric not unlike that of Phocaeen R.S. Ware; slip red 2.5YR 5/6, worn.
 Stamped decoration at centre of floor; six two-ringed concentric circles grouped around central four-ringed concentric circles.
Cf. LRP, 235 and fig. 40 type 24 b and c (normally style A(ii)) and 235-236 and fig. 40 type 27 h and i. Styles A(ii)-A(iii), B, C).
 Later fourth to mid fifth century.

14.279 (78.692) Fig. 136; Pl. 80
 Lower City TR2 (1).

Floor fr. with stamped decoration.
0.040 x 0.023.

Clay fine, close to light red 10R 6/6; slip red 10R 5/6, semi-lustrous on interior.

One partially preserved stamped motif: four concentric circles, set back from centre of floor and surrounded by fine grooves.

Cf. LRP, 235-236 and fig. 40 type 27 h and i; *cf.* central motif of **14.278**. Styles A(ii)-(iii), B, C.

Later fourth to mid fifth century.

14.280 (78.1844) Fig. 136; Pl. 80
Isthmus TR4 tr2 (1).

Floor fr. with stamped decoration.
0.040 x 0.020.

Clay light red 10R 6/6-6/8, thin-walled; slip worn. Trefoil motif consisting of three double circles in relief with knob at top (*cf. LRP*, 245 and fig. 43 type 83 h) alternating with another motif, perhaps grille-pattern (*cf. LRP*, 241 and fig. 42, especially types 67-69). Styles A(ii)-(iii), B, C, D. Decoration commonly associated with Form 67, *cf. 14.240-14.245*.

Mid fourth to mid fifth century.

14.281 (78.2690) Fig. 136; Pl. 80
Isthmus TR2 tr2 (1).

Floor fr. with stamped decoration.
0.040 x 0.015.

Clay fine, light red 10R 6/6; slip well smoothed on interior and exterior, red 10R 5/8.

Two bands, each consisting of three shallow grooves around centre of floor, surrounded by band of three preserved "petals" in double outline. Motif similar to *LRP*, 233 types 20 and 21; *cf.* also some of the lentoid and almond shaped motifs, *LRP*, 251 and fig. 46 types 128-130 (the latter mostly Style D). Perhaps Style A (?).

Fourth or fifth century.

Cypriot Red Slip Ware

14.282 (78.876) Fig. 137; Pl. 80
Lower City TR1 (2).

Rim fr. Form 2, small version.
P.H. 0.035; D. 0.158.

Clay between light brown 7.5YR 6/4 and brown 7.5YR 5/4, thin-walled; slip variegated, light brown to red.

Steep wall with slight carination near base; knobbed rim with two fine grooves on top. Rather crude rouletting covering all of preserved wall above the carination on exterior.

Cf. LRP, 373-376 Form 2 nos. 10 and 11 (small versions), profile closer to no. 2 (=Waagé, *Hesperia* 2 [1933] 308 and pl. X no. 290); *cf. Antioch IV*, 1, pl. XI nos. 930 f-k; *Samaria-Sebaste* III, 360 and fig. 84 no. 9; *Tarsus I*, 277 and fig. 208 no. 822 and no. u; *Khirbat al-Karak*, pl. 54 no. 8 (=LRP, 375 no. 12); *Tocra II*, 113 and fig. 51 no. 2541.

Late fifth to early sixth century.

14.283 (78.2977) Fig. 137
Lower City TR1 (2).

Rim fr. Form 9 (*cf.* Form 10).
P.H. 0.025; D. (est.) 0.300 (?).

Clay as **14.282** but variegated in parts to grey; slip as **14.282**.

Flaring wall; thickened vertical rim, with convex outer face, flat on top and projecting from wall at bottom. Grooves along outer face of rim with crude and irregular rouletting impressed over.

Cf. LRP, 379-383 and figs. 81-82 (Forms 9 and 10), especially no. 13; *LRP Supp.*, 529; *Khirbat al-Karak*, pl. 52 nos. 322-38; McNicoll *et al.*, *Pella in Jordan I*, pl. 139 no. 10; Hayes, *DOP* 22 (1968) 211 and fig. F no. 71.

Late sixth to seventh century.

14.284 (78.3580) Fig. 137; Pl. 80
Lower City TR1 (2).

Base fr. with stamped decoration.
P.H. 0.014; D. (base) est. 0.150.

Clay coarse, with lime and other inclusions, thick-walled and hard fired, close to light reddish brown 2.5YR 6/4; slip close to weak red 7.5YR 4/4 and 10R 5/4, with slight metallic sheen on interior; exterior poorly finished.

Low ring foot with slight offset at junction with wall (*cf.* bases of Forms 1 and 2). Stamped decoration around centre of floor: one preserved palm-branch alternating with circular motif and sur-

rounded by two bands of crude rouletting.

Cf. LRP, 384 fig. 84 motifs a and g. Probably Form 2.

Late fifth to early sixth century.

Other possible fr. *Cypriot R.S. Ware* entered in the inventory:

78.1970

Macedonian 'T.S. Grise'

14.285 (78.1392) Fig. 137; Pl. 81

Isthmus TR3 tr1 (3) B17.

Rim fr. Form 1 or 2.

Max. L. x W. 0.054 x 0.028.

Clay dark grey, loaded with fine silver mica; slip slightly darker, semi-lustrous on top of rim; underside poorly finished.

Broad horizontal rim with scalloped edge; groove on top near junction with wall. Impressed decoration along outside edge of rim on top.

Dish or bowl, *cf. Stobi* I, pl. 48 nos. 420-1 (Form 1); pls. 49-50 (various examples Form 2); Anderson-Stojanović, *RCRFActa*, 23/24 (1984) 103 and 105 Forms 1 and 2, *cf. especially* 100 fig. 1 c (Form 1), and 102, fig. 2 a (Form 2); also *LRP*, 406, fig. 91 a (=Corinth C-33-1415); *LRP Supp.*, 534; Pet-sas, *Makedonika* 14 (1974) 346 and pl. 38 no. d; Aleksova and Wiseman ed., *Studies in the Antiquities of Stobi* III, 52-53 and fig. 4 b; Wiseman and Mano-Zissi, *AJA* 76 (1972) 418 and pl. 87 fig. 38 no. 23; *cf. Kepeski, Acta Archaeologica Macedoniae* 2 (1976) 154.

Late fourth to early fifth century.

14.286 (78.3289) Fig. 137

Isthmus TR3 tr2 ext. (2).

Rim fr. Form 1 or 2.

Max. L. x W. 0.038 x 0.028.

Clay as **14.285** but slightly lighter in colour; slip not preserved.

Rim as **14.285** but slightly less broad and somewhat thicker in profile. Grooves on top near junction with wall. Impressed decoration along outside edge of rim on top.

Cf. 14.285; for decoration *cf. especially* Ander-

son-Stojanović, *RCRFActa*, 23/24 (1984) 102 fig. 2 a (Form 2); *Stobi* I, pl. 50 nos. 442-3.

Late fourth to early fifth century.

14.287 (76.921) Fig. 137 a-b

Isthmus TR1 tr2 (3).

Rim fr. Form 1.

P.H. 0.016; D. (est.) 0.334.

Clay considerably coarser than **14.285-14.286** and more micaceous with a tendency to flake, rather underfired, grey-brown; slip dull, grey.

Rim and impressed decoration as **14.286**. *Cf. 14.285* and **14.286**; D. (rim) would indicate a dish (Anderson-Stojanović, *RCRFActa*, 23/24 [1984] 103 Form 1, rather than bowl, Form 2).

Late fourth to early fifth century.

14.288 (78.2319 + 78.2320) Fig. 137

Lower City TR1 S (3).

Rim fr. (2 non-joining). Form 2.

P.H. 0.030; D. 0.200.

Clay as **14.285**; slip slightly darker in colour, semi-lustrous on interior and exterior. Underside of rim poorly finished.

Bowl with deep, slightly curved, body; broad horizontal or slightly flaring rim. Two grooves on top of rim near lip. Two scraped grooves on exterior below rim.

Cf. Anderson-Stojanović, RCRFActa 23/24 (1984) 105 Form 2; *cf. the shape of African R.S. Ware* Form 52, *LRP*, 76-78.

Late fourth to early fifth century.

14.289 (78.3526) Fig. 137 a-b

Isthmus TR3 tr2 (2).

Rim fr. Form 1 or 2.

P.H. 0.009; L. 0.032.

Clay as **14.285**; slip not preserved.

Horizontal rim not unlike **14.288** but thickened towards outside edge. Groove on top of rim near lip; groove along outer edge of lip.

Impressed decoration on top of rim.

Cf. Stobi I, pl. 48 no. 419 (Form 1); Anderson-Stojanović, *SZRK*, 103 and 105, Forms 1 and 2.

Late fourth to early fifth century.

14.290 (76.470) Fig. 137; Pl. 81

Isthmus TR1 tr2 (2).

Rim or body fr.

0.023 x 0.021.

Clay and slip as **14.285**.

Fr. too small to determine shape. Stamped decoration on one side: group of four preserved circles in triple outline. For stamped motif cf. *LRP* 406 fig. 91 c.

Late fourth to early fifth century.

14.291 (78.3180)

Fig. 137

Isthmus TR4 tr2 (1).

Base fr.

P.H. 0.015; D. (base) 0.176.

Clay grey, loaded with silver mica, thick-walled and rather underfired with a soapy feel; clay core fired lighter grey; slip darker grey, well smoothed on interior, somewhat worn.

Low ring foot similar to *LRP*, 406 fig. 90 b (=Corinth C-65-185); the diameter of the base would indicate a dish (Form 1).

Late fourth to early fifth century.

14.292 (76.922)

Fig. 137

Isthmus TR1 tr2 (3).

Base fr.

P.H. 0.013; D. (base) N/R.

Clay light grey, loaded with fine silver mica; slip slightly lighter in colour, well smoothed on interior.

Foot as **14.291**, but from smaller vessel, perhaps bowl.

Cf. *LRP*, 406 fig. 90 c.

Late fourth to early fifth century.

Other fr. *Macedonian 'T.S. Grise' Ware* entered in the inventory:

78.2079

Asia Minor 'Light Coloured' Ware

Dish with vertical or hammerhead rim

Cf. *LRP*, 409 fig. 92 no. 1 (cf. *Phocaeen R.S. Ware Form 3*)

14.293 (76.153)

Fig. 138

Isthmus TR1 tr1 (1).

Rim fr.

P.H. 0.026; D. 0.270.

Clay light brown 7.5YR 6/4; slip close to red 2.5YR 5/8, very worn.

Shallow sloping wall; vertical rim, rounded on top and projecting slightly at bottom. Small offset below rim at junction with wall. Multiple band of "notch" rouletting on exterior face of rim (cf. the rouletting on the fr. of *Phocaeen R. S. Ware 14.139-14.140*).

Cf. *LRP*, 409 fig. 92 no. 1; Aharoni, *Excavations at Ramat Rahel 1961 and 1962*, fig. 7 no. 22; cf. Bockisch and Böttger, *Klio* 47 (1966) 242 and fig. 32 no. 333 (=Klio 48 [1967] 295 no. 79 and pl. XVIII no. 102 and 102 a).

Mid-fifth to sixth century.

14.294 (78.2983)

Fig. 138

Lower City TR2 (1).

Rim fr.

P.H. 0.033; D. 0.280.

Clay thin-walled, with some golden mica, between pink 5YR 7/4 and light reddish brown 5YR 6/4; slip thick and matt, red 2.5YR 5/8, of fairly good quality.

Rim as **14.293** but flat on top and without the offset below. Scraped groove on exterior below rim.

Cf. **14.293**.

Mid-fifth to sixth century.

14.295 (76.2030)

Fig. 138

Isthmus TR2 tr1 (3).

Rim fr.

P.H. 0.020; D. (est.) 0.220.

Clay as **14.293**; slip variegated, red-brown.

Vertical rim similar to **14.293-14.294** but resembling more closely *Phocaeen R.S. Ware Form 3C/F*. Outer face of rim concave, and with more pronounced overhang at bottom. Two rows of rouletting on exterior face of rim.

Mid-fifth to sixth century.

14.296 (78.2094)

Not illustrated

Isthmus TR1 tr2 (4).

Body fr. preserving part of rim.

P.H. 0.030.

Clay as **14.293**; slip as **14.295**.

Vertical rim similar to **14.293** and **14.294**.

Mid-fifth to sixth century.

Dish/bowl with upturned thickened rim, concave on top

Cf. LRP, 409 fig. 92 no. 2 (*cf.* Phocaeen R.S. Ware Forms 6 and 7)

14.297 (78.2329)

Fig. 138

Lower City TR1 S (3).

Rim fr.

P.H. 0.042; D. 0.220.

Clay close to light reddish brown 5YR 6/4; slip red 2.5YR 5/8, unevenly applied on lower wall on exterior.

Shallow sloping wall; upturned rim, thickening considerably towards lip, with highest point at outside edge; concave on top. Wide band of feather-rouletting, lightly impressed, on exterior wall immediately below the upturned rim.

Cf. LRP, 409 fig. 92 no. 2.

Mid-fifth to sixth century.

14.298 (78.3505)

Fig. 138

Lower City TR1 (2).

Rim fr.

P.H. 0.027; D. 0.240.

Clay as **14.297**; slip with slight metallic sheen, close to light reddish brown 5YR 6/4, applied unevenly.

Rim as **14.297**.

Mid-fifth to sixth century.

Small bowl with knobbed rim

A deep variant of *LRP*, 409 fig. 92 no. 3 (?)

14.299 (76.2078)

Fig. 138

Isthmus TR1 tr1 (2).

Rim fr.

P.H. 0.024; D. (est.) 0.170.

Clay thin-walled, close to pink 5YR 7/4; slip very worn, red.

Steep wall; small knobbed rim with rounded outside face, concave on top and bearing a small flange along the inner edge. Multiple band of deeply impressed "notch" rouletting below rim on interior.

The shape is possibly a deeper version of *LRP*, 409 fig. 92 no. 3; *cf.* Hayes, *DOP* 22 (1968) 211 and fig. F no. 76.

Mid-fifth to sixth century or slightly later.

Bowl or dish with broad horizontal rim

Cf. LRP, 409 fig. 92 no. 4 (*cf.* Phocaeen R.S. Ware Forms 2 and 5)

14.300 (78.875 + 78.3127)

Fig. 138

Lower City TR1 (2).

Bowl fr. (3) preserving complete profile.

H. 0.051; D. 0.170; D. (base) 0.080.

Clay close to pink 5YR 7/4; slip variegated red to light brown, partially discoloured on interior, unevenly applied on exterior.

Low ring foot with rounded resting surface; prominent wheel-marks on underside which spiral in to centre (as on **14.315-14.316**; for similar treatment on underside *cf.* Bockisch and Böttger, *Klio* 47 [1966] 242 and fig. 32 no. 333). Shallow curved floor, upturned near rim. Broad, slightly downturned, horizontal rim, with small upturned hook at lip.

Five separate rows of rouletting preserved on interior; single row of rouletting on top of rim (rouletting similar to that on *LRP*, 409 fig. 92 no. 1).

Cf. LRP, 409 fig. 92 no. 4.

Mid-fifth to sixth century.

14.301 (78.1454)

Fig. 138; Pl. 81

Isthmus TR4 tr1 (2).

Rim fr.

P.H. 0.022; D. 0.270.

Clay close to pink 7.5YR 7/4; slip between red 2.5YR 5/8 and yellowish red 5YR 5/8.

Dish rather than bowl, with shallow sloping floor, upturned near rim. Broad horizontal rim thickening slightly towards outside edge. Two grooves on top of rim; impressed decoration on top of rim at outside edge.

Cf. 14.300 and especially Hayes, *DOP* 22 (1968) 211 and fig. F no. 75.

Mid-fifth to sixth century or slightly later.

14.302 (78.1920)

Fig. 138; Pl. 81

Isthmus TR1 tr2 (5).

Rim fr.

Max. L. x W. 0.039 x 0.025.

Clay and slip as **14.301**; slight discolouration on exterior of rim.

Rim as **14.301** but without the grooves on top. Combed wavy line decoration on top of rim near outside edge.

Mid-fifth to sixth century or slightly later.

Dish or bowl with upright or incurved thickened rim, rounded on top

Cf. LRP, 409 fig. 92 no. 5

14.303 (78.3047)

Fig. 139

Lower City TR1 (1).

Rim fr.

P.H. 0.031; D. 0.320.

Clay pink 7.5YR 7/4; slip close to reddish yellow 5YR 6/8. Partial discolouration on interior of rim.

Sloping floor; upright rim thickening towards top and marked off from floor by broad shallow groove. Rim rounded on top; shallow groove on exterior below rim.

Cf. LRP, 409 fig. 92 no. 5.

Mid-fifth to sixth century.

14.304 (76.1017)

Fig. 139

Isthmus TR1 tr2 (3).

Rim fr.

P.H. 0.021; D. 0.240.

Clay close to pink 7.5YR 7/4; slip variegated, red-light brown (perhaps due to discolouration at rim).

Rim similar to **14.303** but smaller and with groove on top near inner edge; grooves on outer face.

Mid-fifth to sixth century.

14.305 (78.3126)

Fig. 139

Lower City TR1 (2).

Rim fr.

P.H. 0.018; D. (est.) 0.180.

Clay pink 5YR 7/4; slip worn, close to reddish yellow 5YR 6/8. Prominent brush-marks on interior; exterior rather poorly finished.

Rim as **14.304** but more incurved. Vessel clearly a bowl rather than dish.

Mid-fifth to sixth century.

14.306 (78.3248)

Fig. 139; Pl. 81

Lower City TR3 SE.

Rim fr.

P.H. 0.026; D. 0.200.

Clay as **14.305**; slip similar colour, thick and with slight metallic sheen on exterior.

Steep wall; plain rim slightly thickened on outside. Deep grooves on interior below rim. Multiple band of deeply impressed "notch" rouletting on exterior below rim.

Shape related to **14.303** and *cf. Hayes, DOP 22* (1968) 211 and fig. F no. 74.

Mid-fifth to sixth century or slightly later.

Deep bowl with short horizontal or outturned rim

14.307 (76.781)

Fig. 139

Isthmus TR2 tr1 (3).

Rim fr.

P.H. 0.015; D. (approx.) 0.220 (?).

Clay close to pink 7.5YR 7/4; slip reddish yellow 5YR 7/8-6/8.

Deep bowl with short horizontal rim with rounded outside face. Two pronounced grooves on top of rim. Triple row of deeply impressed "notch" rouletting preserved on interior immediately below rim.

Shape very close to Hayes, *DOP 22* (1968) 211 and fig. F no. 77. The fr. 78.646 is perhaps from the same vessel.

Mid-fifth to sixth century or slightly later.

14.308 (78.1868)

Fig. 139

Lower City TR1 N (3).

Rim fr.

P.H. 0.042; D. 0.200.

Clay reddish yellow 5YR 6/6; slip between red 10R 5/6 and light red 2.5YR 6/6, with a slight metallic sheen on interior. Exterior and top of rim slightly discoloured.

Steep wall; short horizontal or outturned rim, concave on top.

Two broad, pronounced grooves on interior below rim. Multiple band of faintly impressed rouletting below rim on exterior.

Cf. **14.307**. The fr. is not unlike one from Lesbos which may be of the same fabric; *cf.* Lamb and Pryce, *JHS* 60 (1940) 98 and fig. 1 no. 19. The fr. 78.3277 is perhaps from the same vessel. Mid-fifth to sixth century or slightly later.

Other rim fragments

14.309 (78.3495) Fig. 139
Lower City TR1 S (3).
Rim fr.
P.H. 0.018; D. 0.300.
Clay and slip as **14.307**.
Dish with steep upper wall and short horizontal rim tapering towards outside edge, flat on top. Pronounced grooves on interior and exterior below rim.
Perhaps related to **14.297-14.298**, *cf.* **14.308**.
Mid-fifth to sixth century or slightly later.

14.310 (78.3058) Fig. 139
Lower City TR1 (2).
Rim fr.
P.H. 0.026; D. 0.300.
Clay between pink 5YR 7/4 and 7.5YR 7/4; slip close to light red 2.5YR 6/8-6/6, applied unevenly on exterior. Brush-marks prominent on interior. Steep wall; upright thickened rim, flat on top. Two grooves on interior below rim; wheel-marks or shallow grooves on exterior.
Perhaps a flat-topped version of **14.303-14.306**; *cf.* also **14.297-14.298**. Shape not unlike Cypriot R.S. Ware Form 6, *cf.* *LRP*, 377 and *Antioch* IV, 1, pl. XI no. 960.
Mid-fifth to sixth century or slightly later.

Base fragments

14.311 (76.789) Fig. 139; Pl. 81
Isthmus TR2 tr1 (3).
Base fr.
P.H. 0.012; D. (base) 0.100.
Clay close to pink 7.5YR 7/4; slip between reddish yellow 5YR 6/6 and red 2.5YR 5/8.
Low ring foot; groove at junction with wall. Multiple bands (at least two preserved) of deeply impressed "notch" rouletting around centre of floor.

Cf. the base on *LRP*, 409 fig. 92 no. 2; *cf.* also **14.300**.

Mid-fifth to sixth century.

14.312 (78.3404) Fig. 139; Pl. 81
Isthmus TR1 tr3 (2).
P.H. 0.013; D. (base) 0.110.
Clay and slip as **14.311**.
Low ring foot as **14.311**. Multiple bands of rouletting around centre of floor.
Cf. **14.311**.
Mid-fifth to sixth century.

14.313 (76.603) Fig. 139; Pl. 81
Isthmus TR1 tr2 (3).
Base fr.
P.H. 0.021; D. (base) N/R.
Clay colour variegated pink 7.5YR 7/4 - light grey; slip close to brown 7.5YR 5/4, well smoothed and semi-lustrous on interior.
Low ring foot from larger vessel. Multiple bands (at least two preserved) of deeply impressed "notch" rouletting around centre of floor.
Mid-fifth to sixth century.

14.314 (78.3596) Fig. 139; Pl. 81
Isthmus TR1 tr2 (5).
Base fr.
P.H. 0.010; D. (base) 0.078.
Clay pink 5YR 7/4; slip between light red 2.5YR 6/8 and red 2.5YR 5/8.
Low ring foot from small and very thin-walled vessel; *cf.* the foot of **14.300** but smaller. Multiple band of deeply impressed rouletting around centre of floor.
Mid-fifth to sixth century.

Other base fr. entered in the inventory:

(a) with rouletting on interior:

78.2763

78.3285

(b) without rouletting:

78.1877 (?)

78.3379

Floor fr. with stamped decoration

14.315 (78.1581) Fig. 139; Pl. 81

Lekythos TR1 (3).

Floor fr. with stamped decoration.

0.058 x 0.046.

Clay close to pink 7.5YR 7/4; slip reddish yellow 5YR 6/6.

Pronounced wheel-marks on underside spiralling in to centre (treatment as **14.300** and **14.316**).

Stamped decoration at centre of floor: studded cross, surrounded by multiple band of rouletting.

For stamp type cf. *LRP Supp.*, 534 and especially Bockisch and Böttger, *Klio* 47 (1966) 242 and fig. 32 no. 333 and *Klio* 48 (1967) 295 no. 79 and pl. XVIII no. 102 a (also with rouletting); Belyzev, *Kratkie Soobshcheniya* 130 (1972) 123, fig. 50 (which is surrounded by grooves and rouletting). For similar stamp type in Phocaeen R.S. Ware see *LRP*, 367 and fig. 79 motifs 74 I and 75 m (both Hayes Group III, ca. 470-580 A.C.).

Cf. *BCH* 111 (1987) 592 fig. 9.

Mid-fifth to sixth century.

14.316 (78.425+78.1978) Fig. 139; Pl. 81

Isthmus TR1 tr2 (4), TR1 tr3 (1).

Floor fr. (3: 2 joining and 1 non-joining).

Max. L. x W. 0.065 x 0.051; 0.031 x 0.013.

Clay pink 7.5YR 7/4; slip close to reddish yellow 5YR 6/8-7/4.

Treatment of underside as **14.300** and **14.315**; fr. thickened at centre.

Stamped ring at centre of floor surrounded by two deep grooves around which radiate studded motifs (*planta pedis*, three preserved) and surrounded by another groove.

Motif apparently common for this fabric, cf. *LRP*, 409.

Mid-fifth to sixth century.

Other fr. Asia Minor 'Light-Coloured Ware' entered in the inventory (both preserving rouletting):

78.1979

78.3128

II. COOKING WARE

Type 1

14.317 (78.3388)

Fig. 140

Lower City TR2 (1).

Rim fr.

P.H. 0.039; D. 0.190.

Sharply flaring rim, flat on top. Body plain.

14.318 (78.3105)

Fig. 140

Lower City TR1 Baulk (3).

Rim fr. (2).

P.H. 0.037; D. 0.180.

Rim and body as **14.317**.

14.319 (76.951)

Fig. 140

Isthmus TR1 tr2 (3).

Rim and handle fr.

P.H. 0.030; D. (est.) 0.160.

Rim as **14.317**; thin vertical strap handle attached immediately below rim; only portion of handle scar preserved.

14.320 (78.2996)

Fig. 140

Lower City TR2 (1).

Rim fr.

P.H. 0.032; D. 0.180.

Rim as **14.317** but slightly convex on top.

14.321 (78.3387)

Fig. 140

Lower City TR2 (1).

Rim fr.

P.H. 0.031; D. 0.180.

Rim as **14.320**, with slight thickening at lip. Scraped groove on exterior at junction of rim and wall.

14.322 (78.2172)

Fig. 140

Isthmus TR2 tr2 (2).

Rim fr.

P.H. 0.049; D. 0.116.

Flaring rim, tending to be almost vertical. Diameter at rim smaller than preceding.

14.323 (79.1953)

Fig. 140

Lower City TR1 N (1).

Rim fr.

P.H. 0.031; D. 0.200.

Rim as **14.320** but shorter and with slight thickening at lip.

14.324 (76.1025)

Fig. 140

Isthmus TR1 tr2 (3).

Rim fr.

P.H. 0.018; D. 0.160.

Rim as **14.323** but shorter and almost horizontal; outside edge of rim chamfered. Body plain. Approaching Type 3.

Type 2

14.325 (78.2282)

Fig. 140

Isthmus TR1 tr3 (1).

Rim fr.

P.H. 0.034; D. 0.180.

Steep wall; flaring rim with slight thickening at lip. Small flange set along inner edge of rim at junction with body. Thin groove on top of rim near flange. Body plain.

14.326 (78.2040)

Fig. 141

Lower City TR1 (2).

Rim fr.

P.H. 0.028; D. (est.) 0.160.

Rim as **14.325** but with outside edge chamfered. Flange less pronounced.

14.327 (78.2227)

Fig. 141

Isthmus TR1 tr2 (4).

Rim fr.

P.H. 0.029; D. 0.140.

Rim as **14.326**.

14.328 (78.2895+78.3102)

Fig. 140

Lower City TR1 S (3); TR1 Baulk (3).

Rim fr. (3).

P.H. 0.035; D. 0.190.

Rim as **14.325** but stepped on top to form two flat bands; outside edge of rim rounded.

14.329 (78.3551)

Fig. 141

Lower City TR1 Centre E ext (1).

Rim and handle fr.

P.H. 0.029; D. (est.) 0.240.

Rim as **14.328** but with outside edge chamfered. Thin vertical strap handle attached immediately below rim as **14.319** (Type 1); only portion of handle scar preserved.

Related

14.330 (78.3023)

Fig. 141

Lower City TR1 NW ext.

Rim fr.

P.H. 0.032; D. 0.300.

Type 2 large version. Rim heavier and more horizontal, with rounded outside edge. Underside of rim concave, with slight offset at junction with wall. Thick wall.

Cf. Agora V, 53 and pl. 72 J22 (early third century); 67 and pl. 72 K89 (mid third century).

Type 3

14.331 (78.2066)

Fig. 141

Isthmus TR2 tr2 (1).

Fr. preserving part of rim, body and one complete handle.

P.H. 0.082; D. 0.215.

Deep curved body, the upper part of which is wheel-ridged. Short flaring rim, flat on top and with rounded outside edge. Thin vertical strap handle attached directly to rim, with broad faint groove on outer face towards one side.

14.332 (78.3304)

Fig. 141

Isthmus TR2 tr2 (1a).

Rim and handle fr.

P.H. 0.038; D. 0.230.

Clay not blackened, close to light brown 7.5YR 6/4 and brown 7.5YR 5/4.

Body wheel-ridged. Short horizontal or out-turned rim, convex on top and with outside edge chamfered. Portion of handle scar preserved at break, attached directly to rim.

Cf. 14.331.

14.333 (78.2477)

Fig. 141

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.026; D. 0.220.

Body wheel-ridged. Short horizontal or out-turned rim as **14.332**, but flat on top and with outside edge concave.

14.334 (76.995)

Fig. 141

Isthmus TR1 tr1 (1).

Rim fr.

P.H. 0.024; D. (est.) 0.200.

Rim as **14.333** but slightly more flaring. Preserved body plain.

14.335 (78.2038)

Fig. 142

Lower City TR1 (2).

Rim fr.

P.H. 0.032; D. 0.240.

Thicker flaring rim with concave outside edge. Sharp angle formed at junction of rim and wall on interior.

The fr. 76.996 is almost identical in profile.

14.336 (78.3099)

Fig. 142

Lower City TR1 Baulk (3).

Rim and handle fr.

P.H. (not including handle) 0.026; D. 0.180.

Rim as **14.335**. Thin vertical strap handle attached directly to rim and bearing grooves on outer face.

14.337 (78.1089)

Fig. 142

Lower City TR1 (2).

Rim fr.

P.H. 0.054; D. 0.150.

Rim as **14.335-14.336**. Small offset on interior at junction of rim and wall. Deep and neatly executed wheel-ridging on exterior.

14.338 (78.1888)

Fig. 142

Lower City TR1 S (3).

Rim fr.

P.H. 0.030; D. 0.140.

Rim as **14.335-14.337** but with outside edge chamfered. Body wheel-ridged.

Type 4

14.339 (78.3394)

Fig. 142

Isthmus TR1 tr2 (4).

Rim fr.

P.H. 0.026; D. 0.235.

Clay not blackened, close to pink 5 YR 7/4, light reddish brown 5YR 6/4 and reddish yellow 5YR 6/6; core fired light brown/grey.

Wall sloping in towards rim; rim folded back and attached directly to wall creating a small hollow. Top of rim concave, outside edge chamfered.

Rim form essentially Type 3, but with rim having been pushed down.

14.340 (78.2037+78.3134)

Fig. 142

Lower City TR1 (2).

Rim fr. (2).

P.H. 0.028; D. 0.180.

Clay not blackened, more gritty than **14.339**, close to light reddish brown 5YR 6/4.

Rim similar to **14.339** but without the small hollow; top of rim concave, outside edge rounded. Body wheel-ridged.

14.341 (78.2224)

Fig. 142

Isthmus TR1 tr2 (4).

Rim fr.

P.H. 0.020; D. 0.180.

Clay not blackened, as **14.340**.

Wall curving in to rim, exterior wheel-ridged. Top of rim flat, outside edge chamfered.

14.342 (78.2059)

Fig. 142

Lower City TR1 (2).

Rim fr.

P.H. 0.022; D. 0.155.

Clay not blackened, close to reddish yellow 5 YR 6/6.

Body as **14.341**; rim convex on top, outside edge rounded.

14.343 (78.2694)

Fig. 143

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.027; D. 0.186.

Clay not blackened, as **14.340**.

Body and rim as **14.341**, but rim slightly shorter.

14.344 (78.2804)

Fig. 143

Lekythos TR2 (2).

Rim fr.

P.H. 0.024; D. 0.170.

Clay not blackened, as **14.340**.

Wall curving in to rim and forming a sharp angle at junction with rim on interior. Rim convex on

top, outside edge chamfered. Preserved body plain.

14.345 (78.3861) Fig. 143

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.035; D. 0.150.

Clay not blackened, between light reddish brown 5YR 6/4 and reddish brown 5YR 5/3.

Wall sloping in to rim; upper wall wheel-ridged.

Rim convex on top and rising to small upturned hook near outside edge; outside edge chamfered.

14.346 (78.2058) Fig. 143

Lower City TR1 (2).

Rim fr.

P.H. 0.017; D. 0.171.

Clay not blackened, as **14.342**; core fired light grey.

Thin, almost vertical wall; rim as preceding but shorter and thicker. Rim flat on top, with rounded outside edge.

Type 5

14.347 (78.2994) Fig. 143

Lower City TR2 (1).

Rim fr.

P.H. 0.037; D. 0.310.

Vertical upper wall; thick horizontal rim with rounded outside edge.

14.348 (78.2995) Fig. 143

Lower City TR2 (1).

Rim fr.

P.H. 0.022; D. 0.280.

Clay not blackened, close to light reddish brown 5YR 6/4.

Shape as **14.347** but with rather sharper angle formed at junction of rim and wall on interior.

14.349 (78.3386) Fig. 143

Lower City TR2 (1).

Rim fr.

P.H. 0.047; D. 0.240.

Steep, curved body; thick horizontal rim, slightly downturned, with rounded outside edge.

14.350 (78.1925) Fig. 143

Lower City TR1 NW ext.

Rim fr.

P.H. 0.029; D. 0.220.

Steep wall tending to curve out towards bottom.

Thick horizontal or outturned rim, with rounded outside edge.

14.351 (76.952) Fig. 143

Isthmus TR1 tr2 (3).

Rim and handle fr.

P.H. 0.026; D. 0.290.

Rim as **14.347**, but slightly concave on top.

Rather thin vertical strap handle attached to rim and bearing grooves on outer face.

Cf. handles on **14.331** and **14.336**.

14.352 (78.1818) Fig. 144

Isthmus TR1 tr3 (2).

Rim fr.

P.H. 0.038; D. 0.280.

Steep, slightly curved upper body, wheel-ridged.

Horizontal rim with rounded outside edge, bearing grooves on top.

14.353 (78.1965) Fig. 144

Isthmus TR1 tr3 (1).

Rim fr.

P.H. 0.052; D. 0.250.

Clay not blackened, between light reddish brown 5YR 6/4 and reddish yellow 5YR 6/6.

Steep, almost vertical, upper wall, with possible wheel-ridging towards bottom of preserved fr.

Horizontal rim tapering slightly towards rounded outside edge. Sharp angle formed at junction of rim and wall on interior.

Type 6

14.354 (78.2057) Fig. 144

Lower City TR1 (2).

Rim fr.

P.H. 0.030; D. 0.150.

Wall curving in to short vertical neck; small knobbed rim, flat on top. Body plain.

14.355 (78.1798) Fig. 144

Isthmus TR1 tr3 (1).

Rim and handle fr.

P.H. 0.041; D. 0.204.

Shape as **14.354**; portion of handle scar preserved, attached to rim and neck. Body wheel-ridged.

14.356 (78.3226) Fig. 144

Lower City TR1 S (3).

Rim fr.

P.H. 0.023; D. 0.150.

Shape as **14.354-14.355** but with shallow groove on top of rim.

14.357 (76.2054) Fig. 144

Isthmus TR1 tr1 (2).

Rim fr.

P.H. 0.017; D. 0.176.

Clay not blackened, reddish brown 5YR 5/4.

Rim as preceding, tending more horizontal.

14.358 (78.1962) Fig. 144

Isthmus TR1 tr3 (1).

Rim and handle fr.

P.H. 0.020; D. 0.156.

Shape as **14.354-14.355** but with small ridge along neck on exterior. Thin vertical strap handle attached directly to rim and neck.

14.359 (78.3445) Fig. 144

Lower City TR3 (3) N upper.

Rim and handle fr.

P.H. (not including handle) 0.028; D. 0.150.

Sloping wall; shorter, more flaring neck; thickened rim, concave on top (shape approaching Type 7). Thin vertical strap handle bearing two grooves on outer face, attached directly to rim.

Type 7

14.360 (78.3061) Fig. 145

Lower City TR1 (2).

Rim fr.

P.H. 0.041; D. 0.140.

Clay only partially blackened, close to light reddish brown 5YR 6/4 and reddish yellow 5YR 6/6. Steep wall curving in to thick upturned rim bearing groove on top. Body plain.

14.361 (76.1023) Fig. 145

Isthmus TR1 tr2 (3).

Rim fr.

P.H. 0.033; D. 0.220.

Wall sloping in to rim; thick knobbed rim, bearing broad deep groove on top. Body plain. Vessel larger than normal for this type.

14.362 (78.2332) Fig. 145

Lower City TR1 S (3).

Rim fr.

P.H. 0.029; D. 0.160.

Wall curving out to knobbed rim bearing broad groove on top. Body plain.

14.363 (78.2281) Fig. 145

Isthmus TR1 tr3 (1).

Rim fr.

P.H. 0.019; D. 0.160.

Clay not blackened, close to reddish yellow 5YR 6/8.

Rim as **14.362**; body perhaps wheel-ridged (?)

14.364 (76.2083) Fig. 145

Isthmus TR1 tr1 (2).

Rim fr.

P.H. 0.023; D. 0.160.

Clay not blackened, reddish yellow 5YR 7/6-6/6.

Rim as **14.362** but with the groove on top less pronounced, cf. **14.360**. Upper body plain.

14.365 (78.3555) Fig. 145

Isthmus TR1 tr3 (2).

Rim fr.

P.H. 0.028; D. 0.184.

Clay not blackened, between light reddish brown 5YR 6/4 and reddish yellow 5YR 6/6.

Rim and body thicker, as **14.361**, but with rather sharper angle formed at junction of rim and wall on interior. Groove on top of rim less broad; upper body plain. Shape not unlike some examples of Type 4.

14.366 (78.3497) Fig. 145

Lower City TR1 S (3).

Rim and handle fr.

P.H. 0.017; D. 0.190.

Rim as **14.362** but tapering slightly towards outside edge. Thin vertical strap handle with groove on one side, attached directly to rim.

Type 8

14.367 (78.1886) Fig. 146
Lower City TR1 S (3).

Rim fr.

P.H. 0.037; D. 0.145.

Steep wall curving in to a small knobbed rim with shallow groove along outside edge. Small offset below rim at junction with wall. Body wheel-ridged.

14.368 (78.2562) Fig. 146
Isthmus TR1 tr2 (4a).

Rim fr.

P.H. 0.046; D. 0.120.

Rim as **14.367** but without the groove along outside edge. Body wheel-ridged.

14.369 (76.1051) Fig. 146
Isthmus TR1 tr2 (2).

Rim fr.

P.H. 0.037; D. 0.130.

Shape as **14.368**.

14.370 (78.1838) Fig. 146
Lower City TR1 S (3).

Rim fr.

P.H. 0.026; D. 0.080.

Shape as **14.368** but smaller and without the offset below rim.

Base fragments

Bases associated with the various rim types outlined above appear to be standard for all types except Types 5 and 8, although this is not absolutely certain except in the case of Type 7 where a complete profile was found in 1981. The only other base type so far encountered among the Late Roman deposits is one which is flat and thick-walled and must belong with rims of Type 5.

Bases associated with Type 8 rims remain unknown, although the standard base form seems unlikely as the vessels are too small and too steep-walled to allow for such.

Only three examples of the standard base form are presented here to illustrate the type.

14.371 (78.3167) Fig. 145
Lower City TR2 (1).

Base fr. (2).

P.H. 0.017; D. (at resting surface) 0.057.

Clay not blackened on interior surface, between reddish yellow 5YR 6/6 and yellowish red 5YR 5/6; exterior blackened.

Moulded base, with centre of underside pushed in forming an "omphalos" on interior.

14.372 (76.2101) Fig. 145
Isthmus TR1 tr2 (2).

Base fr.

P.H. 0.018; D. (at resting surface) 0.050.

Clay as **14.371**.

Base as **14.371**.

14.373 (78.2112+78.2115) Fig. 145
Isthmus TR1 tr2 (4).

Base fr. (3).

P.H. 0.016; D. (at resting surface) 0.080.

Moulded base as **14.371-14.372** but with sharp angle formed at junction of base and wall. The preserved interior is coated with a thick matt white slip (which is fugitive). This coating is very close to that described by Robinson in *Agora V*, 5 (*cf.* especially the cup-shaped thymiaterion, *Agora V*, 105 and pl. 26 M224, dating to the early fourth century).

Lids

14.374 (76.953) Fig. 146
Isthmus TR1 tr2 (3).

Lid rim fr.

P.H. 0.021; D. 0.240.

Clay on upperside of lid not blackened, close to reddish brown 5YR 5/4.

Sloping wall; thickened rim with rounded lip. Pronounced offset at junction of rim and wall on underside.

14.375 (78.3552) Fig. 146
Lower City TR1 Centre E ext (1).

Lid rim fr

P.H. 0.018; D. 0.200.

Rim continuing the line of the wall on upperside; small offset at junction of rim and wall on underside. Lid rim similar to **14.374** but smaller.

14.376 (78.3553)

Fig. 146

Lower City TR1 Centre E ext (1).

Lid rim fr.

P.H. 0.016; D. 0.200.

Clay not blackened, close to reddish yellow 5YR 6/6, core fired light grey. Fabric almost identical to **14.346**.

Shape as **14.375** but with offset on underside more pronounced.

14.377 (78.2284)

Fig. 146

Isthmus TR1 tr3 (1).

Fr. of lid preserving knob.

P.H. 0.043; D. (knob, max) 0.037.

Thick sloping wall; crude, heavy round knob, flat on top. The size and wall-thickness of this fr. suggest that it is associated with Type 5 rims.

Both sides of lid poorly finished, with finger-marks and other smears visible.

III. AMPHORAE

Type I

14.378 (82.120)

Fig. 147; Pl. 82

Terrace IV, Amphora Burial, TR39 (23) 507.

Amphora, almost complete. Graffiti.

Vessel reconstructed from fr.; complete except for a few missing chips.

H. 0.680; D. (rim) 0.130; max. D. (body) 0.492.

Clay very pale brown 10YR 7/4, with lime particles.

Short projecting toe; large globular body with point of max. D. towards upper half. Inward sloping neck; thick flaring rim, rounded lip. Thick vertical handles, oval in section, attached from neck to shoulder. Band of spiral-grooving on shoulder and on lower wall near base. The handles were attached after the spiral-grooving was executed (cf. **14.388-14.389**). Graffiti on neck on both sides:

(a) AΛK

(b) [?] ο? οβ <

(a) may refer to a name, or perhaps to ἀλκή, describing the wine as strong. (b) οβ represents a numerical notation, 72-1/2 (cf. **14.379**).

To the left an almond-shaped graffito, to the left of which is another graffito only partially preserved due to missing fr.

Measurement of capacity (using lightly packed polystyrene balls) 61.5 litres to base of neck; 62.3 litres to very top of rim.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 83-87, 100 no. 1. Cf. especially B. Adamsheck, *Kenchreai. Eastern Port of Corinth IV. The Pottery* (1979) 114-115 and pl. 26 no. RC 14. Also C. Abadie in *BCH Suppl. XVIII*, 51 fig. 7; *Agora V*, pl. 29, M 272, pl. 40, P 1429.

14.379 (81.682)

Fig. 147

Terrace IV, Amphora Burial TR10 (1).-

Amphora, fragmentary. Graffito.

Fragmentary amphora; base, lower body and parts of upper body not preserved.

P.H. 0.515; D. (rim) 0.144; max. D. (body) 0.520.

Clay red 2.5YR 5/6, with lime particles and mica; surface colour slightly lighter.

Shape as **14.378**.

Thin coating of mastic covering parts of preserved interior.

Graffito on neck on one side: OΔ and *chi-rho* monogram (on its side) flanked by A and Ω. Numerical notation, 74 (cf. the numerical notation on **14.378** which is 72-1/2; the two vessels are of similar proportions).

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 83-87, 100 no. 2.

Cf. **14.378** and, among others, C.K. Williams and O.H. Zervos, *Hesperia* 52 (1983) pl. 10 no. 72; W.W. Rudolph, *Hesperia* 48 (1979) 306 especially nos. 2-3.

14.380 (78.2434)

Fig. 148

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.073; D. 0.140.

Clay between light reddish brown 5YR 6/4 and pink 7.5YR 7/4, with many lime particles but almost no mica. Surface colour slightly lighter, with brush-marks preserved on interior and exterior.

Rim as **14.379**.

14.381 (78.1799)

Fig. 148

Isthmus TR1 tr3 (1).

Rim fr.

P.H. 0.068; D. 0.130.

Clay close to light reddish brown 5YR 6/4; core fired light red 2.5YR 6/8; with lime particles and mica.

Brush-marks as on **14.380**; grooves or wheel-marks on exterior.

Shape as **14.378**.

Thick coating of mastic on interior and over rim, dribbling down parts of exterior.

14.382 (78.3364)

Fig. 148

Isthmus TR1 tr2 (4)-(5).

Rim fr.

P.H. 0.085; D. 0.104.

Clay and surface as **14.380**.

Shape as **14.378** but thinner-walled and with rim almost vertical.

14.383 (78.2488)

Fig. 148

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.061; D. 0.100.

Clay between light red 2.5YR 6/6 and red 2.5YR 5/8, with fewer lime particles but more mica.

Wheel-marks prominent on exterior.

Shape as **14.382** but from smaller vessel.

14.384 (78.3284)

Fig. 148

Isthmus TR1 tr3 (2).

Rim fr.

P.H. 0.076; D. 0.106.

Clay coarse, with much lime and mica and other impurities erupting onto the surface; many blow-outs. Colour between light red 2.5YR 6/6 and reddish yellow 5YR 6/6.

Shape as **14.382**; portion of handle scar preserved at neck. Rim flat on top.

Other *rim fr.* entered in the inventory:

78.1945 78.3181

78.1959 78.3182

78.2041 78.3202

78.3024 78.3398

78.3026 78.3436

78.3051 78.3482

78.3078 78.3576

78.3140

14.385 (78.3391)

Fig. 148

Isthmus TR1 tr2 (4)-(5).

Base fr. (5).

P.H. 0.045; P.W. (max.) 0.102.

Clay close to reddish yellow 5YR 6/6, with many small lime particles and a little mica.

Short projecting toe with rounded resting surface.

Cf. **14.378**.

14.386 (78.43)

Fig. 148

Isthmus TR1 tr2 (4).

Base fr.

P.H. 0.045; P.W. (max.) 0.072.

Clay between pink 5YR 7/4 and light reddish brown 5YR 6/4, with a few lime particles but almost no mica.

Toe as **14.378** and **14.385**.

14.387 (78.3543)

Fig. 148

Lower City TR1 (2).

Base fr.

P.H. 0.043; P.W. (max.) 0.119.

Clay reddish yellow 5YR 7/6-6/8, with a few lime particles and loaded with fine mica.

Toe as **14.378** but shorter.

14.388 (76.875)

Fig. 148

Isthmus TR1 tr2 (3).

Shoulder and handle fr.

P.H. 0.087; P.W. (max.) 0.111.

Clay light red 2.5YR 6/6, loaded with fine mica but few other impurities.

Sloping shoulder preserving spiral-grooving; vertical handle, oval in section, attached to shoulder.

This fr. clearly shows that the vessel was first

decorated with the band of spiral-grooving and then the handles were attached, since at the break the grooves are visible below the handle attachment. The same may be observed on many fr. and most clearly on **14.389**.

14.389 (78.3413) Pl. 82

Lower City TR2 (1).

Shoulder fr. preserving handle scar.

Max. L. x W. 0.096 x 0.070.

Clay between light red 2.5YR 6/6 and reddish yellow 5YR 6/6.

Shoulder decorated with deep spiral grooving over which the handle is attached.

Cf. **14.388**.

14.390 (78.3604) Fig. 149

Lower City TR1 (2).

Fr. preserving portion of neck, shoulder and one complete handle.

P.H. 0.138; max. P.D. 0.384.

Clay red 2.5YR 5/6, with some mica but few other impurities; surface fired greyish brown.

Brush-marks, finger-marks and other smears visible on neck near handle attachment.

Shoulder spirally grooved.

Shape as **14.378-14.379**.

14.391 (78.3247) Not illustrated

Isthmus TR3 tr1 (2).

Shoulder fr. (7).

P.H. 0.028; P.W. (max.) 0.125.

Clay hard fired, with some lime particles and mica; fired dark greyish brown, abnormally dark.

Shoulder spirally grooved.

Various other shoulder, body or handle fr. entered in the inventory (the fr. marked with an asterisk are coated with mastic on the interior):

76.161* 78.2228*

76.166 78.2981

76.2066* 78.3077

78.1930* 78.3225

78.1947 78.3246*

78.2220 78.3509

14.392 (78.2341) Fig. 149; Pl. 82

Lower City TR1 S (3).

Lid.

Intact except for minor chipping around edge.

H. 0.043; D. 0.111.

Clay light reddish brown 5YR 6/4, with lime particles and a little fine mica; surface fired light grey 2.5Y 7/2.

Small lid consisting of circular disk with central depression on underside and slightly upturned edge. Clay on top pinched up to form crude knob. *Cf.* the diameter at rim of **14.378-14.384**. *Cf.* *Agora* V, 69 and pl. 14, K119; *Tocra* II, 118 and fig. 52 no. 2563.

14.393 (78.3573+78.3574) Fig. 149; Pl. 82

Isthmus TR1 tr1 (4).

Fragmentary lid.

Two joining fr. preserving portion of disk and complete knob of lid.

H. 0.048; D. 0.086.

Clay close to light reddish brown 5YR 6/4, with many lime particles but no mica; surface slightly lighter in colour.

Lid as **14.392** but with underside more flat and knob somewhat heavier.

14.394 (78.3108) Fig. 149; Pl. 82

Lower City TR1 Baulk (3).

Fragmentary lid.

Single fr. preserving about one half of lid.

H. 0.028; D. 0.079.

Clay and surface as **14.393**.

Shape as **14.392** but slightly smaller and thinner-walled.

Various fragments *Type I* amphorae with graffiti (*cf.* **14.378-14.379**)

14.395 (78.213) Fig. 149

Isthmus TR1 tr2 (4).

Neck and handle fr.

P.H. 0.059; P.W. (max.) 0.116.

Clay close to light red 2.5YR 6/6, loaded with fine mica.

Sloping neck; thick vertical handle, oval in section (*cf.* **14.378**, **14.379**, **14.388** and **14.390**).

Graffito on top of handle arch: *chi-rho* monogram.

- 14.396** (78.3337) Fig. 149
Lower City TR3 (2) N.
Handle fr.
P.L. (max.) 0.085.
Clay as **14.395**.
Handle as **14.395**.
Graffito on top of handle arch: *chi-rho* monogram.
- 14.397** (78.2482) Fig. 149
Isthmus TR2 tr2 (1).
Handle fr.
P.L. (max.) 0.072.
Clay close to light red 2.5YR 6/6, with a few lime particles and some mica; surface slightly lighter in colour.
Handle as **14.395**.
Graffito on top of handle arch: plain cross, or perhaps preserved portion of cross-monogram (?).
- 14.398** (78.3521) Fig. 149
Lower City TR1 (2).
Handle fr. (2).
P.L. (max.) 0.129.
Clay as **14.397**.
Handle as **14.395**.
Graffito on top of handle arch: X (or plain cross ?).
- 14.399** (78.3272) Fig. 149
Isthmus TR2 tr2 (3).
Handle fr.
P.L. (max.) 0.123.
Clay as **14.397**.
Handle as **14.395**.
Graffito on top of handle arch: X (?).
- 14.400** (78.3320) Fig. 149
Isthmus TR4 tr1 (2).
Shoulder fr. (near neck).
L. x W. (max.) 0.108 x 0.074.
Clay light red 2.5YR 6/6, loaded with fine mica but few other impurities.
Graffito on shoulder immediately below neck: $\chi\rho[\iota\sigma\tau\acute{o}\varsigma]$ or conceivably $\chi\rho[\eta\sigma\tau\acute{o}\varsigma]$.
- 14.401** (78.2966) Fig. 149
Lower City TR1 (2).
Shoulder fr.
L. x W. (max.) 0.055 x 0.069.
Clay between reddish yellow 5YR 6/6 and light red 2.5YR 6/6, with mica but few other impurities.
Shoulder spirally grooved.
Graffito on shoulder above band of spiral grooving: H (?) (perhaps the number 8 ?).
- 14.402** (78.2542) Fig. 149
Isthmus TR1 tr2 (4a).
Shoulder fr. (2).
L. x W. (max.) 0.068 x 0.043.
Clay as **14.390**.
Graffito on shoulder: [?]HMA. A numerical notation seems highly unlikely for any reasonable capacity or tare.
- 14.403** (76.2068) Fig. 149
Isthmus TR1 tr1 (2).
Shoulder fr.
L. x W. (max.) 0.045 x 0.044.
Clay close to reddish yellow 5YR 6/6, with many small lime particles and mica.
Shoulder spirally grooved.
Graffito on shoulder above band of spiral grooving: K (perhaps the number 20 ?).
- 14.404** (78.3347) Fig. 150
Lower City TR2 (1).
Shoulder fr.
L. x W. (max.) 0.029 x 0.056.
Clay similar to **14.401**.
Shoulder spirally grooved.
Graffito on shoulder above band of spiral grooving: the letter M is reasonably clear with another symbol over it; probably monogram.
- 14.405** (78.584) Fig. 150
Isthmus TR1 tr3 (1).
Shoulder fr.
L. x W. (max.) 0.103 x 0.088.
Clay close to light brown 7.5YR 6/4, with many lime particles and mica.
Shoulder spirally grooved.
Graffito on shoulder above band of spiral grooving:

ing and also partially over it: N (perhaps the number 50?).

14.406 (78.339) Fig. 150
Isthmus TR1 tr2 (4).
Shoulder fr. (near neck).
L. x W. (max.) 0.074 x 0.053.
Clay similar to **14.390** and **14.402**.
Graffito on shoulder immediately below neck: N(?) NE. The first N has what appear to be several scratches over it; NE may refer to the number 55(?).

14.407 (78.760) Fig. 150
Lower City TR2 (1).
Shoulder fr.
L. x W. (max.) 0.074 x 0.063.
Clay as **14.401**.
Shoulder spirally grooved.
Graffito on shoulder above band of spiral-grooving and also partially over it: N(?) E < If the first letter is N, then the inscription may read 55 1/2.

14.408 (76.594) Fig. 150
Isthmus TR1 tr1 (3).
Shoulder fr. (near neck).
L. x W. (max.) 0.076 x 0.066.
Clay as **14.406**.
Graffito on shoulder below neck: N and another symbol, perhaps I, Γ or Π.

14.409 (78.3250) Fig. 150
Lower City TR3 SE.
Shoulder fr.
L. x W. (max.) 0.144 x 0.107.
Clay and surface identical to **14.390**.
Graffito on shoulder: Π..... (?). The second and third symbols are only partially preserved. Π may refer to the number 5 or 80; the second symbol possibly to the number 1/2. The third symbol may denote "drachmai."

14.410 (78.500) Fig. 150
Isthmus TR1 tr2 (4).
Neck fr.
P.H. 0.069; P.W. (max.) 0.102.
Clay as **14.401**.
Graffito on neck: XB (?) or AB (?). The latter may refer to the number 32 (?).

14.411 (78.971) Fig. 150
Lower City TR1 (2).
Shoulder fr.
L. x W. (max.) 0.101 x 0.081.
Clay as **14.401**.
Shoulder spirally grooved.
Graffito on shoulder above band of spiral-grooving: XE (?).

Fragment Type I amphora with dipinto

14.412 (76.1088) Fig. 150
Isthmus TR1 tr1 (3).
Shoulder fr.
L. x W. (max.) 0.065 x 0.090.
Clay between light reddish brown 5YR 6/4 and pink 7.5YR 7/4, with many lime particles and mica.
Shoulder spirally grooved.
Dipinto in red paint on shoulder above band of spiral-grooving; unidentified. This is the only fr. of this amphora-type at Torone with dipinti.

Other body or shoulder frr. of *Type I* amphorae preserving graffiti entered in the inventory (all these frr. are too small and the graffiti too poorly preserved for even the most cursory reading):

76.160	78.2189
76.1020	78.2696
76.1021	78.3224
76.1053	78.3298
76.1055	78.3507
76.2069	

There are many other frr. with graffiti entered in the inventory, but it is not possible to determine what amphora-type these belong to and, in some cases, whether they are of Roman date.

Type II

14.413 (81.740) Fig. 151; Pl. 83
Lower City TR5 N (3).
Fragmentary amphora. Graffiti.
Vessel reconstructed from frr.; base and lower wall not preserved.
P.H. 0.456; D. (rim) 0.110; D. (body, max.) 0.300.
Clay close to reddish yellow 5YR 6/6, with many

light coloured inclusions and some mica. Self-slipped.

Body almost cylindrical, tapering slightly towards base; point of max. diameter at shoulder. Vertical neck, made separately from the body and subsequently attached; plain, slightly flaring, rim with rounded lip. Small ridge about 0.030 below lip. Vertical handles, attached from shoulder to upper neck, marked by two deep grooves or slashes on outer face to one side. Body wheel-ridged, with the ridges widely spaced at mid-point of the body and close-set near shoulder and towards base.

Unidentified graffiti on shoulder on both sides. Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 87-89, 100 no. 3. Cf. among others, C. Abadie in *BCH Suppl.* XVIII, 53 fig. 10 (also fig. 9); *Agora V*, pl. 32 no. M 333; C.K. Williams and O.H. Zervos, *Hesperia* 52 (1983) 29 pl. 11 nos. 77-78; *Yassi Ada I*, 155-157.

14.414 (78.2438) Fig. 152

Lower City TR3 (1) N.

Fr. preserving part of neck and rim.

P.H. 0.099; D. 0.108.

Clay as **14.413** but with core fired slightly lighter colour; self-slip.

Rim and neck as **14.413** with small ridge about 0.026 below rim.

14.415 (78.3439) Fig. 152

Lower City TR3 (3) N upper.

Fr. preserving part of neck, rim and one handle.

P.H. 0.082; D. 0.096.

Clay close to light reddish brown 5YR 6/4 and reddish yellow 5YR 6/6, with many sand particles; self-slip.

Vertical neck; rim slightly outturned, rounded lip. Handle marked by single deep groove/slash on outer face to one side.

14.416 (78.3556) Fig. 152

Isthmus TR1 tr3 (2).

Fr. preserving part of neck, rim and one handle.

P.H. 0.069; D. 0.090.

Clay as **14.415**; self-slip.

Vertical neck; plain, slightly thickened, rim with

rounded lip. Small ridge about 0.026 below lip. Handle as **14.415**.

14.417 (78.2860) Fig. 152

Lower City TR1 NE ext.

Fr. preserving part of neck, rim and one handle.

P.H. 0.072; D. 0.110.

Clay as **14.413** but lighter in colour, approaching an off-white, close to pink 7.5YR 7/4; self-slip.

Vertical neck; rim slightly outturned, with rounded lip. Slight ridge about 0.030 below lip. Handle as **14.415**.

14.418 (78.3363) Fig. 153

Isthmus TR1 tr2 (4)-(5).

Fr. preserving part of neck, rim and one handle.

P.H. 0.069; D. 0.096.

Clay as **14.417**; self-slip.

Vertical neck; thickened rim, with rounded lip. Small ridge about 0.026 below lip. Handle as **14.415**.

14.419 (78.3450) Fig. 150

Lower City TR3 (3) N upper.

Shoulder fr. (2). Graffito.

L. x W. (max.) 0.089 x 0.048.

Clay as **14.415**; self-slip.

Graffito on shoulder: $\kappa < \lambda$. This may indicate the capacity of the vessel, i.e. $20 \frac{1}{2} \lambda$ [ιτραι].

There are faint traces of red paint partially over the K, perhaps dipinto(?).

Other fr. of *Type II* amphorae entered in the inventory:

(a) *Rim fr.* (some preserving part of handle or handle scar):

76.913	78.2487
76.954	78.2575
76.957	78.2982
76.2057	78.2997
78.2223	78.2998
78.2237	78.3040
78.2238	78.3117
78.2288	78.3335
78.2302	78.3338
78.2395	78.3486
78.2486	

(b) *Handle frr.* (all with the characteristic groove/slash on outer face):

76.2055

78.2287

78.2576

78.3052

(c) *Shoulder or body frr.*

78.2699A and B

78.3316

78.3317

78.3319

78.3334

Type III

14.420 (81.322) Fig. 151; Pl. 83

Terrace IV, Amphora Burial, TR3, Pot Burial 1.

Fragmentary amphora.

Vessel reconstructed from frr., base and lower body not preserved.

P.H. 0.550; D. 0.090; max. P.D. (body) 0.340.

Clay close to reddish yellow 5YR 7/6-6/6, with some inclusions, including mica. Slip lighter in colour, poorly preserved.

Tall ovoid body, with point of max. D. near middle. Short vertical neck; knobbed rim, flat on top. Short vertical handles, oval in section, attached from upper shoulder to neck. Body wheel-ridged, with ridges tending to be widely spaced at mid-point of body and close-set on shoulder and towards base. Pronounced offset on upper body near shoulder.

Deeply impressed dot on the arch of one of the handles.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 89-92, 100-101 no. 3.

Cf. H.P. Isler, *AM* 84 (1969) especially pl. 85 no. 1, pl. 86 nos. 1-2, pl. 87 no. 3; Scorpan (1977) 273 fig. 5 Type III no. 2.

14.421 (82.1369) Fig. 151; Pl. 83

Terrace IV, Amphora Burial, TR38 W ext. (26) 468, Tomb II.

Fragmentary amphora.

Vessel reconstructed from frr.; base not pre-

served. Amphora intentionally broken in Antiquity to allow for inhumation of infant.

P.H. 0.544; D. 0.097; max. D. (body) 0.356.

Clay close to light red 2.5YR 6/6 and reddish yellow 5YR 6/6, with small white inclusions, and mica; occasional blow-outs. Slip lighter in colour, close to reddish yellow 7.5YR 7/6, partially discoloured at one point.

Shape as **14.420** but with rim rounded on top; wheel-ridging more evenly spaced.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 89-92, 101 no. 5.

Cf. **14.420**; also *Agora V*, pl. 15 (K 112), pl. 29 M 273.

No certain examples of this amphora-type were recorded among the finds from the first three seasons.

Type IV

14.422 (81.710) Fig. 153; Pl. 82

Lower City TR5 S (3).

Rim, shoulder and handle frr. (4 joining).

P.H. 0.102; D. 0.106.

Clay brown, between strong brown 7.5YR 5/6 and reddish yellow 5YR 6/6; the most characteristic impurities are small grey coloured inclusions which are visible on all examples of this type. Self-slipped.

Body cylindrical; short upturned collar rim; vertical ring handles (one preserved) set slightly askew. Band of wheel-ridging on shoulder. Accretions of clay on exterior and upper body above handle attachment.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 92-93, 101 no. 6.

Cf. C.K. Williams and O.H. Zervos, *Hesperia* 51 (1982) 140-141 fig. 3 and pl. 44, nos. 73-74; C. Abadie in *BCH Suppl.* XVIII, 55 fig. 11; M. Bonifay and F. Villedieu in *BCH Suppl.* XVIII, 28 fig. 8 nos. 6-7.

14.423 (78.1922A)

Fig. 153

Isthmus TR1 tr2 (5).

Rim frr. (2).

P.H. 0.055; D. 0.100.

Clay as **14.422**, closer to light reddish brown 5YR 6/4.

Curved shoulder; short upturned collar rim, rounded on top.

Treatment of rim exterior and upper shoulder as **14.422**.

14.424 (78.2959)

Fig. 154

Isthmus TR4 tr1 (2).

Rim fr. (2).

P.H. 0.060; D. 0.115.

Clay as **14.423**.

Shape as **14.423** but with steeper shoulder and slightly taller rim. Treatment of rim exterior and upper shoulder as **14.422**.

14.425 (78.2483)

Fig. 154

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.051; D. 0.115.

Clay as **14.422**, fired between reddish yellow 5YR 6/6 and reddish brown 5YR 5/4.

Shape and treatment of rim exterior and upper shoulder as **14.422**.

14.426 (76.1077)

Fig. 153

Isthmus TR2 tr1 (2).

Rim fr.

P.H. 0.058; D. 0.105.

Clay as **14.423**.

Shape and treatment of rim exterior and upper shoulder as **14.422**.

14.427 (78.1820)

Fig. 153

Isthmus TR1 tr3 (2).

Rim fr. (2).

P.H. 0.048; D. 0.115.

Clay as **14.423**.

Rim slightly more knobbed, flat on top.

Treatment of rim exterior and upper shoulder as **14.422** but even more rough.

14.428 (76.1029)

Fig. 154

Isthmus TR1 tr2 (3).

Rim fr.

P.H. 0.052; D. 0.110.

Clay: as **14.425**.

Thickened rim continuing the line of the shoulder (lacking the short upturn).

Treatment of rim exterior and upper shoulder as **14.422**.

14.429 (78.3441)

Fig. 154

Lower City TR3 (3) N upper.

Base fr. (2).

P.H. 0.050; max. P.D. 0.074.

Clay as **14.423** but fired closer to light reddish brown 5YR 6/4. Self-slipped.

Cylindrical body tapering to a rounded base with no increase in wall thickness. Band of wheel-ridging on lower wall near base.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 92-93, 101 no. 7.

Cf. L. Neuru, *Antiquités africaines* 16 (1980) 202 and pl. VII no. 49; M. Bonifay and F. Villedieu in *BCH Suppl.* XVIII, 28 fig. 8 no. 6.

14.430 (78.3440)

Fig. 154

Lower City TR3 (3) N upper.

Shoulder and handle fr. (4).

P.H. (body) 0.029; W. (handle) 0.033.

Clay as **14.423**.

Sloping shoulder; vertical ring handle set slightly askew as **14.422**.

Fr. possibly from the same vessel as **14.429** (?).

14.431 (78.3442-4)

Pl. 82

Lower City TR3 (3) N upper.

Six body fr. (2 joining, 3 joining and 1 non-joining) preserving part of shoulder.

P.H. (max.) 0.062.

Clay as **14.423**.

Curved shoulder with band of wheel-ridging.

Cf. **14.422**.

14.432 (78.3340)

Fig. 154

Lower City TR3 (2) N.

Shoulder fr. Dipinto.

P.H. 0.020; P.W. (max) 0.066.

Clay as **14.423**.

Curved shoulder fr., not far below rim (a small portion of the excess clay left unsmoothed is preserved near upper break).

Dipinto in red paint: perhaps K (?).

Other frr. of *Type IV* amphorae entered in the inventory:

(a) *Rim frr.*:

76.1066	78.3133
78.1952	78.3326
78.2864	78.3336
78.3001	

(b) *Handle frr.*:

76.955	78.2156
--------	---------

(c) *Body frr.*:

78.1922B	78.3330
78.1922C	78.3331
78.2484	78.3485

Type V - Micaceous Water Jars

14.433 (78.3374)

Fig. 154

Lower City TR2 (1).

Rim fr.

P.H. 0.039; D. rim (est.) 0.060-0.080(?).

Clay micaceous, thin-walled and hard, fired close to reddish brown 2.5YR 5/4 and red 2.5YR 4/6-4/8. Self-slipped.

Vertical neck, faintly wheel-ridged. Plain rim, slightly thickened and rounded on top.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 93-95, 101 no. 8.

Cf. especially *Agora V*, 119 and pls. 34 and 41, M 373 and pl. 40, P 12861; L. Neuru, *Antiquités africaines* 16 (1980) 201 and pl. VI no. 34; M.B. Annis, in *Festoen. Opgedragen aan A.N. Zadoks-Josephus Jitta bij haar zeventigste verjaardag* (1975) 31 fig. 1.

14.434 (78.3448)

Fig. 154

Lower City TR3 (3) N upper.

Base frr. (3).

P.H. 0.092; P.D. (max.) 0.046.

Clay as **14.433** but fired closer to red 2.5YR 5/6.

Toe of fusiform wheel-ridged amphora, tapering almost to a point. Hollow base sealed with disk of clay pushed into position during manufacture accounting for small ridge or bulge in profile.

Vessel published and discussed in J.K. Papadopoulos, *AE* 1989, 93-95, 101-102 no. 9.

Cf. L. Neuru, *Antiquités africaines* 16 (1980) 202 and pl. VI no. 35; M.B. Annis in *Festoen* (1975) 31 fig. 1 and 32 figs. 5-6; *Khirbat al-Karak*, pl. 54 no. 18; Keay, *Amphorae* I, 288 fig. 124 no. 16; *Agora V*, pls. 40-41 (especially the toes of the vessels cited under **14.433**).

Other frr. of *Type V* amphorae entered in the inventory:

(a) *Rim frr.* (as **14.433**):

78.1999

cf. 78.3265

(b) *Base frr.* (as **14.434**):

78.2095

78.3266

78.3449

(c) *Handle frr.* (nearly all of the following are characterized by a broad shallow groove on the outer face of the handle; cf. *Agora V*, pl. 41):

76.958	78.2991
--------	---------

76.998	78.3118
--------	---------

76.2067	78.3119
---------	---------

78.1801	78.3147
---------	---------

78.2157	78.3178
---------	---------

78.2440	78.3465
---------	---------

(d) *Body frr.* (nearly all of the following frr. are wheel ridged with the ridges tending to be set diagonally. Cf. the wheel-ridging on the base fr. **14.434**):

76.1088	78.2215
---------	---------

76.2052	78.2222
---------	---------

76.2070	78.2258
---------	---------

76.2099	78.2265
---------	---------

78.1994	78.2274
---------	---------

78.2005	78.2275
---------	---------

78.2006	78.3488
---------	---------

78.2097	78.3536
---------	---------

78.2187

Related

78.3311A-O is a fragmentary amphora of similar shape, but of fabric which although micaceous is not consistent with that of the type generally. This piece may represent a misfired example of the type (?).

Type VI

14.435 (81.1111) Fig. 155; Pl. 83
Terrace IV, TR3, Amphora Burial 2.
Fragmentary amphora.

Vessel reconstructed from fr.; upper half of body intentionally broken in Antiquity to allow for inhumation of infant. Upper body, neck, rim and handles not preserved.

P.H. 0.850; P.D. (body, max.) 0.410.

Clay hard, with many small dark-coloured and some light-coloured inclusions; a little mica. Clay fired close to light red 2.5YR 6/6-6/8; traces of a thin darker outer zone visible at certain points. Surface off-white in colour, close to very pale brown 10YR 8/4-7/4.

Smoothing/finishing marks, running vertically, visible on exterior.

Tall cylindrical body tapering to a long spike, blunt on end. Wheel-marks/ridges prominent on interior.

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 95-98, 102 no. 11. 'Africana Grande' amphora, cf. J. Schuring, *BaBesch* 59 (1984) 151-158, Fabric A Shape 2 and discussion pp. 154f.; Scorpan, *Dacia N.S.* 21 (1975) 270-272 (Type II); Keay, *Amphorae* I, 121-126 Type VII (and cf. the shape of Type IV). Cf. also Agora P 14618 (V.R. Grace, *Amphoras and the Ancient Wine Trade*, fig. 37, left, labelled Spanish).

14.436 (78.2081) Fig. 154
Isthmus TR2 tr2 (2).

Rim fr.

P.H. 0.046; D. 0.148.

Clay similar to **14.435**, with some light-coloured inclusions but fewer dark; slip thick, but lacking the powdery feel of **14.435**, applied on exterior and top of rim, colour as **14.435**.

Neck tending vertical, marked by a pronounced ridge 0.040 below lip; out-turned rim, rounded on top and tapering towards outside edge.

Tripolitanian(?). Cf. J. Schuring, *BaBesch* 59 (1984) 158-160 and 183, fig. 4, Fabric B; Keay, *Amphorae* I, 126-131 Type IX (*Tripolitana* II, fig. 47) and cf. Type VIIIB, fig. 48, especially no.

2 (considered Tunisian); cf. C.K. Williams and Zervos, *Hesperia* 54 (1985) 66, fig. 4 no. 32.

14.437 (78.3425) Fig. 154; Pl. 82
Lower City TR2 (1).

Neck fr. Stamped inscription.

P.H. 0.052; P.W. 0.049.

Clay and surface similar to **14.435** and **14.436** but slightly more gritty.

Fr. vertical in profile.

Stamped inscription in Latin, in two lines, incuse:

CLHDR

[F]LC

Top line: C(o)L(onia) H(a)DR(umetum).

Bottom line: L and C are preserved, but only part of F is visible at the break, probably: [F]L(a)C(cus).

For the stamp cf. F. Zevi and A. Tchernia, *Antiquités africaines* 3 (1969) 192 fig. 16 b and 181 (from Ostia, inv. no. 14692, "Africano grande"); Beltran Lloris, *Las anforas romanas en Espana*, Form 56, 553, no. 10 (e); D. Manacorda in A. Carandini and C. Panella (eds.), *Ostia IV. Le terme del Nuotatore. Scavo dell'ambiente XVI e dell'area XXV*, *Studi Miscellanei* 23, 1972-1976 (1977) 192 and 198 no. 44.

14.438 (78.1918) Fig. 154
Isthmus TR1 tr2 (5).

Body fr.

P.H. 0.078; P.W. 0.103.

Clay and slip as **14.436**.

Prominent smoothing marks running vertically on exterior as **14.435**.

Other body fr. Type VI amphorae entered in the inventory:

76.1073	78.2291
76.2038	78.3294
78.2154	78.3463
78.2229	

Type VII (Unknown provenance)

14.439 (81.687) Fig. 155
Lower City TR4 (12).

Amphora. Dipinto.

Complete, reconstructed from fr.

H. 0.579; D. 0.078; D. (body, max.) 0.278.

Clay off-white, close to pale brown 10YR 7/3-7/4; thin-walled, with only a few small light-coloured inclusions and mica. Slip lighter in colour.

Narrow spike, blunt at end; body slightly sagging with point of max. D. towards lower half. Vertical neck; rolled rim. Vertical handles, oval in section, attached from upper shoulder to neck. Lower two-thirds of body wheel-ridged.

Unidentified dipinto in red paint on shoulder on one side (monogram?).

Amphora published and discussed in J.K. Papadopoulos, *AE* 1989, 98-100, 102 no. 13.

Cf. C.K. Williams and O.H. Zervos, *Hesperia* 52 (1983) 29, pl. 11 no. 76.

14.440 (78.3279) Not illustrated

Lower City TR2 (1).

Base fr. (preserving complete toe).

P.H. 0.054.

Clay as **14.439** but with more mica; colour closer to pink 7.5YR 7/4.

Toe as **14.439**.

14.441 (78.3348) Fig. 156

Lower City TR2 (1).

Shoulder and neck fr.

P.H. 0.057; max. P.D. 0.156.

Clay and slip as **14.439**.

Shape as **14.439**.

Wheel-ridging on shoulder immediately below neck.

Related

The following two fr. are perhaps of this type but they are too small to allow for any certainty.

14.442 (78.2489) Fig. 156

Isthmus TR2 tr2 (1).

Shoulder fr. Dipinto.

P.H. 0.033; W. (max.) 0.061.

Clay similar to **14.439** but with fewer inclusions and almost no mica; colour closer to pink 5YR 7/4; slip off-white.

Faint wheel-ridging on preserved fr.

Unidentified dipinto (only partially preserved) in red paint on shoulder.

14.443 (78.1892) Fig. 156

Lower City TR1 S (3).

Shoulder fr. Graffito.

L. x W. (max.) 0.053 x 0.039.

Clay and slip as **14.440** but with less mica.

Preserved fr. wheel-ridged.

Graffito on shoulder, perhaps q (?). If q, it may refer to the number 100 (?).

Other fr. of *Type VII* amphorae entered in the inventory:

(a) *Handle fr.*:

78.3000

78.3437

(b) *Body fr.*:

78.3168

IV. OTHER WARES

(i) Open Vessels

(a) *Small open vessels with knobbed rims*

14.444 (78.3204) Fig. 156

Lower City TR1 N (3).

Rim and body fr.

P.H. 0.057; D. 0.130.

Clay rather soft-textured, with a little fine mica, light reddish brown 5YR 6/3; slip whitish, thin and matt, applied only on interior below rim.

Steep, slightly curved wall; thick knobbed rim.

Upper body wheel-ridged.

14.445 (78.3540) Fig. 156

Lower City TR3 (1) N.

Rim and body fr.

P.H. 0.040; D. (est.) 0.140.

Clay close to light brown 7.5YR 6/4, with small white inclusions and golden mica; glaze brown/black, thinly applied on exterior and on top of rim.

Shape as **14.444**.

Preserved body wheel-ridged.

14.446 (78.2693)

Fig. 156

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.028; D. 0.120.

Clay as **14.445**; glaze close to light red 2.5YR 6/6, dull, thinly applied on exterior and on top of rim.

Shape as **14.444**.

Preserved body wheel-ridged.

14.447 (78.2065)

Fig. 156

Isthmus TR2 tr2 (1).

Rim fr.

P.H. 0.014; D. (est.) 0.144.

Clay slightly coarser than preceding, with more small white inclusions and mica, close to brown 7.5YR 5/2; glaze similar colour to clay, thinly applied over rim with splashes on exterior.

Shape as **14.444**.

Preserved body wheel-ridged.

14.448 (78.3278)

Fig. 156

Lower City TR2 (1).

Rim fr.

P.H. 0.023; D. 0.112.

Clay gritty, with much mica, between reddish yellow 7.5YR 7/6 and pink 7.5YR 7/4; glaze/slip: none preserved.

Shape as **14.444** but slightly smaller.

Preserved body wheel-ridged.

14.449 (78.3315)

Fig. 156

Isthmus TR4 tr1 (2).

Rim and body fr.

P.H. 0.053; D. 0.140.

Clay and glaze/slip as **14.448**.

Steep, almost vertical wall; thickened rim, slightly incurved, rounded on top.

Upper body wheel-ridged as **14.444**.

(b) *Other open vessels.*

14.450 (78.2285)

Fig. 156

Isthmus TR1 tr3 (1).

Rim and body fr. Small bowl.

P.H. 0.036; D. 0.120.

Clay rather soft-textured, with a few small inclusions and fine mica, close to reddish yellow 5YR 7/6, and with a "soapy" feel; glaze preserved only in the grooves on upper body, dull, red.

Steep sloping wall, becoming vertical towards top; outturned/horizontal rim, bearing a row of impressed dots on top. Four deep narrow grooves on upper body, below which is a band of poorly preserved impressed decoration.

The vessel is similar in fabric and not unlike in shape to *Agora* V, 117 and pl. 71, M 356 (note especially the grooves on body), dating to the sixth century; for shape cf. O. Bruckner, *Rimska Keramika u Jugoslovenskom delu Provincije Donje Panonije* (1981) pl. 52 no. 31; *Resafa* I, pl. 11 no. 27 (= p. 64 no. 53).

14.451 (78.3107)

Fig. 156

Lower City TR1 Baulk (3).

Rim fr. Small bowl.

P.H. 0.024; D. 0.150.

Clay close to light reddish brown 5YR 6/4, with small white inclusions and mica; glaze applied on outer edge of rim and over parts of exterior, close to reddish brown 5YR 5/4.

Steep, almost vertical upper wall; out-turned/horizontal rim bearing a groove on top near outside edge.

Upper body wheel-ridged.

14.452 (78.3602)

Pl. 82

Lower City TR1 (2).

Body fr. Bowl.

P.H. 0.024; W. (max.) 0.067.

Clay hard fired, micaceous, fired grey; surface self-slipped, fired light red, matt and rather poorly finished.

Fr. preserving upper body immediately below rim; steep wall, rim clearly offset. Two grooves at junction of rim and wall, below which are thirteen preserved impressed circular spirals (with the impressions forming small 'bosses' on interior) arranged to form an inverted triangle.

Fabric, shape and impressed decoration are very

close to Hellström's "Fossette Ware," *Labraunda* II, 1, 39-40 and 73, pls. 15 and 37, especially nos. 314, 315 and 321.

14.453 (76.1008)

Pl. 82

Isthmus TR1 tr2 (3).

Body fr. Bowl.

P.H. 0.028; W. (max.) 0.027.

Clay soft-textured, micaceous, close to light reddish brown 5YR 6/4; self-slip.

Wall steep.

Impressed decoration arranged in band defined by two narrow grooves, consisting of dotted rectangles set diagonally to form a zig-zag pattern.

Same ware as **14.452**.

Other frr. decorated with impressed decoration of the same ware as **14.452-14.453**, entered in the inventory:

78.2286

78.3107

(ii) Closed vessels

(a) *Local (?) jugs/mugs*

The frr. listed under this heading are small vessels with distinctive profile perhaps best viewed as drinking vessels (mugs), but also well suited as jugs and as kyathoi. Although of fairly open form, they are here classed as closed vessels in order to distinguish them from bowls, dishes and the like.

14.454 (78.3570)

Fig. 157

Isthmus TR3 tr2 (2).

Rim fr. (2).

P.H. 0.037; D. 0.070.

Clay semi-fine, with some golden mica, light red 2.5YR 6/6; self-slip.

Thin-walled, inward curving upper body; out-curved rim with plain rounded lip. Small ridge at junction of rim and shoulder.

14.455 (78.1984)

Fig. 157

Isthmus TR1 tr3 (1).

Rim fr.

P.H. 0.025; D. 0.060.

Clay as **14.454**; self-slip.

Shape as **14.454**.

14.456 (78.3159)

Fig. 157

Lower City TR2 (1).

Rim fr.

P.H. 0.034; D. 0.066.

Clay close to reddish brown 2.5YR 6/4, hard fired, with small white inclusions and golden mica; core fired grey/black.

Traces of thin white slip or wash on interior and over parts of exterior.

Shape as **14.454** but with everted rather than out-curved rim.

14.457 (78.3163)

Fig. 157

Lower City TR2 (1).

Rim fr.

P.H. 0.029; D. (est.) 0.080.

Clay between light red 2.5YR 6/8 and red 2.5YR 5/8, with many small inclusions, silver and golden mica; self-slip.

Brush-marks visible on rim interior.

Shape as **14.456**.

14.458 (76.926)

Fig. 157

Isthmus TR1 tr2 (3).

Rim fr. (2).

P.H. 0.034; D. (est.) 0.060.

Clay as **14.457**, with individual particles erupting onto the surface; self-slip.

Shoulder slightly steeper than preceding; rim more upright, marked off from shoulder by single deep groove.

14.459 (78.3582)

Fig. 157

Lower City TR1 (2).

Rim fr.

P.H. 0.037; D. 0.070.

Clay as **14.454**; traces of thin white slip/wash over parts of exterior.

Shape as **14.454** but without the ridge at junction of rim and shoulder.

14.460 (76.2089)

Fig. 157

Isthmus TR1 tr1 (2).

Rim fr. (2).

P.H. 0.027; D. (est.) 0.070.

Clay reddish brown 5YR 5/4, with golden mica but few other impurities; self-slip.

Rim slightly thicker and tending upright, marked off from shoulder by shallow groove below which is a small ridge.

14.461 (78.3038)

Fig. 157

Isthmus TR1 tr2 (4).

Rim and handle fr.

P.H. 0.031; D. (est.) 0.060-0.080.

Clay light red 2.5YR 6/6-6/8, hard fired, with golden mica and some small white inclusions; core fired grey; self-slip.

Outcurved rim as **14.459**. Small vertical handle with grooves on outer face, attached directly to rim below lip.

14.462 (76.2029)

Fig. 157

Isthmus TR2 tr1 (3).

Rim fr. preserving part of handle scar.

P.H. 0.028; D. 0.070.

Clay as **14.461** but evenly fired; self-slip.

Shape as **14.461**.

14.463 (78.2249)

Fig. 157

Isthmus TR1 tr3 (1).

Rim and handle fr.

P.H. 0.024; D. (est.) 0.080.

Clay gritty, but with no mica, variegated, light reddish brown 2.5YR 6/4 to grey; slip variegated as clay.

Rim slightly thicker and more upright, as **14.458** and **14.460**; small vertical handle, ovoid in section, attached directly to rim below lip.

14.464 (78.3390)

Fig. 157

Lower City TR2 (1).

Rim and handle fr.

P.H. 0.029; D. (est.) 0.070.

Clay and slip as **14.463**.

Short out-curved rim, offset from shoulder by small ridge; handle as **14.463**.

14.465 (78.2002)

Fig. 157

Isthmus TR1 tr3 (1).

Base fr.

P.H. 0.029; D. (base) 0.035.

Clay between light red 2.5YR 6/8 and reddish yellow 5YR 7/8, with golden mica; self-slip.

Flat disk base; curved body; wall thicker towards base.

Clay not smoothed on underside with string mark visible, indicating that the vessel was removed from the wheel by a taut string or wire.

14.466 (78.3157)

Fig. 157

Lower City TR2 (1).

Base fr.

P.H. 0.025; D. (base) 0.035.

Clay close to light reddish brown 2.5YR 6/4, with golden mica; core fired grey; self-slip.

Shape and treatment of underside as **14.465**.

14.467 (78.3297)

Fig. 157

Isthmus TR1 tr1 (4a).

Base fr.

P.H. 0.021; D. (base) 0.040.

Clay close to light red 10R 6/6, with golden mica; core fired grey; self-slip. Lower body poorly finished.

Shape and treatment of underside as **14.465**.

14.468 (76.566)

Fig. 157

Isthmus TR1 tr2 (2).

Base fr.

P.H. 0.023; D. (base) 0.030.

Clay light red 2.5YR 6/6, with golden mica; self-slip. Lower wall poorly finished.

Shape and treatment of underside as **14.465**.

14.469 (78.2004)

Fig. 157

Isthmus TR1 tr3 (1).

Base fr.

P.H. 0.028; D. (base) 0.034.

Clay as **14.468**; self-slip.

Shape and treatment of underside as **14.465**.

14.470 (76.541)

Fig. 157

Isthmus TR1 tr2 (2).

Base fr.

P.H. 0.039; D. (base) 0.034.

Clay close to light reddish brown 2.5YR 6/4, gritty, with golden mica; small pin-prick blow-outs; self-slip.

Traces of secondary burning.

Shape and treatment of underside as **14.465**.

14.471 (78.2210)

Fig. 157

Isthmus TR1 tr2 (4).

Base fr.

P.H. 0.029; D. (base) 0.032.

Clay between light red 10R 6/6 and 2.5YR 6/6, with golden mica; core fired grey; self-slip.

Shape and treatment of underside as **14.465**.

14.472 (78.2003)

Fig. 157

Isthmus TR1 tr3 (1).

Base fr.

P.H. 0.028; D. (base) 0.038.

Clay as **14.471**; self-slip.

Shape and treatment of underside as **14.465**.

14.473 (78.3260)

Fig. 158

Lower City TR1 (2).

Base fr.

P.H. 0.040; D. (base) 0.036.

Clay as **14.463-14.464**, but with a little fine mica; traces of slip as **14.463** on upper wall.

Shape as **14.465** but thinner-walled; treatment of underside as **14.465**.

14.474 (78.3454)

Fig. 157

Lower City TR3 (1) N.

Base fr. (2).

P.H. 0.020; D. (base) 0.033.

Clay light red 2.5YR 6/8, with many small light-coloured inclusions and a little mica; traces of slip/wash on upper preserved wall, fired a shade lighter than body clay.

Flat disk base, smoothed on underside and bearing a deep groove near edge giving the impression of a small foot (i.e. false ring foot). Body thin-walled, flaring directly from base.

14.475 (78.3096)

Fig. 158

Lower City TR1 Baulk (3).

Base fr.

P.H. 0.023; D. (base) 0.029.

Clay and slip as **14.473**.

Shape as **14.474**.

14.476 (78.3237)

Fig. 158

Lower City TR2 (1).

Base fr.

P.H. 0.030; D. 0.037.

Clay close to light red 2.5YR 6/6, similar to **14.454**. Thick slip, much worn, applied over body and base, colour as clay.

Base as **14.474** but with more shallow groove on underside; wall considerably thicker and rising more steeply.

14.477 (78.2335)

Fig. 157

Lower City TR1 S (3).

Base fr.

P.H. 0.029; D. 0.023.

Clay as **14.454**; slip thin, well smoothed on exterior, fired light reddish brown 2.5YR 6/4.

Flat disk base, thicker and more narrow than **14.465-14.476**. Groove on underside as **14.474**. Two narrow scraped grooves on lower wall near break.

Other fr. local (?) jugs/mugs entered in the inventory:

Rim fr.:

76.928	78.2062
76.970	78.2096
76.984	78.2098
76.1016	78.2213
76.1084	78.2267
76.1085	78.2268
76.1086	78.2269
76.2088	78.2270
78.1816	78.2573
78.1887	78.2990
78.1936	78.3069
78.1982	78.3075
78.1983	78.3395
78.1985	78.3569

Handle fr.:

76.924	78.2033
76.925	78.2247
78.1995	78.2248
78.1997	78.3400
78.1998	

Base fr.:

76.1005	78.2439
78.1808	78.2445
78.1809	78.3055
78.1814	78.3072
78.1937	78.3158
78.2007	78.3215
78.2035	78.3238
78.2073	78.3239
78.2076	78.3290
78.2211	78.3296
78.2212	78.3329
78.2250	78.3371
78.2271	78.3473
78.2334	78.3611

*(b) Imported closed vessels (Attic).***14.478** (78.2031+78.2294) Fig. 158

Lower City TR1 (2)+Lekythos TR1 (1).

Rim fr. (2). Globular jug.

P.H. 0.045; D. 0.092.

Clay semi-fine, with few inclusions, no mica, between light red 2.5YR 6/6 and reddish yellow 5YR 7/6; glaze applied on exterior and over rim, fairly dull, close to red 10R 5/6.

Globular body (as suggested by preserved shoulder); low vertical to slightly flaring rim set off from body by broad groove.

For vessels of similar fabric and shape *cf.* *Agora* V, 97-98 and pl. 24, M 145, M 147, M 149 and 101-102 and pl. 26, M 190, M 191 (all of which belong to the third century), and 78 and pl. 17, L 39 (which is later 4th century).

14.479 (78.2233) Fig. 158

Isthmus TR1 tr3 (2).

Base fr. Globular jug.

P.H. 0.046; D. (base) 0.050.

Clay as **14.478**; only a streak of glaze preserved

on exterior and a few splashes on interior, as **14.478**.

Low disk base, with flat or slightly convex underside; globular body.

Underside and lower wall poorly finished.

Probably from vessel with rim like **14.478**; *cf.* parallels cited for **14.478**.

14.480 (78.3223) Fig. 158

Lower City TR1 S (3).

Rim and neck fr. Jug.

P.H. 0.039; D. 0.090.

Clay as **14.478**; glaze applied on exterior and over rim, dull, close to weak red 10R 5/4.

Tall vertical neck; flaring rim, with plain rounded lip. Grooves on rim exterior.

For vessels with similar rims *cf.* *Agora* V, especially 111 and pl. 30, M 296 (also M 299) (early fifth century), and 78 and pl. 17, L 44 (later fourth century).

14.481 (78.2837) Fig. 158

Isthmus TR4 tr1 (1).

Rim and handle fr. Jug.

P.H. 0.032; D. 0.100.

Clay as **14.478**; glaze as **14.480**, closer to red 10R 5/8.

Shape as **14.480**, with portion of handle scar preserved, attached to rim below lip.

14.482 (78.1857) Fig. 158

Lower City TR1 S (3).

Rim and handle fr. Jug.

P.H. 0.036; D. 0.070.

Clay with a few small white inclusions, reddish yellow 5YR 7/6; glaze worn, but dull, close to red 2.5YR 5/6.

Vertical neck rising to plain lip. Vertical handle, ovoid in section, attached below lip.

Cf., among others, *Agora* V, pl. 13, K 58, K 59, K 62, K 64; pl. 16, L 23; pl. 33, M 362 (with many other similar vessels dating from the third through the late sixth century).

14.483 (78.2292) Fig. 158

Lekythos TR1 (1).

Rim and handle fr. Jug.

P.H. 0.036; D. 0.070.

Clay as **14.478**, closer to light reddish brown 5YR 6/4; glaze applied on exterior and over rim, dull, close to reddish brown 2.5YR 5/4.

Neck almost vertical, flaring out to upright, slightly thickened rim bearing a groove on exterior immediately below lip. Portion of handle scar preserved, attached to upper neck; handle as **14.487**. Rim not unlike *Agora* V, 98 and pls. 24 and 73, M 156.

14.484 (78.3529)

Fig. 158

Lower City TR3 (1) N.

Rim and handle fr. Jug.

P.H. 0.024; D. 0.070.

Clay fine, with few inclusions and a little mica, reddish yellow 5YR 7/8; glaze applied on exterior and over rim, fired light red on interior, dull brown on exterior.

Shape similar to **14.483** but with inward sloping neck and shorter rim; handle as **14.483**.

14.485 (78.1981)

Fig. 158

Isthmus TR1 tr3 (1).

Rim and handle fr. Jug.

P.H. 0.040; D. 0.070.

Clay hard fired, with few inclusions, grey; glaze dull, grey.

Shape as **14.483** but without the groove on rim exterior.

14.486 (78.2009)

Fig. 158

Isthmus TR1 tr3 (1).

Rim and handle fr. Jug.

P.H. 0.027; D. 0.060.

Clay and glaze as **14.483**.

Almost vertical neck; flaring rim, flat on top; handle as **14.483**.

Cf., among others, *Agora* V, pl. 17, L 45, pl. 21 M 83.

14.487 (78.2046)

Fig. 158

Lower City TR1 (2).

Neck and handle fr. Jug.

P.H. 0.029; max. P.D. 0.090.

Clay and glaze as **14.483**.

Shape as **14.483** and **14.485** but slightly larger.

Vertical handle with three deep grooves on outer face, attached to neck below rim.

The handle fr. 78.3020 is from a similar vessel.

14.488 (78.2988)

Fig. 158

Lower City TR2 (1).

Shoulder fr. Closed vessel.

P.H. 0.035; max. P.D. 0.180.

Clay and glaze as **14.478**.

Curved shoulder of globular vessel; groove at junction of shoulder and neck. Two shallow scraped grooves on shoulder.

Shape not unlike **14.478**.

Related: 76.923, 78.2476, 78.3524.

14.489 (78.1850)

Pl. 84

Isthmus TR3 tr1 (1).

Shoulder fr. Closed vessel.

L. x W. (max.) 0.049 x 0.043.

Clay similar to **14.478**, with a little surface mica; glaze red 2.5YR 5/8, worn.

Combed decoration above and on top of shallow grooves around shoulder.

For combed decoration generally see *Agora* V, 6.

14.490 (78.2443)

Pl. 84

Isthmus TR3 tr2 (2).

Body fr. Closed vessel.

L. x W. (max.) 0.030 x 0.023.

Clay as **14.478**, closer to reddish yellow 5YR 6/6; glaze red 10R 5/6.

Band of combed wavy lines above band of grooves or wheel-ridging.

14.491 (78.1976)

Pl. 84

Isthmus TR1 tr3 (1).

Body fr. Closed vessel.

L. x W. (max.) 0.045 x 0.045.

Clay as **14.490**; glaze with a slight metallic sheen, close to weak red 10R 5/4.

Two bands of combed wavy lines separated by three shallow grooves.

14.492 (76.252)

Pl. 84

Isthmus TR1 tr1 (2).

Shoulder fr. Closed vessel.

L. x W. (max.) 0.048 x 0.040.

Clay as **14.490**; glaze close to red 2.5YR 5/6.
Two bands of combed wavy line decoration (partially overlapping) above shallow grooves.

14.493 (78.3472) Pl. 84

Isthmus TR1 tr3 (2).

Body fr. Closed vessel.

L. x W. (max.) 0.049 x 0.037.

Clay as **14.478**, closer to light red 2.5YR 6/6; glaze as **14.478**.

Groups of combed wavy line decoration (two partially preserved), shallow grooves below.

14.494 (78.1977) Pl. 84

Isthmus TR1 tr3 (1).

Body fr. Closed vessel.

L. x W. (max.) 0.042 x 0.044.

Clay and glaze as **14.492**.

Two preserved groups of wavy line decoration, one only partially preserved at break.

14.495 (76.257) Pl. 84

Isthmus TR2 tr1 (2).

Body fr. Closed vessel.

L. x W. (max.) 0.042 x 0.037.

Clay and glaze as **14.492**.

Combed decoration as **14.493**.

14.496 (78.961) Pl. 84

Lower City TR2 (1).

Body fr. Closed vessel.

L. x W. (max.) 0.035 x 0.033.

Clay as **14.490**; glaze very worn, close to red 10R 5/6.

Band of combed wavy line decoration.

14.497 (78.1817) Pl. 84

Isthmus TR1 tr3 (2).

Body fr. Closed vessel.

L. x W. (max.) 0.027 x 0.040.

Clay as **14.490**; glaze close to red 2.5YR 5/6.

Combed wavy line decoration preserved at lower break.

14.498 (78.1821) Pl. 84

Isthmus TR1 tr3 (2).

Shoulder fr. (2). Closed vessel.

L. x W. (max.) 0.087 x 0.057.

Clay and glaze as **14.497**.

Two groups of combed wavy line decoration, each only partially preserved; one set horizontally the other diagonally.

14.499 (78.599) Pl. 84

Isthmus TR2 tr2 (1).

Body fr. Closed vessel.

L. x W. (max.) 0.050 x 0.067.

Clay semi-fine, with a little surface mica, close to light reddish brown 2.5YR 6/4; glaze worn, dull, reddish brown 2.5YR 5/4.

Groups of combed lines executed in intervals as shown.

The fr. 78.3525 preserves similar decoration.

14.500 (78.3438A) Fig. 159

Lower City TR3 (3) N upper.

Base fr. Jug.

P.H. 0.076; D. (base) 0.080; max. P.D. 0.124.

Clay coarser than preceding, with many variously coloured inclusions but no mica, fired light red 10R 6/6 towards interior and light reddish brown 5YR 6/4 towards exterior; glaze partial, dull, fired brown to black.

Ring foot with rounded resting surface; steep curved lower body, crudely wheel-ridged. Wheel-marks prominent on interior.

Decoration comprising vertical and oblique gouged strokes around upper preserved body (gouged over the wheel-ridging).

For gouged decoration generally see *Agora* V, 6 and *cf.* various published examples on pls. 30 and 33. Particularly close in shape, decoration and fabric is *Agora* V, 114 and pl. 31, M 320.

14.501 (78.2336) Pl. 85

Lower City TR1 S (3).

Neck and shoulder fr. Jug.

P.H. 0.034; W. (max.) 0.033.

Clay semi-coarse, with blow-outs, close to light red 2.5YR 6/6; glaze dull, applied on exterior, with splashes on interior, between red 10R 5/3 and light reddish brown 2.5YR 6/4.

Sloping shoulder gently rising to neck; only lower portion of neck preserved. Gouged decoration

comprising oblique strokes beginning below neck. Cf., among others, *Agora V*, 111 and pl. 30, M 292 and M 293; 117 and pl. 33, M 359 and M 360.

14.502 (76.354) Pl. 85

Isthmus TR2 tr1 (2).

Body fr. Jug.

P.H. 0.028; W. (max.) 0.044.

Clay as **14.501**, closer to light reddish brown 5YR 6/4; glaze dull, weak red 10R 5/4.

Body fr. near base; steep, curved lower wall thickening towards base.

Gouged decoration comprising vertical strokes terminating near base.

For shape and decoration cf. **14.500**.

14.503 (78.3504) Pl. 85

Lower City TR1 (2).

Body fr. Jug.

P.H. 0.061; W. (max.) 0.046.

Clay as **14.502**; glaze worn, partial, red/brown; splash of glaze on interior.

Shape and decoration as **14.500**.

14.504 (78.3549) Pl. 85

Lower City TR1 centre E ext (1).

Body fr. Jug.

P.H. 0.033; W. (max.) 0.046.

Clay as **14.502**; glaze worn, dull, close to light red 2.5YR 6/6.

Shape and decoration as **14.500** and **14.503**.

14.505 (76.992) Pl. 85

Isthmus TR1 tr1 (1).

Body fr. Jug.

P.H. 0.035; W. (max.) 0.038.

Clay semi-coarse and gritty, between light red 2.5YR 6/6 and yellowish red 5YR 5/6; glaze worn, variegated red/brown.

Shape as **14.500**, with crude wheel-ridging, over which are two preserved thick vertical gouged strokes.

Other fr. preserving gouged decoration entered in the inventory (fabric as **14.500-14.505**):

76.1078 78.3433A and B

76.2028 78.3434

78.2234

14.506 (78.2278) Fig. 158; Pl. 85

Isthmus TR1 tr3 (1).

Body fr. (2). Jug.

P.H. 0.062; W. (max.) 0.083.

Clay as **14.502**; glaze dull, partial, brown/black, similar to **14.500**.

Preserved fr. wheel-ridged. Fabric as **14.500-14.505** but with no gouged decoration preserved. Cf. *Agora V*, especially 111 and pl. 30, M 291, M 294-M 296.

(c) *Other closed vessels*

14.507 (78.2101) Pl. 85

Isthmus TR1 tr2 (4).

Body fr. near shoulder. Jug.

P.H. 0.037; W. (max.) 0.034.

Clay semi-fine, thin-walled, with some fine mica, close to light red 2.5YR 6/6; glaze partial, dull, fired brown/black.

Sloping wall, near shoulder; fine wheel-ridging.

14.508 (78.932) Fig. 159

Lower City TR3 (1) N.

Shoulder fr. (2). Medium-large closed vessel (perhaps small amphora). Graffiti.

Clay coarse, loaded with golden mica, red 2.5YR 5/6.

Shoulder fr. of rather globular medium or large-size closed vessel.

Graffiti on shoulder: two preserved cross-monograms with some other incised marks in between, perhaps accidental.

The fabric of this fr. is characteristic of a great many fr. of medium to large closed vessels which may be of local manufacture.

15. THE GREEK AND ROMAN LAMPS

John Tidmarsh

INTRODUCTION

THE GREEK LAMPS

The first three seasons of excavation at Torone have produced over 100 complete and fragmentary Greek lamps of which 81 are of sufficient size to be included in this catalogue.

More than half of the lamps were recovered from the Isthmus which, as it connects the Lekythos with the main city, must have always been an area of much activity; this high proportion, however, may be somewhat misleading as prior to 1981 there had been more intensive excavation on the Isthmus than elsewhere.

Closely dated contexts are lacking for most of the lamps in this catalogue which thus relies heavily on dated parallels from published excavations or museum collections; a number of deposits, however, most notably from the Isthmus, provide useful information for the dating of some of the non-Attic material.

On comparative grounds and on the stratigraphical evidence which is available, all the lamps in this catalogue must have been turned out between the later 6th century and the end of the 4th century B.C.

The catalogue is in two parts according to whether the lamps were made in Athens or elsewhere. Each part is arranged chronologically. The typology of the Attic material follows that of Howland¹ as do the dates, although here some modifications are necessary in view of the more recent publication by Scheibler² of the lamps from the Athenian Kerameikos.

Howland is also followed for the groupings of the non-Attic lamps. Although it should not be applied too rigidly for lamps made outside Athens itself, his typology is extremely useful for the later Archaic and Classical periods in general, as this was a time when the influence of the Attic lamps of high quality was widespread. This influence certainly extended to the Chalkidike as most of the locally made lamps in this catalogue seem to be based firmly on Attic models. Yet caution must be observed as regards chronology: obviously the date of a non-Attic lamp from Torone is not necessarily the same as that of an Attic example of similar shape. Although it is

¹ *Agora IV*.

² *Kerameikos XI*.

unlikely that any will need radical revision, the dates of many of the non-Attic lamps must remain provisional until confirmed or modified by further seasons' work.

THE ROMAN LAMPS

In contrast to the Greek lamps, relatively few Roman lamps have been found so far and only 16 have been included in this catalogue. The earliest can be dated to the late 3rd or early 4th century A.C. and thus it can be seen that there is a gap of almost 600 years between our latest Greek lamp (15.41) and the earliest Roman examples. This gap is consistent with our current impression that the population of Torone declined markedly during Hellenistic and Early Roman times.

Like the Greek lamps, firm dates based on the results of our excavations cannot be given, as none of the Roman examples were recovered from undisturbed deposits. Although the Attic lamps can be fairly well dated as a result of the work of Perlzweig,³ much remains to be done as regards the chronology of the lamps of the Late Roman period produced elsewhere. Most of the dates given in this catalogue, therefore, are subject to further refinement.

TERMS USED IN THE CATALOGUE

The terms employed in the description of the lamps are standard and need no explanation. Note however that "bottom" refers to the resting surface of those lamps without a raised base. In the use of the terms left and right the practice of Bailey⁴ has been followed: "when looked at vertically, with the nozzle pointing downwards, details described as being on the left side are on the spectator's left".

THE GREEK LAMPS

THE ATTIC LAMPS

Due to the absence of major lamp workshops of their own, the inhabitants of Torone must always have provided a ready market for imported lamps. Although a number of fabrics are represented, the largest single source of lamps in this catalogue is Athens, as 41 of our lamps can be assigned to that city.

³ *Agora VII*.

⁴ D. M. Bailey, *A Catalogue of Lamps in the British Museum I* (London 1975) 16.

Only two lamps in the catalogue must have been made before 480 B.C. and of these only lamp **15.2** (Howland Type 19B) can be accurately classified. The results of subsequent campaigns, however, have tended to confirm our impression that Attic lamps did not reach Torone in significant numbers until the final quarter of the 6th century B.C.

From this time until the middle years of the 4th century B.C. there seems to have been a more or less steady flow of Attic lamps into Torone. This is clearly seen in the 5th century by the presence of appreciable numbers of lamps belonging to Howland Types 21 and 22 (**15.3-15.12**). For the 4th century this is even more obvious, as attested by the large group of lamps of Howland Type 25.

It is possible that the Persian presence in Thrace and the Chalkidike during the early 5th century B.C. temporarily interrupted the flow of Attic lamps to these areas. The absence from Torone and Olynthos⁵ of any examples of Howland Types 20, 21A or 22A - all popular in Athens during this period - may suggest some interference in the north since such lamps have been recovered from southern sites like Corinth, Isthmia and Argos.⁶ Since, however, there are few Attic lamps from Olynthos prior to the 4th century B.C. and since the evidence from Torone is still limited by the relatively small area of the site which has been excavated, it is best to keep an open mind on this question.

Another disruption in the flow of Attic lamps to Torone seems to have occurred during the early years of the 4th century B.C., a fact which is not surprising in view of the ruinous war which Athens had just lost. This disruption is suggested by those lamps of Howland Type 25A recovered during the first three seasons (**15.21, 15.22** and **15.23**) and, indeed, from later seasons of excavation. Rather than the concave rim seen in earlier examples,⁷ they all have a convex rim which appears only during the second quarter of the 4th century B.C.

Two lamps belonging to Howland Type 25B Prime (**15.24, 15.25**) have been recovered so far. Lamp **15.24** with its numerous grooves and **15.25** with its heavy base are both early examples.⁸ Yet it is impossible to determine whether they arrived just before or just after the capture of Torone by Philip in 348 B.C. Lamp **15.41**, however, must have arrived after 348 B.C.⁹ and so there is clear evidence that at least

⁵ J. C. Tidmarsh, *Greek Lamps of the Chalkidike* (M. A. Thesis University of Sydney 1986, unpubl.) 79-81.

⁶ *Corinth* IV, 2, lamp 91; *Isthmia* III, lamps 36, 37, 41(?), 74-80, 84; *Ét. Pélop.* V, lamp 34.

⁷ *Kerameikos* XI, 26-27; *Agora* IV, 68.

⁸ *Agora* IV, 74.

⁹ *Kerameikos* XI, 47-48.

small numbers of Attic lamps continued to reach Torone during the later 4th century B.C.

Fragments **15.3** to **15.9** all belong to Howland Type 21. This type can be subdivided according to the presence or absence of a raised base, the length of the nozzle and the distribution of the glaze. The characteristic feature of the type as a whole, however, is a simple curved side continuing into a curving rim. Type 21 lasted from the latest years of the 6th century into the early years of the 4th.

The most popular 5th century lamp in Athens was Type 21B (*ca.* 480 to 415 B.C.) and two examples have been recovered so far from Torone (**15.3** and **15.4**). In each of these we see that the wickhole is somewhat removed from the rim and this would suggest that neither is an early member of the type.

Fragments **15.5** to **15.9** clearly belong to Type 21. Their glaze, applied to both interior and exterior, suggests a date after 480 B.C. As their nozzles are missing, however, it is uncertain whether they should be placed within Type 21B or within the subsequent Type 21C. Lamps of Howland Type 22 are closely related in shape to those of the preceding type, but they differ in having a central tube and decorated rim. Lamps of this type were turned out for most of the 5th century B.C., but their production did not continue into the fourth. Although not preserving the central tube, fragment **15.10**, which has a raised base and a rim decorated with concentric bands, belongs within this type. Fragments **15.11** and **15.12** should also be included here.

Lamps **15.13** to **15.19** have walls that curve only slightly with the result that the rim is clearly defined. This feature, and a tendency for the lamps to deepen, can be seen in Howland Types 23 and 24, produced during the later 5th and the early 4th centuries B.C.

The rim of Type 23 is glazed or, uncommonly, decorated with reserved bands. Fragments **15.13** to **15.17** are of this type.

The rim of Type 24 is ridged and grooved. Similar lamps are seen in very large numbers at Olynthos (Robinson's Group VII).¹⁰ Both at Athens and Olynthos lamps of this type seem to have been first made late in the third quarter of the 5th century B.C. and in both cities the type was popular. At Torone, however, only two Attic examples have been recovered so far (**15.18** and **15.19**).

Lamps **15.21** to **15.40** belong to Howland Type 25. This type was produced in Athens in very large numbers from the beginning of the 4th century down to the second quarter of the 3rd century B.C. All the examples from Torone date from the 4th century: their characteristics are the thick base with convex floor, a globular body,

¹⁰ *Olynthus* XIV, 357.

grooves and ridges around the filling hole and a long flat nozzle. The exterior may be glazed or unglazed.

The two main varieties of this type depend on the presence or absence of a pierced lug; lamps of Type 25B have this lug on their left side while those of Type 25A have a horizontal handle instead or nothing at all. Many of our lamps are not sufficiently preserved to allow the distinction.

Lamp **15.20** is of slightly earlier date as it belongs to Howland's Type 24C Prime, transitional between Types 24A and 25A.

In contrast to the sturdy lamps of Type 25 are the almost miniature lamps of Type 27A. Lamp **15.41** belongs here. Its glaze is of high quality and suggests that it was turned out during the 4th rather than the 3rd century B.C.¹¹

THE NON-ATTIC LAMPS

Current evidence suggests that at no stage of its existence did Torone have a lamp industry of any significance. As a result, the citizens of Torone had always to rely on imported lamps. The majority of these were produced in Athens although lamps from elsewhere are also represented.

Three main fabrics can be distinguished among the 40 non-Attic lamps. Of these, one is Olynthian and the other two are most likely from elsewhere within the Chalkidike. No Corinthian lamps were recovered during the first three seasons and very few have been found since then. There is also a small number whose fabrics are diverse and whose origins are unknown.

Of the main wares the first has reasonably fine clay with numerous coarse particles of mica. It is usually well fired although occasionally retaining a darker core. The colour of the fired clay is generally reddish-brown (Munsell 5YR 7/6) although some examples fired pink or red. The black glaze is generally of fairly poor quality and not infrequently fired red in large patches. This is the fabric seen in most of the lamps of Robinson's Group VII from Olynthos. Lamps of this group make up more than half the total of lamps found at Olynthos¹² and certainly appear nowhere else in such quantity. We are thus on firm ground for considering that this fabric originates at Olynthos or its immediate environs.

The second fabric is relatively scarce at Olynthos and so probably comes from elsewhere in the Chalkidike. The fired clay is generally light brown (Munsell 7.5YR 6/4 to 10YR 6/4, 7/3) with fine particles of mica. The glaze is usually dull black.

¹¹ *Agora* IV, 86.

¹² *Olynthos* XIV, 331-332.

The third fabric is of fine clay containing a small amount of coarse mica; in its fired state it is quite hard. Firing is often incomplete with the resulting colour ranging from reddish yellow to pale brown on the surface (Munsell 7.5YR 7/4 to 10YR 6/3, 7/1), whilst the core often remains a patchy grey. The glaze is dull and fired either red or black. It too is uncommon at Olynthos and its origin is uncertain; a source somewhere within the Chalkidike is likely.

So far four non-Attic lamps have been recovered which were turned out during the 6th century or the early years of the fifth; these are **15.42** to **15.45**. Lamps **15.42** and **15.43** recall the Athenian lamps of Howland Type 19 although **15.42** differs in its narrow rim and unbridged nozzle.

Fragments **15.44** to **15.50** are based on the lamps of the very popular Howland Type 21. Numbers **15.46** to **15.50** are glazed both on the interior and exterior and so recall Howland Types 21B and 21C. Unfortunately, none of the lamps preserves its nozzle and so we cannot be sure whether all were turned out during the 5th century B.C. or whether some may, in fact, be dated to the early fourth.

The chief characteristic of lamps **15.51** to **15.64** is the inward sloping rim decorated with grooves or ridges. Lamps with rims of this sort and with relatively upright walls were produced in Athens during the last third or so of the 5th century B.C. (Type 24A). Similar lamps - Robinson's Group VII - were also made at Olynthos where they seem to have had a much longer life. Eight of the lamps catalogued here (**15.55-15.61, 15.64**) are of the same fabric as those of Olynthos Group VII and so we must regard them as Olynthian products.

Lamps **15.65** to **15.73** recall those from Robinson's Olynthos Group V and in fact **15.65, 15.67, 15.68, 15.71** and **15.73** are Olynthian.

Robinson suggests that at Olynthos the lamps of his Group V were turned out during the years after 479 B.C.¹³ Their relatively long nozzles and large dimensions point, however, to the 4th century.

Some of the lamps (e.g. **15.67, 15.68**) demonstrate a tendency for the walls to enclose more of the body, thereby reducing the size of the central opening. These recall lamps of Howland Type 21C although their larger dimensions suggest that they must be later. Others remain open (e.g. lamps **15.65, 15.71-15.73**) and can be compared with those "cheap little transitional types" which Howland has grouped together in Type 30B. Lamps of this type were produced in Athens from just before the middle of the 4th century until the first quarter of the third.

¹³ *Ibid.*, 349.

Fragments **15.74** to **15.81** are clearly influenced by the lamps of Howland Type 25, the largest group from the Agora. With the possible exception of numbers **15.74**, **15.76** and **15.77** they seem to be of non-Attic origin.

THE ROMAN LAMPS

Only 25 incomplete lamps of the Roman period were recovered during the first three seasons of excavation at Torone. Of these, 16 were sufficiently preserved to be included in this catalogue.

All the specimens were found in either the Lower City or the Isthmus. This, of course, may merely reflect the intensity of excavation in those areas, but it is also likely that both were scenes of much activity during the Roman period.

The small size of many of the lamp fragments often makes recognition of their place of origin difficult. There is, at this stage, nothing to suggest that any were made in Torone itself. The earliest (**15.82-15.87**) can be dated to the late 3rd or early 4th century A.C. Four (**15.82**, **15.84**, **15.85**, **15.87**) appear to be of Attic origin. This is not surprising, for during the later 3rd and the 4th centuries Attic lamps dominated the export markets.¹⁴

The Asia Minor lamps (**15.90-15.94**) make up a relatively large proportion of the series; these may well have reached Torone during the 5th or 6th century A.C. when the export trade in Attic lamps was waning.¹⁵ Lamps of this type have been found at a number of Mainland Greek cities but it is only at Kenchreai¹⁶ that they have appeared in any quantity. Future seasons' work will show whether they were as popular at Torone.

Lamps **15.95** to **15.97**, of North African, Attic(?) and Corinthian origin respectively, provide further evidence that Torone received products from a number of centres during the 5th and 6th centuries A.C.

Lamps **15.82**, **15.84**, **15.85** and **15.87** are Attic. Lamp **15.82**, with its lack of glaze, is the earliest and should be dated to the late 3rd or early 4th century. The other Attic lamps are glazed and so must date from later in the 4th century A.C.¹⁷ It is possible that **15.83** was also made in Athens in which case it must be close in date to **15.82**. The origin of **15.86** is uncertain. Fragments **15.88** and **15.89** may also be Attic.

¹⁴ *Agora* VII, 65-69.

¹⁵ *Ibid.*

¹⁶ *Kenchreai* V, lamps 372-409.

¹⁷ *Agora* VII, 64; *Kenchreai* V, 52-53.

although their small size makes this attribution tentative. A date in the 5th or 6th century is likely for both.

On the basis of their fabric and decoration lamps **15.90** to **15.94** belong with the so-called Asia Minor lamps.¹⁸ These were produced in large numbers in at least several cities on the coast of Asia Minor. Characteristic features include loops or tongues between nozzle and disc, termination of the handle in a "fishtail" and a *planta pedis* with a slightly raised base ring. It should be noted, however, that imitations were produced in a number of cities in Mainland Greece.¹⁹ Much work remains to be done on the chronology, but it would seem that Asia Minor lamps were turned out from late in the 3rd century until some time in the seventh²⁰.

Lamp **15.95** clearly belongs with the "North African" lamps,²¹ whose fabric often closely resembles that of African Red Slip Ware and which were produced in Tunisia and possibly elsewhere during the 4th to 6th centuries A.C. Our example with its elaborate relief decoration and broad flat rim can be included in Hayes' Type IIA which was produced during much of the 5th century.²² Lamp **15.96** may also be North African if it is not an Attic imitation.²³

Lamp **15.97** is a Corinthian import. On the basis of its rim, which consists of a narrow depressed channel bordered by a series of raised lines, it should be included with the heterogeneous group of lamps which makes up Broneer's Type XXXIII.²⁴ Its light brown clay, similar to the traditional Corinthian but not as well refined, is present in a small number of Late Roman lamps from Corinth until the middle of the 6th century.²⁵ It is likely that our example dates to the first half of that century.

IMPORTANT PUBLICATIONS THAT HAVE APPEARED FOLLOWING THE WRITING OF CHAPTER 15

D. M. Bailey, *A Catalogue of the Lamps in the British Museum III. Roman Provincial Lamps*, London 1988.

¹⁸ F. Miltner, *Forschungen in Ephesos* IV.2, *Das Cömeterium der Sieben Schläfer* (Vienna 1937) 96 f.; *Kenchreai* V, 69 f.

¹⁹ Most notably Athens (*Agora* VII, 65) and Corinth (K. Garnett, "Late Roman Corinthian Lamps from the Fountain of the Lamps," *Hesperia* 44 [1975] 199-201).

²⁰ N. Poulou-Papadimitriou, "Lampes paléochrétiennes de Samos," *BCH* 110 (1986) 586; *Kenchreai* V, 69-71.

²¹ *Ibid.*, 76 f.; J. W. Hayes, *Late Roman Pottery* (London 1972) 310-314.

²² Hayes, *loc. cit.*, dates this Type ca. 420-500+.

²³ *Agora* VIII, 64-65.

²⁴ *Corinth* IV.2, 121.

²⁵ Garnett, *op. cit.* 177.

D. M. Bailey, *A Catalogue of Lamps in the British Museum IV. Lamps of Metal and Stone, and Lampstands*, London 1996.

A. Karivieri, *The Athenian Lamp Industry in Late Antiquity*, Helsinki 1996.

S. I. Rotroff, "Appendix III: Working Suggestions for Adjustment of the Chronology of Hellenistic Lamps," *Agora XXIX. Hellenistic Pottery. Athenian and Imported Wheelmade Table Ware and Related Material*, Princeton 1997, 493-510.

CATALOGUE

GREEK LAMPS²⁶

ATTIC

15.1 (75.282)

Fig. 159

Structure 1 TR1 tr1 (7).

Nozzle.

P.H. 0.011; L. 0.020.

Clay reddish yellow 5YR 7/6.

Shallow unbridged nozzle with traces of burning. Trace of black glaze on upper edge.

6th century B.C. ?

15.2 (78.3172)

Fig. 159

Isthmus TR4 tr1 (3) B7.

Fr. of wall, rim.

P.L. 0.035; P.H. 0.013.

Clay reddish yellow 5YR 7/6.

Glaze dark brown.

Downsloping rim set off from slightly curving wall.

Interior glazed, exterior reserved except for inner half of rim.

Type 19B [520-480 B.C.].

15.3 (76.91)

Fig. 159

Structure 3 TR10 (3).

Frs. of rim wall, nozzle (2 joining).

H. 0.018; P.L. 0.053.

Clay reddish brown 5YR 7/6.

Glaze worn black, red in patches.

Wall curving to downsloping rim.

Glazed interior and exterior surface.

Type 21B [480-415 B.C.]. Cf. *Agora* IV, no. 166 (490-460 B.C.).

15.4 (78.1958)

Fig. 159

Lower City TR 1 (1).

Fr. of wall, rim.

P.L. 0.04; P.H. 0.019.

Clay light brownish grey 10YR 6/2.

Glaze shiny black.

Wall curves inwards to form downsloping rim.

Root of strap handle preserved.

Glazed interior and exterior surface.

Type 21B [480-415 B.C.].

15.5 (76.223)

Fig. 159

Gate Area TR 4 (5).

Fr. of wall, rim.

P.H. 0.015; P.L. 0.024.

Clay pink 7.5YR 7/4.

Glaze black, brown in patches.

Wall curving inwards to form rim.

Glazed interior and exterior surface.

Type 21 [480-390 B.C.].

²⁶ Scheibler's revised dates for the Howland type sequence (*Kerameikos* XI, 189-190) are included in square brackets for the convenience of the reader. Susan Rotroff's recent revisions to the chronology of Hellenistic lamps have not been taken into account, *Agora* XXIX, 493-516.

15.6 (75.288)

Fig. 159

Structure 1 TR 1 tr 1 (7).

Fr. of wall, rim.

H. 0.018; L. 0.041.

Clay light red 2.5YR 6/8.

Glaze thick black, red patches.

Wall curving inwards to form narrow rim. Part of horizontal band handle preserved.

Glazed interior and exterior surface.

Type 21 [480-390 B.C.].

Clay reddish yellow 5YR 7/6.

Glaze black.

Low raised base with slightly concave under-surface. Convex wall turning inwards to form sloping rim.

Totally glazed except for undersurface of base and two reserved bands around rim.

Type 22B [475-410 B.C.]. Cf. *Agora* IV, no. 198.**15.7** (75.705)

Fig. 159

Gate Area TR2 tr 4 (2).

Fr. of wall, rim.

H. 0.018; P.L. 0.043.

Clay pink 7.5YR 7/4.

Glaze worn, black.

Wall curves inwards to form horizontal rim.

Glazed interior and exterior surface.

Type 21 [480-390 B.C.].

15.11 (78.3633)

Fig. 159; Pl. 86

Hill 2 TR2 ext. (3).

Fr. of wall, rim.

P.L. 0.047; P.H. 0.017.

Clay light red 2.5YR 6/8.

Glaze black.

Wall curves inwards to form rim.

Glazed interior; exterior glazed except for two reserved bands on rim.

Type 22B [475-410 B.C.]. Close to *Agora* IV, no. 198.**15.8** (78.2883)

Fig. 159

Lower City TR1 S (3).

Fr. of wall, rim.

P.L. 0.029; P.H. 0.018.

Clay reddish yellow 5YR 7/6.

Glaze black.

Wall curves inwards to form narrow rim.

Glazed interior and exterior surface.

Type 21 [480-390 B.C.].

15.12 (75.659)

Fig. 159

Structure 1 TR1 tr 1/3 Baulk (7).

Fr. of wall, rim, nozzle.

H. 0.018; P.L. 0.064.

Clay reddish yellow 5YR 7/6.

Glaze black, red in patches.

Slightly curving wall meeting downsloping rim. Glazed interior and exterior surface except for reserved band on rim.

Type 22B ? [475-410 B.C.].

15.9 (78.2598)

Fig. 159

Isthmus TR1 tr3 (3) SW.

Fr. of base, wall, rim.

P.L. 0.067; P.H. 0.026.

Clay light red 2.5YR 6/6.

Glaze shiny black.

Raised base separated from wall by shallow groove. Wall curves inwards to form rim. Root of horizontal strap handle preserved.

Glazed interior and exterior surface.

Type 21 [480-390 B.C.].

15.13 (78.1528)

Fig. 159

Isthmus TR3 tr1 (3) Road Surface B8.

Fr. of wall, rim, nozzle.

H. 0.022; L. nozzle 0.021.

Clay reddish yellow 7.5YR 7/6.

Glaze worn, black.

Almost straight wall with narrow clearly defined rim. Short nozzle.

Glazed interior and exterior except for two reserved bands on rim.

Type 23A [430-390 B.C.]. Cf. *Agora* IV, nos. 211 (profile) and 218 (decorated rim).**15.10** (75.586)

Fig. 159; Pl. 86

Structure 1 TR1 tr 2b (5).

Frs. of base, wall, rim (4 joining).

H. 0.018; D. base (est.) 0.068.

15.14 (78.346)

Fig. 159; Pl. 86

Isthmus TR2 tr1 (3a).

Fr. of wall, rim, nozzle.

H. 0.028; L. nozzle 0.033.

Clay reddish yellow 5YR 7/6.

Glaze black.

Curving wall with narrow downward sloping rim. Glazed interior and exterior except for reserved band at junction of wall and rim.

Type 23A [430-390 B.C.]. Cf. *Ét. Pelop.* V, no. 69 for profile (4th century B.C.).

15.15 (78.2525)

Fig. 159

Isthmus TR4 tr2 (3) B5.

Fr. of base, wall, rim, nozzle.

P.L. 0.021; P.H. 0.019.

Clay pink 7.5YR 7/4.

Glaze patchy red.

Low raised base. Narrow downward sloping rim set off from slightly curving wall.

Totally glazed.

Type 23A [430-390 B.C.].

15.16 (75.52)

Fig. 159

Structure 1 TR1 tr1 (4).

Fr. of wall, rim, nozzle.

P.H. 0.028; L. 0.033.

Clay reddish yellow 7.5YR 7.6.

Glaze worn, black.

Slightly curving wall with clearly defined rim.

Glazed interior and exterior surface.

Type 23C [400-350 B.C.]. Cf. *Agora* IV, no. 230 (second quarter of 4th century B.C.).

15.17 (78.2364)

Fig. 159

Isthmus TR1 tr2 (6).

Fr. of wall, rim.

P.L. 0.038; P.H. 0.025.

Clay reddish yellow 5YR 6/6.

Glaze black.

Broad rim set off sharply from slightly curving wall. Root of strap handle preserved.

Glazed interior and exterior surface.

Type 23C [400-350 B.C.].

15.18 (78.1523)

Fig. 159; Pl. 86

Isthmus TR3 tr1 (3) Road Surface B8.

Fr. of wall, rim.

H. 0.026; W. (est.) 0.068.

Clay reddish yellow 5YR 7/6.

Glaze black with metallic lustre.

Almost vertical wall separated by groove from sloping concave rim. Root of horizontal strap handle preserved.

Glazed interior and exterior surface.

Type 24A [430-400 B.C.]. Cf. *Agora* IV, no. 247 (last quarter of 5th century B.C.).

15.19 (75.56)

Fig. 159

Structure 1 TR1 tr1 (4).

Fr. of rim, nozzle.

P.H. 0.028; L. nozzle 0.034.

Glaze black.

Downward sloping rim with two grooves.

Glazed interior and exterior surface.

Type 24A [430-400 B.C.].

15.20 (78.454)

Fig. 159

Isthmus TR1 tr1 (4).

Fr. of base, wall, rim.

H. 0.047; D.base (est.) 0.047.

Clay reddish yellow 5YR 7/6.

Glaze worn, black.

Raised base with concave undersurface. Curving wall. Two shallow grooves on shoulder which is separated from convex rim by deep groove. Convex floor.

Interior glazed, exterior unglazed.

Type 24C Prime [420-370 B.C.]. Cf. Bailey, *BMC I*, Q 78.

15.21 (78.1756)

Fig. 160; Pl. 86

Isthmus TR3 tr1 (3) B17, TR3 tr1 (3) B5.

Eight joining frags. preserving almost intact lamp.

H. 0.043; W. 0.071.

Clay reddish yellow 5YR 7/6.

Glaze shiny black.

Raised thick base with concave undersurface. Curving wall separated by deep groove from convex rim. Flat topped nozzle with traces of burning. Convex floor. Root of horizontal handle preserved.

Glazed totally except for undersurface of base.

Type 25A [400-250 B.C.]. Cf. *Phyx* I, no. 51.
Presence of handle suggests 4th century B.C.

15.22 (78.1035) Fig. 160; Pl. 86
Isthmus TR1 tr2 (4a).
Frs. of base wall, rim, nozzle (2 joining).
P.H. 0.030; W. 0.069.
Clay pink 7.5YR 7/4.
Glaze black, red in patches.
Slightly curving wall separated from convex rim by scraped groove. Root of horizontal handle preserved.
Glazed interior and exterior surface.
Type 25A [400-250 B.C.]. Cf. *Agora* IV, no. 269 (end of 4th century B.C.).

15.23 (78.1224) Fig. 160
Isthmus TR1 tr3 (4).
Fr. of base, wall, rim.
H. 0.037; W. 0.069.
Clay pink 7.5YR 7/4.
Glaze black.
Raised base with concave undersurface and separated from lower wall by groove. Curving wall with scraped groove around downward sloping rim. Roots of strap handle preserved. Slightly convex floor.
Totally glazed except for undersurface of base.
Type 25A [400-250 B.C.]. Cf. lamp **15.21**, 4th century B.C.

15.24 (78.852) Fig. 160; Pl. 86
Isthmus TR2 tr1 (5a).
Fr. of wall, rim.
P.H. 0.020; P.L. 0.060.
Clay reddish yellow 5YR 7/6.
Glaze poor, black, fired red over much of lamp.
Curving wall separated from horizontal rim by deep groove. Three shallow grooves on upper wall. Pierced lug.
Interior glazed, exterior reserved.
Type 25B Prime [350-250 B.C.]. Cf. Bailey *BMC* I, Q 94 EA.

15.25 (76.342) Fig. 160; Pl. 86
Isthmus TR2 tr1 (3a).
Complete lamp except for nozzle.

H. 0.043; P.L. 0.076.
Clay pink 7.5YR 7/4.
Glaze worn, red.
Raised thick base with concave undersurface, separated from wall by two grooves. Wall curves inwards to form ill defined rim. Convex floor. Trace of lug on left.
Interior glazed, exterior unglazed.
Type 25B Prime 350-250 B.C.]. Cf. *Délos* XXVI, no.16 (350-300 B.C.).

15.26 (78.3314) Fig. 160
Isthmus TR4 tr1 (2).
Fr. of wall, rim.
P.H. 0.021; P.L. 0.060.
Clay reddish yellow 5 YR 7/6.
Glaze black.
Curving wall with three shallow grooves on shoulder. Broad ridge separates wall from convex rim.
Unglazed exterior; glazed interior.
Type 25A Prime [370-250 B.C.] or 25B Prime [350-250 B.C.]. The multiple grooves and prominent ridge suggest it is an early example.

15.27 (78.1502) Fig. 160; Pl. 86
Isthmus TR3 tr1 ext. 3 (3) B3.
Fr. of wall, rim, nozzle.
P.H. 0.017; P.W. 0.061.
Clay light red 2.5.YR 6/6.
Glaze black with metallic lustre.
Curving wall separated from convex rim by scraped groove.
Glazed interior and exterior surface.
Type 25 [400-250 B.C.]. Cf. Bailey *BMC* I, Q82.

15.28 (78.496) Fig. 160
Isthmus TR2 tr1 (5).
Fr. of nozzle, wall, rim.
H. 0.023; P.L. 0.038.
Clay reddish yellow 5YR 7/6.
Glaze worn, black.
Curving wall separated from convex rim by scraped groove.
Glazed interior and exterior surface.
Type 25 [400-250 B.C.].

15.29 (78.97)

Fig. 160

Isthmus TR2 tr1 (3).

Fr. of wall, rim, nozzle.

P.H. 0.035; P.L. 0.035.

Clay reddish yellow 5YR 7/6.

Glaze worn, black.

Curving wall separated from rim by groove.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.]. Cf. *Délos* XXVI, no. 18 (upper profile).**15.30** (78.596)

Fig. 160

Isthmus TR2 tr2 (1).

P.H. 0.028; P.L. 0.047.

Clay reddish yellow 5YR 6/6.

Glaze worn, black.

Curving wall separated by scraped groove from convex downward turned rim.

Glazed interior and exterior surface.

Type 25. [400-250 B.C.] Cf. Bailey *BMC* I, Q 87.**15.31** (78.1253)

Fig. 160

Isthmus TR1 tr2 (6).

Fr. of wall, rim, nozzle.

P.H. 0.032; L. 0.048.

Clay pink 5YR 7/4.

Glaze black.

Curving wall separated by scraped groove from downward sloping rim. A further very shallow groove on upper wall.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.].

15.32 (78.1106)

Fig. 160

Isthmus TR1 tr2 (4a).

Fr. of rim, nozzle.

P.H. 0.025; L. 0.043.

Clay reddish yellow 5YR 7/6.

Glaze black.

Nozzle flat on top with small wick hole.

Scraped groove separates wall and rim.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.]. Cf. *Agora* IV, no. 267.**15.33** (78.1120)

Fig. 160

Isthmus TR1 tr2 (5).

Nozzle.

P.H. 0.026; L. 0.038.

Reddish yellow Clay 5YR 7/6.

Glaze black.

Flat on top, separated from rim by scraped groove.

Glazed.

Type 25 [400-250 B.C.]. Close to lamp **15.32**.**15.34** (78.847)

Fig. 160; Pl. 86

Isthmus TR1 tr2 (4).

Frs. of wall, rim (2 joining).

P.H. 0.026; P.L. 0.072.

Clay reddish yellow 5YR 7/6.

Glaze red.

Curving: wall separated from horizontal rim by deep groove and ridge.

Glazed interior, reserved exterior.

Type 25 [400-250 B.C.]. Cf. Bailey *BMC* I, Q 93.**15.35** (78.2013)

Fig. 160

Isthmus TR1 tr3 (1).

Fr. of wall, rim.

P.H. 0.024; P.L. 0.047.

Clay pink 7.5YR 7/4.

Glaze black.

Globular wall separated from convex rim by deep groove.

Glazed interior and exterior surface.

Type 25 [400-250].

15.36 (78.2350)

Fig. 160

Isthmus TR1 tr3 (3).

Fr. of wall, rim.

P.H. 0.022; P.L. 0.038.

Clay reddish yellow 5YR 7/6. .

Glaze shiny black.

Globular wall separated from convex rim by deep scraped groove.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.].

15.37 (78.2362)

Fig. 160

Isthmus TR1 tr2 (6).

Fr. of wall, rim.

P.H. 0.031; P.L. 0.036.

Clay light brown 7.5YR 6/4.

Glaze black.

Globular wall separated from convex rim by deep scraped groove.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.].

15.38 (78.2850)

Fig. 160

Isthmus TR2 tr1 (3).

Fr. of wall, rim.

P.H. 0.024; P.L. 0.051.

Clay reddish yellow 5YR 6/6.

Glaze worn, black.

Curving wall separated by deep groove from convex downward sloping rim. Root of horizontal strap handle preserved.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.].

15.39 (78.2777)

Fig. 160

Isthmus TR2 tr1 (3a).

Frs. of wall, rim (2 joining).

P.H. 0.028; P.L. 0.051.

Clay light red 2.5YR 6/6.

Glaze black.

Globular wall separated by scraped groove from convex downward sloping rim.

Glazed interior and exterior surface.

Type 25 [400-250 B.C.].

15.40 (76.2094)

Fig. 160

Isthmus TR2 tr1 (3).

Fr. of wall, rim.

P.L. 0.026.

Clay pink 5YR 7/3.

Glaze black.

Convex downward sloping rim separated from wall by groove.

Glazed interior and exterior surface.

Type 25 [400-250 B. C.].

15.41 (78.1467)

Fig. 160

Hill 2 TR3 (2).

Fr. of base and central tube.

P.H. 0.024; D.base (est.) 0.026.

Clay pink 7.5YR 7/4.

Glaze good black.

Low ring base separated from lower wall by groove. Central tube broken off at top.

Totally glazed.

Type 27A [340-240 B.C.]. Cf. *Agora* IV, no. 380 (ca. 250, but the high quality of the glaze suggests an earlier date for our example).

NON-ATTIC²⁷

15.42 (76.2015)

Fig. 160

Gate Area TR7 tr 2 (1).

Fr. of nozzle, wall, rim.

P.H. 0.009; P.L. 0.025.

Clay reddish yellow 7.5YR 6/6.

Glaze brown.

Shallow lamp with narrow rim set sharply off from wall. Unbridged nozzle.

Interior glazed, exterior reserved. Some similarity to Bailey, *BMC* I, Q 637 with its shallowness suggesting a 6th century B.C. date.

15.43 (78.2111)

Fig. 160

Isthmus TR1 tr2 (4).

Fr. of wall, rim.

P.H. 0.015; P.L. 0.029.

Clay greyish brown 2.5YR 5/2.

Glaze dull black.

Horizontal rim set off sharply from flaring wall. Glazed interior, reserved exterior except for rim.

6th or early 5th century B.C.

15.44 (78.3256)

Fig. 160

Lower City TR3 SE.

Fr. of wall, rim.

P.H. 0.025; P.L. 0.075.

²⁷As discussed in the introduction (*supra* pp. 647-648), the non-Attic lamps cannot be dated with the same precision as the Attic examples.

Clay pink 7.5YR 7/4.
Glaze patchy brown.
Wall curves inwards to form horizontal rim.
Interior glazed as is rim.
6th or early 5th century B.C.

15.45 (76.2001) Fig. 160

Gate Area TR6 tr1 N (1).
Fr. of wall, rim.
P.H. 0.015; P.L. 0.037.
Clay pale to very pale brown 10YR 7/4 to 5/3.
Wall curves inwards to form horizontal rim.
Unglazed.
6th or early 5th century B.C.

15.46 (78.2958) Fig. 160

Isthmus TR4 tr1 (2).
Fr. of wall, rim.
P.H. 0.023; P.L. 0.027.
Clay light red 2.5YR 6/6. Attic (?).
Glaze shiny black.
Wall curves inwards to form indistinct rim.
Glazed interior and exterior surface.
5th or early 4th century B.C.

15.47 (78.2554) Fig. 160

Isthmus TR1 tr2 (6b).
Fr. of wall, rim.
P.H. 0.020; P.L. 0.047.
Clay very pale brown 10YR 7/4.
Glaze worn dark brown.
Wall curves inwards to form narrow rim.
Glazed interior and exterior surface.
5th or early 4th century B.C.

15.48 (78.3323) Fig. 161

Isthmus TR3 tr1 Feature 1 B7.
Fr. of wall, rim.
P.H. 0.024; P.L. 0.032.
Pink Clay 7.5 YR 7/4.
Glaze black.
Wall curves inwards to form narrow rim. Root of horizontal strap handle preserved.
Glazed interior and exterior surface.
5th or early 4th century B.C.

15.49 (78.3711) Fig. 161

Isthmus TR2 tr1 (4a).
Fr. of wall, rim.
P.H. 0.011; P.L. 0.031.
Clay light reddish brown 2.5YR 6/4.
Glaze worn, dark red.
Wall curves inwards to form rim.
Glazed interior and exterior surface.
5th or early 4th century B.C.

15.50 (78.3403) Fig. 161

Isthmus TR1 tr3 (2).
Fr. of wall, rim, nozzle.
P.H. 0.017; P.L. 0.031.
Pink Clay 5YR 7/4. Attic(?).
Glaze black.
Wall curves inwards to form narrow rim.
Glazed interior and exterior surface.
5th or early 4th century B.C.

15.51 (75.198) Fig. 161

Structure 1 TR1 tr1 (7), (8).
Frs. of rim, nozzle (3 joining).
H. 0.023; L. nozzle 0.033.
Clay light yellowish brown 10YR 6/4.
Glaze dull black.
Curving wall separated by groove from concave rim.
Glazed interior and exterior surface.
Cf. Agora IV, no. 243 (last quarter of 5th century B.C. or earlier).
Last third of 5th century B.C.

15.52 (78.2578) Fig. 161

Isthmus TR4 tr2 (2).
Fr. of wall, rim.
P.H. 0.020; P.L. 0.032.
Clay very pale brown 10YR 7/3.
Glaze black.
Slightly curving wall separated by groove from downward sloping rim.
Glazed interior and exterior surface.
Last third of 5th century B.C.

15.53 (78.2508) Fig. 161

Isthmus TR3 tr2 Ext. 2 (3) B7.
Fr. of wall, rim.
P.H. 0.020; P.L. 0.025.

Clay pinkish grey 7.5YR 6/2.

Glaze dull black.

Slightly curving wall separated by groove from concave rim.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.54 (75.478)

Fig. 161

Gate Area TR3 Baulk (4).

Fr. of wall, rim, nozzle.

H. 0.023, L. 0.066.

Clay pink 7.5YR 7/4.

Glaze thin black.

Convex wall separated by shallow groove from downward turned concave rim.

Glazed interior and exterior surface.

Cf. **15.26**; *Agora* IV, no. 247 (last quarter of 5th century B.C.).

15.55 (78.393)

Fig. 161

Isthmus TR2 tr1 (3a).

Fr. of base, wall, rim.

H. 0.026; W. 0.049.

Clay light red 2.5YR 6/6, very micaceous.

Glaze black, red in patches.

Raised base. Convex wall separated by groove from downward sloping rim. Slightly convex floor.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.56 (75.55)

Fig. 161

Structure 1 TR1 tr1 (4).

Fr. of rim, nozzle.

H. 0.025; L. nozzle 0.031.

Clay pink 7.5YR 7/4, micaceous.

Glaze black.

Sloping rim separated by shallow groove from nozzle.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.57 (76.287)

Fig. 161; Pl. 86

Gate Area TR4 Ext. 2 (4).

Two frs. forming almost complete lamp; handle and part of wall missing.

H. 0.029; W. 0.061.

Clay reddish yellow 5YR 7/6, micaceous.

Glaze worn dull black, red in patches.

Low raised base, convex wall, downward sloping rim with two grooves. Root of handle preserved.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.58 (78.2436)

Fig. 161

Isthmus TR3 tr2 (3) B19.

Fr. of wall, rim.

P.H. 0.018; P.L. 0.037.

Clay light red 2.5YR 6/8.

Glaze black, fired brown in patches.

Slightly curving wall separated by ridge from concave rim.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.59 (78.3518)

Fig. 161

Lower City TR1 (1).

Fr. of wall, rim, nozzle.

P.H. 0.024; P.L. 0.037.

Clay reddish yellow 5YR 6/6.

Glaze patchy brown.

Downward sloping rim with one narrow and one wide groove set off from curving wall.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.60 (78.3726)

Fig. 161

Isthmus TR4 tr2 (2).

Frs. of base, wall, rim (2 joining).

P.H. 0.029; P.L. 0.055.

Clay brown 7.5YR 5/2.

Glaze black.

Raised base separated by deep groove from curving wall. Shallow groove separates wall from convex downward sloping rim.

Glazed interior and exterior surface.

Last third of 5th century B.C.

15.61 (78.3712)

Fig. 161

Isthmus TR2 tr1 (4a).

Fr. of rim.

P.L. 0.018.

Clay red 2.5YR 5/8.

Glaze dark brown.

Sloping rim with two grooves separated by ridge.
Glazed interior and exterior surface.

15.62 (78.550) Fig. 161
Isthmus TR2 tr1 (5).
Fr. of wall, rim, nozzle.
H. 0.020; L. nozzle 0.035.
Clay reddish brown 5YR 6/6, micaceous.
Glaze dull black.
Sloping rim with two grooves.
Glazed interior and exterior surface.
Last third of 5th century B.C.

15.63 (75.77) Fig. 161
Structure 1 TR1 tr1 (5).
Fr. of wall, rim.
P.H. 0.026.
Clay reddish yellow 7.5YR 7/6.
Glaze worn black.
Horizontal rim with three grooves, sharply set off from curving wall.
Glazed interior and exterior surface.
Cf. Corinth IV. 2, p.32, profile 31.
Last third of 5th century B.C.

15.64 (78.1171) Fig. 161
Isthmus TR1 tr3 (3) SW.
Fr. of base, wall, rim, nozzle.
H. 0.036; L. nozzle 0.037.
Clay pink 7.5YR 7/4, very micaceous.
Glaze worn, light brown.
Low raised base. Curving wall with shallow groove at junction with rim.
Glazed interior and exterior surface.
Last third of 5th century B.C.

15.65 (78.98) Fig. 161
Isthmus TR2 tr1 (3).
Fr. of wall, rim, nozzle.
H. 0.026; W. (est.) 0.054.
Clay pink 7.5YR 7/4.
Glaze black, red in patches.
Wall turns inwards at top which is thickened but lacks distinct rim.
Glazed interior and exterior surface.

15.66 (78.1453) Fig. 161
Isthmus TR4 tr1 (3) B8.
Complete lamp except for nozzle.
H. 0.028; W.0.058.
Clay very pale brown 10YR 7/3.
Glaze red.
Raised base with flat undersurface. Convex wall thickened at top but without distinct rim.
Convex floor.
Glazed interior and exterior surface.
Cf. lamp 15.65.

15.67 (75.469) Fig. 161; Pl. 86
Structure 1 TR1 tr2b (4).
Complete lamp.
H. 0.027; W.0.062.
Clay reddish yellow 7.5YR 7/6.
Glaze black.
Raised base with concave undersurface. Convex wall turning inwards, but no distinct rim.
Convex floor.
Prominent wheel marks on lower half of exterior.
Totally glazed.

15.68 (78.228) Fig. 161
Isthmus TR2 tr1 (3).
Fr. of base, wall, rim, nozzle.
H. 0.032; P.W. 0.053.
Clay reddish yellow 5YR 7/6.
Glaze worn, light red.
Raised base. Convex wall turning inwards to form indistinct rim.
Glazed interior and exterior surface.
Cf. BSA 49 (1956) 146, no.136.

15.69 (78.1604) Fig. 161
Lekythos TR2 (5).
Fr. of wall, rim, nozzle.
H. 0.025; L. nozzle 0.028.
Clay dark grey 10YR 4/1, coarse with white inclusions.
Wall curves inwards and continues into rim.
Clumsily made.
Unglazed.

15.70 (76.139) Fig. 161
Isthmus TR1 tr1 (1).

Fr. of wall, rim, nozzle.

H. 0.028; L. nozzle 0.015.

Clay pink 5YR 7/4.

Glaze dull black.

Convex wall with a very exaggerated inward curve of rim.

Glazed interior and exterior surface.

15.71 (78.2435)

Fig. 161

Isthmus TR3 tr 2 (3) B19.

Fr. of wall, rim.

P.H. 0.014; P.L. 0.049.

Clay light red 2.5YR 6/6.

Glaze patchy tan.

Wall curves inwards to form narrow thickened rim.

Glazed interior and exterior surface.

15.72 (78.3728)

Fig. 161

Isthmus TR3 tr 2 Ext. 2 (3) B4, B7.

Almost complete lamp except for nozzle and part of body (9 joining frags.).

P.H. 0.031; P.L. 0.073.

Clay pink 7.5YR 7/4.

Glaze dull black.

Broad raised base with concave undersurface and small interior hump. Wall curves inwards to form narrow rim.

Glazed interior and exterior surface.

15.73 (78.2769)

Fig. 162

Lower City TR3 (3) SW.

Fr. of wall, rim.

P. H. 0.025; P.L. 0.056.

Clay reddish yellow 7/6.

Glaze red-brown.

Narrow downward sloping rim set off from curving wall.

Glazed interior and exterior surface.

Cf. Kerameikos XI, no. 65 (370-350 B.C.).

15.74 (75.344)

Fig. 162

Structure 1 TR1 tr1 (6).

Fr. of wall, rim, nozzle.

P.H. 0.032; P.W. 0.050.

Clay light red 2.5YR 6/8, Attic (?).

Glaze red.

Curving wall separated from horizontal rim by deep groove. Three shallow grooves on upper wall.

Interior glazed, exterior reserved.

Similar to Howland Type 25A Prime [370-250 B.C.] or 25B Prime [350-250 B.C.]. *Cf. Pnyx I*, p. 57, no. 77.

15.75 (75.281)

Fig. 162

Structure 1 TR1 tr1 (7).

Fr. of wall, rim.

P.H. 0.032.

Brown Clay 7.5YR 5/4.

Glaze red.

Convex wall with three shallow grooves on upper part. Downward sloping rim.

Interior glazed, exterior unglazed.

Similar to Howland Type 25A Prime [370-250 B.C.] or 25B Prime [350-250 B.C.]. *Cf. Pnyx I*, p. 57, no. 78.

15.76 (78.2177)

Fig. 162

Isthmus TR3 tr2 Ext. 2 (2).

Frs. of wall rim, nozzle.

P.H. 0.036; P.L. 0.057.

Clay reddish yellow 7.5YR 7/6. Attic (?).

Glaze brown.

Globular wall separated by groove from narrow downward sloping convex rim.

Interior glazed, exterior reserved.

Similar to Howland Type 25A or B Prime.

15.77 (75.502)

Fig. 162; Pl. 86

Structure 1 TR1 tr2 "Below B" (4).

Frs. of wall, rim (2 non-joining).

P.H. 0.025.

Clay reddish yellow 5YR 6/8. Attic (?).

Glaze thin black.

Curving wall separated by deep groove from horizontal rim. Two shallow grooves on upper wall. Pierced lug.

Interior glazed, exterior unglazed.

Similar to Howland Type 25B Prime [350-250 B.C.].

15.78 (78.3638)

Fig. 162

Hill 2 TR2 Ext. (3).

Fr. of wall, rim.

P.L. 0.04.

Clay pink 7.5YR 7/4.

Glaze dull black.

Inward carving wall separated by shallow groove from raised downward sloping rim.

Glazed interior and exterior surface.

15.79 (76.1070)

Fig. 162

Isthmus TR2 tr1 (3a).

Frs. of wall, rim (2 joining).

P.H. 0.025; P.L. 0.030.

Clay very pale brown 10YR 8/3.

Glaze worn, black.

Slightly curving wall separated from raised horizontal rim by deep groove.

Glazed interior and exterior surface.

15.80 (78.2135)

Fig. 162

Isthmus TR3 tr1 (3) B6.

Fr. of wall, rim.

P.L. 0.048.

Clay light reddish brown 5YR 6/3.

Glaze dull black.

Convex downward sloping rim separated from wall by scraped groove.

Glazed interior and exterior surface.

15.81 (78.352)

Fig. 162

Isthmus TR2 tr1 (3).

Fr. of wall, rim, nozzle.

P.H. 0.035; L. 0.048.

Clay white 10YR 8/2.

Curving wall separated from downward sloping rim by groove.

Clumsily made. Unglazed.

Cf. Bailey, *BMC I*, Q 86 for shape.

ROMAN LAMPS²⁸

15.82 (78.475)

Fig. 162; Pl. 87

Isthmus TR3 tr2 (3) B14.

Seven joining fragments preserving handle, part of rim and almost complete disk.

P.W. 0.069.

Clay pink 7.5YR 7/4, moderately coarse.

Unglazed.

Disk: single ring around filling hole; rosette of ten double petals; framing ring. Rim: slightly sloping, plain except for incised panels. Solid grooved handle.

Cf. *Agora VII*, no. 1651 which dates to first quarter of fourth century B.C.

Late 3rd or early 4th century A.C.

15.83 (78.1426)

Fig. 162

Isthmus TR4 tr1 (1).

Fr. of handle, rim and disk.

P.W. 0.029.

Clay light brown 7.5YR 6/4, coarse.

Unglazed

Disk: rosette of double petals; framing ring.

Rim: slightly sloping, no trace of decoration preserved. Solid handle.

Similar to **15.82**.

Late 3rd or early 4th century A.C.

15.84 (78.1219)

Fig. 162; Pl. 87

Lower City TR1 S (3).

Four frs., two of which join, preserving handle, most of disk, rim and base.

H. 0.034; P.L. 0.090.

Clay reddish yellow 7.5YR 6/6, moderately coarse with fine grit and mica.

Glaze light red.

Disk: frontal bearded head with *pilos*. Odysseus?

Rim: set off by incised grooves; impressed concentric circles preserved on right. Solid groov-

²⁸Cf. p. 648 as regards the preliminary nature of the dates for many of the lamps in the Roman corpus.

ed handle. Base: indistinct trace of signature within two incised rings.

For subject of disk cf. *Ét Pelop.* V, no. 366 and also *Agora* VII, p. 120.

Late 3rd or early 4th century A.C.

15.85 (78.1425)

Fig. 162

Isthmus TR4 tr1 (1).

Fr. of disk.

P.L. 0.034.

Clay light brown 7.5YR 6/4, moderately coarse. Glaze reddish brown.

Disk: two rings around filling hole; rosette of curving solid petals; framing ring.

Close to *Agora* VII, no. 1912 and *Ét Pelop.* V, no. 551. The *Agora* example is dated to the second half of the fourth century.

Late 3rd or early 4th century A.C.

15.86 (78.960)

Fig. 162; Pl. 87

Lower City TR2 (1).

Fr. of rim and disk.

P. L. 0.030.

Clay light brown 7.5YR 6/4, moderately coarse with grit.

Traces of black glaze.

Disk: arm of cross or of monogram; double framing ring. Rim: sloping; impressed concentric circles.

Late 3rd or early 4th century A.C.

15.87 (78.62)

Fig. 162; Pl. 87

Isthmus TR3 tr1 (2).

Fragment of disk, rim and nozzle.

P.L. 0.048.

Clay light red 2.5YR 6/8, moderately coarse.

Glaze reddish brown.

Disk: rays. Globules at front around air hole and around outer edge of disk. A further circle of globules within two framing rings.

Cf. *Agora* VII, no. 2866, a lamp mould dated to the fifth century.

The glaze on our specimen suggests a date in the 4th century A.C.

15.88 (76.151)

Pl. 87

Isthmus TR1 tr1 (1).

Fr. of rim and disk.

P.L. 0.036

Clay red 2.5YR 5/6, moderately coarse with grit.

Disk: plain. Rim: impressed concentric circles, separated from disk by deep groove.

5th or 6th century A.C.

15.89 (78.411)

Fig. 162

Isthmus TR1 tr2 (4).

Fr. of rim and nozzle.

P.L. 0.033.

Clay reddish yellow 5YR 7/6, moderately coarse.

Unglazed.

Rim: herringbone pattern with globules to side of wick hole.

5th or 6th century A.C.

15.90 (78.783)

Fig. 162

Isthmus TR2 tr2 (1).

Three frs., two joining, preserving base and part of undersurface and rim.

P.L. 0.073; P.W. 0.050.

Clay reddish yellow 5YR 7/6, moderately coarse with grit and mica.

Worn dark red glaze.

Rim: globules. Undersurface: double grooves on underside of nozzle, handle ending in fish-tail. Base: four impressed dots within raised ring.

Asia Minor lamp or imitation.

Late 3rd to 7th century A.C.

15.91 (78.939)

Fig. 162

Isthmus TR1 tr2 Baulk NE.

Fr. preserving complete handle and part of rim and undersurface.

P.H. 0.035; P.W. 0.043.

Clay pink 5YR 8/3.

Glaze worn, black-brown.

Rim: globules. Solid grooved handle ending in fishtail.

Similar to **15.90**.

Late 3rd to 7th century A.C.

15.92 (78.497)

Fig. 162

Isthmus TR2 tr1 (5).

Fr. of rim and small part of disk.

P.L. 0.026.

Clay reddish yellow 7.5YR 7/6, with occasional small inclusions.

Glaze red.

Disk: plain (?); framing ring. Rim: vine. Cf. *Délos* XXVI, no. 4718 for rim.

Late 3rd to 7th century A.C.

15.93 (78.1119)

Fig. 162; Pl. 87

Isthmus TR1 tr2 (5).

Fr. of rim and disk.

P.L. 0.043.

Clay pink 7.5YR 7/4.

Glaze red-brown.

Disk: part of cross; framing ring. Rim: sloping; vine and tendril. Cf. Bailey, *Lamps*, pl. 15 (a) for rim on Asia Minor lamp of fifth to sixth century.

5th to 6th century A.C.

15.94 (78.14)

Fig. 162

Isthmus TR1 tr2 (3).

Fr. of rim and disk.

P.L. 0.040.

Clay pink 7.5YR 7/4.

Unglazed.

Disk: wing of Eros (?); framing ring. Rim: sloping; vine and tendril.

Cf. Garnett, *Hesperia* 44, 200, no. 32, dated to the 5th century A.C.

Late 3rd to 7th century A.C.

15.95 (78.962)

Fig. 162; Pl. 87

Lower City TR2 (1).

Fr. of rim and disk.

PL 0.040.

Clay reddish yellow 5YR 6/6, moderately coarse with small inclusions.

Glaze red.

Disk: hatched wheel pattern separated by globules from channel to nozzle. Rim: two bands of raised oblique strokes.

North African lamp. Cf. *Isthmia* III, pl. 36, no. 3163.

5th century A.C.

15.96 (76.143)

Fig. 162; Pl. 87

Isthmus TR2 tr1 (1).

Fr. of disk and rim.

P.L. 0.042.

Clay reddish yellow 5YR 7/8.

Glaze red.

Disk: rosette with raised cross within each petal. Rim: raised concentric circles with globules between.

5th century A.C.

15.97 (78.668)

Fig. 162

Isthmus TR1 tr2 (5).

Fr. of disk and rim.

P.L. 0.031.

Clay very pale brown 10YR 8/4, coarse with grit.

Unglazed.

Disk: globules (?) at edge; two framing rings. Rim: sloping; oblique ridges.

First half of 6th century A.C.

16. THE TERRACOTTAS

FIGURINES, ARCHITECTURAL TERRACOTTAS, LOUTERIA

Jenifer Neils

TERRACOTTA FIGURINES

The three seasons of excavation at Torone (1975, 1976 and 1978) have produced a total of sixty terracotta figurines, mostly fragmentary. In 1975, three (**16.1**, **16.5**, **16.16**) were found near each other in Structure 1. They represent the most intact figurines discovered during those seasons. A few more, all fragmentary, were uncovered in a dump fill to the southwest of the building. Some fragments, including two female heads (**16.14** and **16.15**) were found at the Gate. The vast majority, however, was excavated in the classical levels of the Isthmus in 1978. Given the proximity of this area to the only known religious sanctuary within the city, the temple of Athena on the Lekythos (Thucydides IV, 116), it is not surprising to find figurines, whose function was probably votive, in the vicinity. Upon preliminary analysis these figurine fragments from the Isthmus appear to vary widely in date, and a few examples have exact parallels with material from Structure 1 (*i.e.* the shield and arm fragment **16.3** and the horse fragment **16.2** with the armed rider **16.1**; the bird **16.7** with the bird **16.6**).

The fabric of the figurines varies considerably. The coarsest are of a rich reddish brown or reddish yellow clay with sandy grit as temper, small white stone inclusions and mica of a golden colour (**16.1**, **16.7**). The same clay appears in a better levigated, semi-coarse form with finer sand grit, mica and no inclusions; in these fragments the core is usually fired a dark grey (**16.22** and **16.26**). Since some of the figurines of these fabrics are handmade, it is tentatively suggested that they are of local manufacture. Finer clays are of a much lighter red colour, often covered with a thick whitish slip (**16.18**, **16.21** and **16.24**), or are highly fired, brittle and of a bright orange red or pink hue reminiscent of figurines from Olynthos (**16.30** and **16.36**). There is also a fine, soft, very pale brown or buff clay (**16.10** and **16.33**) which may represent material imported from Corinth. A number of the figurines preserve a whitish slip, but unfortunately few have traces of any other colours. Only **16.21** and **16.35** preserve red paint applied over the white slip.

Most of the figurines are mould-made. Human figures have hollow bodies and solid heads. Animals are made in the form of hollow relief plaques. In addition, there are hollow, mould-made heads without backs. These are usually pierced on top for suspension and were no doubt intended as votives. They are primarily female (**16.11**-

16.13), but one is a silen protome (**16.23**). The hole in the top of the small, solid female head **16.10** does not pass completely through and cannot, therefore, have served for suspension. The purpose of this hole is, for the present, inexplicable. The coarse handmade male head **16.8** is also solid, but it is pierced by a small hole extending from top to bottom. The handmade figurines are solid and of more primitive workmanship. The flat, scarred back of the lion head **16.5** indicates that it was originally attached to some other surface. The female head (**16.19**) has a dowel at the base of the neck for insertion into a hollowed-out body.

Forty-one of the sixty inventoried figurines are presented here. They range in date from the late sixth to the fourth centuries B.C.

CATALOGUE

HAND-MADE FIGURINES

16.1 (75.360) Pl. 88
 Structure I TR1 tr2 "Below B" (3).
 Horse and rider.
 H. 0.135; W. at arm 0.050; L. of body 0.064.
 Clay coarse with sandy grit; fired reddish brown 2.5YR 5/6.
 Complete except for a small piece missing from the horse's left cheek.
 Composed of eight separately made pieces: horse's body and right legs, left foreleg, left hind-leg, upper body and neck, head in two parts, rider's torso and shield, rider's head. Solid, roughly fashioned with no detailing. The horse has a long, narrow head, broad neck and short body set on four widespread conical legs. Rudimentary modelling indicates the tail, ears, forelock and muzzle. The rider consists of only a torso; flat, oval head (helmet?); triangular right arm set at a right angle to the chest. A circular shield is carried on the left side (cf. **16.2**).
 Published: *PAE* (1975) 128, pl. 108γ; *Ergon* (1975) 72, fig. 67; *BCH* 100 (1976) 678, fig. 213. *Aust. Cat.*, 223, no. 165. Cf. *Corinth* XII, nos. 24-25, pl. 2.
 Handmade figurines are difficult to date, but according to the late Reynold Higgins (in a letter)

and Deborah Kazazis, it could be as early as the 6th century B.C. The context suggests a date in the 5th or 4th century B.C.

16.2 (76.710) Pl. 88
 Isthmus TR2 tr1 (3).
 Horse.
 P.H. 0.026; L. of body 0.043.
 Clay coarse with sandy grit; fired reddish yellow 7.5YR 6/6, grey core. Traces of white slip.
 Single fragment of solid figurine. Preserves body and stumps of right legs of horse, V-shaped notch at back indicates tail.
 Similar in fabric and dimensions to **16.1** and of the same method of construction. Probably part of another horse and rider. Cf. **16.1**.

16.3 (78.203) Pl. 88
 Isthmus TR2 tr1 (3).
 Shield and arm.
 D. of shield 0.040.
 Clay coarse with sandy grit; fired reddish yellow 5YR 6/6.
 Single fragment of solid figurine. Preserves circular shield and part of arm of rider.
 Found with and possibly part of **16.2**. Cf. **16.1**.

16.4 (78.1154) Pl. 88
 Isthmus TR2 tr2 (3).
 Leg.

P.H. 0.044; W. 0.015.

Clay coarse with sandy grit; fired red 2.5YR 5/6.
Single fragment of a solid leg, round in cross-section and tapering.

Possibly from a horse and rider figurine. Cf. 16.1.

16.5 (75.363)

Pl. 89

Structure 1 TR1 tr4b (4).

Lion head, intact.

H. 0.053; W. 0.061; Th. 0.035.

Clay semi-coarse with sandy grit; fired red 5YR 5/6.

Solid lion head with a flat, scarred back.

Hemispherical head framed by notched edge indicating the mane. Heavy lower jaw, gaping mouth with pendant tongue framed by incisors. Rough modelling. Circular eyes are incised.

Scar on reverse suggests it was attached to some clay object. Although not pierced, the object gives the impression of a small scale, lion head water spout.

Published: *PAE* (1975) 128, pl. 108d. Cf. *Corinth* XII, no. 201, pl. 14.

16.6 (75.656)

Pl. 89

Structure 1 TR1 tr1/3 Baulk (6).

Bird.

H. 0.040; L. 0.040.

Clay coarse with sandy grit, fired red 2.5YR 5/6.
Five fragments of solid figurine.

Plump, roughly modelled bird with conical body, two stumpy legs, long neck, and small head. Probably a dove.

Cf. *Corinth* XII, nos. 63-64, pl. 4.

5th century B.C.

16.7 (78.750)

Pl. 89

Isthmus TR1 tr2 (5).

Bird.

H. 0.053; L. 0.050.

Clay coarse with sandy grit; fired reddish yellow 5YR 6/5.

Solid figurine of a bird with broad fan-shaped tail. Complete except for the beak. A scar on top suggests something (wings?) was attached. A

further scar underneath indicates that the bird was also attached to something else (a base?) or stood on legs (?). Probably a dove.

Cf. 16.6.

5th century B.C.

16.8 (78.04)

Pl. 89

Isthmus TR2 tr1 (3a).

Head.

H. 0.040; W. 0.034.

Clay coarse with sandy grit; fired red 2.5YR 5/6.
Single fragment preserving a solid head broken at the neck. Probably male, possibly bearded. Very rough workmanship. Asymmetrical face and features, eyes indicated by gouging. Wreath roughly indicated around top of head. The head is pierced by a small hole extending from top to bottom.

5th century (?) B.C.

MOULD-MADE FIGURINES

16.9 (78.55)

Pl. 89

Isthmus TR3 tr1 (1), surface find.

Female protome.

H. 0.044; W. 0.044.

Clay coarse with fine grit; fired reddish yellow 5YR 6/6.

Single fragment of a hollow head; broken on all sides. Preserves part of the head-dress and three rows of beaded locks over the forehead.

Probably part of an archaic female protome.

Cf. *Olynthus* XIV, nos. 2 and 4-6, pls. 3 and 5-6.

Late 6th to early 5th century B.C.

16.10 (78.498)

Pl. 89

Isthmus TR2 tr1 (5).

Miniature female head.

P.H. 0.022 m. W. 0.019.

Clay fine and soft; fired very pale brown 10YR 8/4; traces of white slip.

Single fragment of solid head with flat back. Figure wears tall, flaring polos. Beaded locks frame the forehead. Facial features are late archaic. Hole at top of head. Probably from a female figurine or possibly a sphinx.

Cf. Corinth XII no.113, pl. 7; *Olynthus* XIV, no.182, pl. 60.

Corinthian (?). Late 6th-early 5th century B.C.

16.11 (78.1711)

Pl. 89

Lower City TR3 (1) S.

Miniature female protome.

P.H. 0.038; W. 0.035.

Clay semi-coarse with sandy grit; fired light red 2.5YR 6/8.

Single fragment of hollow head. Woman wears large, flaring stephane. Hair frames forehead in wavy locks. Indistinct facial features. Hole at top of head.

Cf. Olynthus XIV, no. 93, pl. 37.

Probably 5th century B.C.

16.12 (78.78)

Pl. 89

Isthmus TR2 tr1 (3a).

Female protome.

P.H. 0.071; W. 0.075.

Clay semi-coarse with large grit; fired dark grey. Traces of heavy white slip and red paint on hair. Single fragment of hollow head. Preserves approximately three-quarters of female head wearing a plain stephane. Heavy roll of hair framing the face is parted in the centre. Long, sharp nose; other facial features blurred. Hole at top of head for suspension.

Cf. Olynthus VII, no. 80, pl. 12.

5th century B.C.

16.13 (78.74)

Pl. 89

Isthmus TR2 tr1 (3).

Female protome.

P.H. 0.038; W. 0.030 m.

Clay semi-coarse; fired red 2.5YR 5/6, now discoloured 2.5Y 7/4-6/6. Single fragment of head, concave at the back. Very worn and indistinct. Figure wears stephane and long hair or veil at the sides of the head. Hole at the top.

5th century B.C.

16.14 (76.131)

Pl. 89

Gate Area TR6 tr1 S (2).

Female head.

P.H. 0.030; W. 0.025.

Clay semi-coarse with sandy grit; fired very pale brown 10YR 7/3.

Single fragment with flat back. Head, broken at neck and perhaps at the back of the skull. Wears a ribbed stephane. Thick hair, parted in centre, frames the face.

5th century B.C.

16.15 (75.221)

Pl. 89

Gate Area TR1 tr2 (2).

Female head.

P.H. 0.032; W. 0.019.

Clay semi-coarse; fired red 5YR 6/8.

The fabric is the same as that of **16.16**.

Single fragment of a solid figurine preserving a veiled female head. The head is tilted to her right. Wavy hair frames the face, the features of which are indistinct.

Probably mid-5th century B.C.

16.16 (75.366)

Pl. 89

Structure 1 TR1 tr4b (3).

Two joined female figures.

P.H. 0.052; W. 0.044.

Clay semi-coarse; fired red 2.5YR 6/8.

Single fragment of figures, solid to chest, hollowed out below.

The figures, possibly nude to the waist, share a single mantle. Features indistinct. Flat and rough at back.

Published: *PAE* (1975) pl. 109a. *Cf. Olynthus* VII, nos. 174-175, pl. 21 (bibliography p. 50).

Probably mid-5th century B.C.

16.17 (78.1041)

Pl. 89

Isthmus TR1 tr1 (5).

Female head.

P. H. 0.033; W. 0.024.

Clay semi-coarse; fired light red 2.5YR 6/6.

Single fragment of solid head, bent to its right, wearing conical head-gear, possibly covered with a mantle. Wavy hair, parted in the middle, frames the forehead. Indistinct features, except for small, slightly smiling mouth.

Cf. BMCat Terracottas I, nos. 678-679, pl. 89.

5th century B.C.

16.18 (78.270) Pl. 90
Isthmus TR2 tr2(1).
Bust.
P.H. 0.070; W. 0.055.
Clay semi-coarse; fired light red 2.5YR 6/6.
Traces of white slip on surface.
Single fragment of a hollow figurine.
Figure wears Phrygian cap and a mantle held open on its left side. Curly hair frames face. Perhaps Artemis-Bendis, or possibly Attis.
Cf. BMCat Terracottas I, no. 731, pl. 96.
5th or 4th century B.C.

16.19 (78.40) Pl. 90
Isthmus TR2 tr1 (3).
Female head.
P.H. 0.060; W. 0.020.
Clay semi-coarse; fired light red 5YR 7/6-7.5YR 7/4. Fabric same as **16.18**.
Intact, but very worn. Solid head and neck terminating in a pointed dowel for insertion into a hollowed-out body. Hair with *lampadion* knot. Features indistinct except for closely set eyes, right ear and folds of neck.
Published: *PAE* (1978) pl. 75β.
4th century B.C.

16.20 (78.41) Pl. 90
Isthmus TR2 tr1 (3).
Leg.
P.H. 0.035.
Clay semi-coarse; fired red 2.5YR 5/6.
Single fragment preserving a solid left foot and leg broken at the knee. Roughly fashioned, with no detailing. Possibly part of the moveable leg of a doll.
Found with **16.19**.
Cf. Olynthus XIV, no. 298, pl. 99 (bibliography pp. 232-233).
4th century B.C.

16.21 (78.1072) Pl. 90
Isthmus TR3 tr2 (3) B24.
Female head.
P.H. 0.046; W. 0.038.
Clay fine with sandy grit; fired light red 2.5YR 6/8.

Traces of thick whitish slip; traces of red paint..
Two joining fragments of a solid head, flat at the back, and broken at the neck.
The head of Boeotian type wears a high stephane decorated with leaves forming a herring-bone pattern. Hair in wavy locks frames round face.
Cf. Olynthus XIV, no. 453, pl. 136.
Late 5th or 4th century B.C.

16.22 (78.479) Pl. 90
Isthmus TR3 tr1 (3) B8.
Female head.
P.H. 0.030; W. 0.017.
Clay semi-coarse fired light reddish brown 7.5YR 6/4. Traces of white slip.
Single fragment of a solid figurine, broken at the neck.
Head of Tanagra type with "melon" hair style.
Deep set eyes and small mouth.
Late 4th or early 3rd century B.C.

16.23 (78.03) Pl. 90
Isthmus TR1 tr1 (4a).
Silen protome.
P.H. 0.061; W. 0.051.
Clay coarse; fired brownish red 2.5YR 6/6-6/8.
Single fragment of hollow head. Roughly modelled. Preserves approximately three-quarters of a Silen's head. The Silen has short, bushy hair, large eyes, pug nose and moustache.
Hole through top of head for suspension.
5th century B.C.

16.24 (78.271) Pl. 90
Isthmus TR1 tr2 (4a).
Comic actor.
P.H. 0.049; W. 0.027.
Clay semi-coarse; fired light red 2.5YR 6/6.
Traces of white slip.
Single fragment preserving the torso, legs, and right arm of a standing figure, moulded in the round.
The actor wears short chiton, tights, an attached phallus, and a mantle draped over the back and around the right forearm.
4th century B.C.

- 16.25** (78.516) Pl. 90
Isthmus TR2 tr1 (5a).
Kourotrophos.
P.H. 0.064; W. 0.03.
Clay semi-coarse; fired grey 2.5Y 8/2-7/2.
Traces of white slip.
Single fragment of a hollow figurine. Preserves the body of a seated draped woman nursing a child at her left breast. Her right hand holds the breast while her left hand cradles the child.
Cf. Olynthus VII, no. 254, pl. 32; Price, *Kourotrophos*.
Mid-5th century B.C.
- 16.26** (78.673) Pl. 90
Isthmus TR2 tr1 (5a).
Peplophoros.
P.H. 0.031; W. 0.042.
Clay semi-coarse; fired reddish yellow 5YR 6/6.
Same fabric as **16.8** and **16.23**.
Single fragment preserving the upper chest and neck of a hollow figurine with a flat back. Probably from a seated female wearing a peplos.
Cf. Olynthus VII, nos. 216-228, pls. 27-28, and colour plate III; *Olynthus* XIV, no. 60, pl. 30.
Early 5th century B.C.
- 16.27** (78.300) Pl. 90
Isthmus TR2 tr1 (4).
Draped limb.
P.H. 0.034; W. 0.050.
Clay semi-coarse; fired reddish yellow 5YR 7/6.
Single fragment of a hollow figurine with flat back. Preserves part of a limb (right arm?) and drapery.
5th century B.C.
- 16.28** (78.608) Pl. 91
Isthmus TR3 tr1 (3) B8.
Standing draped figure.
P.H. 0.062; W. 0.033.
Clay semi-coarse; fired red 2.5YR 5/6.
Single fragment of a hollow figurine. Preserves portion of drapery of standing figure; vertical folds below and mantle (?) above. Possibly from a kore type.
5th century B.C.
- 16.29** (78.517) Pl. 91
Isthmus TR2 tr1 (5a).
Draped figure.
P.H. 0.034; P.W. 0.033.
Clay semi-coarse; fired light red 2.5YR 6/6.
Single fragment of a hollow figurine. Preserves left shoulder and upper arm of a standing figure. Mantle draped over arm and chest.
5th to 4th century B.C.
- 16.30** (78.1706) Pl. 91
Isthmus TR3 tr1(3)B5.
Draped figure.
P.H. 0.075; P.W. 0.060.
Semi-coarse; fired orange-red 2.5YR 5/8.
Traces of thick white slip.
Single fragment of a hollow figurine. Preserves three oblique heavy folds of drapery.
5th to 4th century B.C.
- 16.31** (78.290) Pl. 91
Isthmus TR2 tr1 (4).
Draped figure.
P.H. 0.073; W. 0.044.
Clay semi-coarse; fired reddish brown 5YR 6/4-6/6. Traces of white slip.
Six joining fragments of a standing figure enveloped in heavy drapery. Preserves part of right side from bent elbow to knee. Folds radiate from waist. Back is flat. Possibly part of a female figurine wearing a himation.
4th century B.C.
- 16.32** (75.376) Pl. 91
Gate Area TR1 tr2 (2).
Arm and phiale.
P.H. 0.047; W. 0.030.
Clay semi-coarse; fired light brown 10YR 6/4.
Traces of thick white slip.
Single fragment preserving the right forearm and hand of a figure holding an omphalos phiale. Probably from a standing draped figure.
Cf. BMCat Terracottas I, nos. 426-432, pl. 61.
Late 5th century B.C.
- 16.33** (78.240) Pl. 91
Isthmus TR1 tr1 (4a).

Base.

P.H. 0.014; P.W. 0.009.

Clay fine; fired very pale brown 10YR 8/2-8/3.

Single hollow fragment preserving the left corner of the low, rectangular base of a figurine. On it is resting the figure's right foot and traces of drapery.

Possibly Corinthian.

Late 6th to 4th century B.C.

16.34 (78.712)

Pl. 91

Isthmus TR2 tr1 (5a).

Base.

P.H. 0.045; P.W. 0.048.

Clay semi-coarse; fired red 10R 5/8.

Single fragment of a tall, hollow figurine base, oval in shape. Preserves the front rounded corner with a recessed ledge above.

4th century B.C.

16.35 (78.2774)

Pl. 91

Hill 2 TR3 (3).

Base.

P.H. 0.032; P.W. 0.027.

Clay semi-coarse; fired light red.

Traces of thick white slip; traces of red paint.

Single fragment preserving part of base and lower part of a standing draped figure. Very low base decorated with a horizontal red line. Feet; fine drapery indicated by vertical lines; heavier garment above.

Late 6th to 4th century B.C.

16.36 (76.1060)

Pl. 91

Isthmus TR2 tr1 (3).

Standing draped figure.

P.H. 0.087; P.W. 0.029.

Clay fine; fired pink.

Traces of white slip.

Two joining fragments preserving drapery and right arm of standing female figurine. Drapery rendered in long vertical folds, gathered at waist. Right arm held across breast to throat.

Late 6th to 4th century B.C.

16.37 (76.2003)

Pl. 91

Gate Area TR6 tr1. Wall fill.

Draped figure with tympanon (?).

P.H. 0.039; P.W. 0.033.

Clay semi-coarse; fired reddish yellow.

Single fragment preserving part of waist and lower body of a standing, draped female holding a tympanum (?) against her thigh with her left hand.

Late 6th to 4th century B.C.

RELIEF FIGURINES

16.38 (78.1747)

Pl. 91

Surface find.

Seated figure.

P.H. 0.045; P.W. 0.037.

Clay semi-coarse; fired reddish yellow 7.5YR 7/6.

Single fragment preserving the bent right arm of a seated figure.

Late 6th to 4th century B.C.

16.39 (78.1508)

Pl. 91

Isthmus TR4 tr1 (3) B8.

Ram.

P.H. 0.039; P.L. 0.039.

Clay coarse; fired red 2.5YR 5/6.

Single fragment preserving head and neck of ram. The notched right horn encircles the face. The wool is irregularly modelled.

Late 6th to 4th century B.C.

16.40 (78.1124)

Pl. 91

Isthmus TR1 tr2 (5).

Horse.

P.H. 0.070; P.W. 0.042.

Clay coarse; fired reddish yellow 5YR 6/6.

Single fragment preserving part of the rectangular base and the rear third of a horse standing to the left.

Late 6th to 4th century B.C.

16.41 (78.428)

Pl. 91

Isthmus TR1 tr1 (4).

Palmette appliqué (?).

P.H. 0.035; W. 0.019.

Clay semi-coarse; fired light red 2.5YR 6/6.

Single fragment of an applique (?). Flat back; pierced with hole. Seven petals (?).

Late 6th to 4th century B.C.

ARCHITECTURAL TERRACOTTAS

The few architectural terracotta fragments found at Torone give promise of more to come, but as yet cannot be studied in relation to any known structures. They were discovered in diverse contexts and in single, individual fragments only, not in the profusion of multiple examples one would expect if found in association with a particular building. Five examples are presented here.

On architectural terracottas see N. Winter, *Greek Architectural Terracottas from the Prehistoric to the End of the Archaic Period* (Oxford 1993).

CATALOGUE

16.42 (76.238)

Fig. 163; Pl. 92

Gate Area TR4 Ext. tr1 (3).

Gable-shaped antefix.

P.H. 0.130; P.W. 0.149; Thickness 0.024 m.

Clay coarse with sandy grit, fired red 2.5YR 6/6-5/6.

Two joining fragments of a heavy terracotta antefix, preserving seven-petalled palmette at apex and a pair of rampant regardant felines in low relief. The felines have pointed erect ears, open mouths, and their raised paws are pressed against the long, vertical stem of the palmette.

Similar antefixes are in the Brooklyn Museum (35.757) and the Ashmolean Museum (1934.68).

For the rampant felines see *FdD* II:5, no. S122, pp.92-4, pl. 32.

Fifth century B.C.

16.43 (78.860)

Fig. 163; Pl. 92

Isthmus TR1 tr3 (3) SW.

Gorgoneion antefix.

P.H. 0.105; P.W. 0.131; Th. through nose 0.038.

Clay coarse, fired reddish yellow 5YR 7/8.

Single fragment of an antefix preserving approximately two-thirds of a gorgon head in low relief bordered by a slightly recessed edge that follows the contours of the semicircular plaque. Face framed at top by seven "pearl" locks (originally eight or ten). Large bulging eyes, broad triangular nose and a wide open mouth constitute

late archaic features. A scar, at the left side of the face, indicates the presence of an ear and perhaps another lock of hair.

The paint is not well preserved. There are traces of dark reddish colour over the surface. The eyes were originally white with dark irises. The original treatment of the back is uncertain.

Published: *Ergon* (1978) 28-30, fig. 33; *PAE* (1978) pl. 75a. See now N. Winter, *Greek Architectural Terracottas* (Oxford 1993) 267.

Ca. 550-540 B.C.

16.44 (76.695)

Fig. 163; Pl. 92

Isthmus TR2 tr1 (3).

Antefix.

P.H. 0.030; P.W. 0.043; th. 0.021.

Clay coarse, fired light red 2.5YR 6/6-6/8.

Single fragment of a painted terracotta plaque preserving most of an almond-shaped eye.

The eye is painted white with a black pupil, rim and eyelashes. The ring around the iris is a dilute brown.

Although it is similar in size to the eyes of **16.43**, this fragment probably belongs to a female-head antefix.

Sixth century B.C.

16.45 (78.1723)

Fig. 163; Pl. 92

Lower City TR1 NE Ext (1).

Antefix.

P.H. 0.131; approx. D. 0.34.

Clay coarse, fired reddish yellow 5YR 6/6.

Single fragment of a semicircular antefix with decoration in low relief. Moulded tongue pattern frames central winged figure; only the tip of her left curled wing, and part of her hair are preserved. A sphinx or a siren (?).

Reddish black paint is preserved on the tongues, along the outside edge of the plaque and the wing.

A semicircular scar on the reverse at the outer edge probably indicates the point of attachment of the cover-tile.

For a sphinx cf. *FdD* II:5, no. A185, pp.90-91, pl.31.

16.46 (78.703) Frontispiece; Fig. 164; Pl. 93
Lower City TR1 N (1).

Painted raking sima.

H. 0.23; W. 0.238.

Clay coarse; fired reddish yellow 5YR 7/6.

Single fragment of a terracotta sima, consisting of three superimposed elements: a flat fascia at the base (H. 0.11), a quarter round (H. 0.08) above pierced longitudinally by a cylindrical hole (D. 0.038), and a torus-shaped part (H. 0.03)

at the top. (See section drawing, fig. 164). The top and base are flat, and broken so that the depth of the sima is not-determinable. The right, flat edge of the block is partly preserved.

The painted decoration consists of a reversible and alternating lotus and seven-petalled palmette chain upside down on the fascia, rightside up on the convex part and a bead and reel motif on the torus.

The outer surfaces are covered with a cream slip. The petals of the palmette alternate red and brown, and the centre is a spherical triangle in red, bounded around its top by an arc in black. The broad calyx of the lotus is brown, the central petal is brown, the two outer petals red. The lotus stems are brown and form an elaborate guilloche pattern, the interstices of which are decorated with red dots.

Published: *PAE* (1978) p1.73β; *BCH* 103 (1979) p.590, fig. 149; cf. *Corinth* IV, no. 521 f, pl. IV; *FdD* II: 5, no. 5189; Winter, *Architectural Terracottas*, pp. 260-261; *Aust. Cat.* (1988) 224, no. 167; N. E. Kaltsas, *Πήλινες διακοσμημένες κεραμώσεις από τη Μακεδονία* (Athens 1988) 92-94, pl. 27α.

Late 6th century B.C.

LOUTERIA

Terracotta louteria or stand wash basins, well known from Olynthos, were found for the first time at Torone in 1978 at the Isthmus. The most complete (**16.47**), which preserves nearly the entire base of the stand and the beginnings of the fluted shaft, was found in fragments just south of the city wall at the Isthmus. A fluted shaft fragment, either from this or another, was found to the southwest (**16.48**). A shaft fragment of finer fabric (**16.49**) was found to the south of the first. The location of these stand fragments, immediately outside the presumed sanctuary of Athena on the Lekythos, suggests that they probably served as perirrhanteria, or lustral basins.

These stands would originally have carried large, shallow basins of terracotta. So far no basin has been found but rim candidates include the fragments **16.50** with relief tongues, and **16.51** with an anthemion in relief on the exterior rim.

On terracotta louteria, cf. R. Ginouvès, *Balaneutike, Recherches sur le bain dans l'antiquité grecque* (Paris 1962) pp. 86-87.

CATALOGUE

16.47 (78.972) Figs. 165, 166; Pl. 93
Isthmus TR4 tr1 (3) B7.

Louterion stand.

P.H. 0.185; D. 0.524.

Clay coarse with sandy grit; fired red 2.5YR 5/6. Numerous fragments of a hollow, wheel-made stand consisting of a base in two degrees and the ends of the flutes of the columnar shaft. The flutes and a strip around the top edge of the lower degree are made of finer, better levigated clay and are applied. The base is pierced by a number of small holes which must have served as vents during the firing.

Context Classical, latest diagnostic material 4th century B.C.

16.48 (78.1248) Fig. 167
Isthmus TR1 tr2. (6).

Louterion stand.

P.H. 0.107; P.W. 0.109.

Clay coarse with sandy grit; fired red 10R 5/8. Single fragment preserving part of the shaft of a fluted columnar stand. The flutes are of finer clay and applied to the hollow, wheelmade cylinder. Possibly part of no. **16.47**.

Amphora deposit. Context Classical. Latest diagnostic material 4th century B.C.

16.49 (78.1070) Fig. 166
Isthmus TR3 tr1 (3) B6.

Louterion stand.

P.H. 0.155; P.W. 0.150.

Clay coarse with sandy grit; fired red.

Single fragment preserving the lower parts of four flutes of a columnar shaft. The flutes, which are applied to the hollow cylinder, are made of a finer clay than the flutes of **16.47** and **16.48**.

Context Classical. Latest diagnostic material 4th century B.C.

16.50 (78.573) Fig. 167
Isthmus TR1 tr2 (4)-(5).

Louterion basin.

P.H. 0.053; P.W. 0.163.

Clay coarse; fired red 5YR 5/6.

Single fragment preserving part of the rim of a large terracotta basin. The outer face is decorated with a lightly stamped tongue pattern.

Cf. Agora XII, no. 1865.

16.51 (78.1642) Fig. 167
Lekythos TR2 (4).

Louterion basin.

P.H. 0.119; P.W. 0.088.

Clay coarse with sandy grit; fired red 2.5YR 5/6. Single fragment preserving part of the rim of a large terracotta basin. The outer surface is decorated with an anthemion in low relief.

Context mixed. Latest diagnostic material Post-Byzantine.

17. THE GLASS AND BONE OBJECTS

Annette Keenan

THE GLASS

INTRODUCTION

The glass finds consist mostly of fragments from parts of vessels such as handles, feet, rims and bases. These parts, thickened and reinforced by folding or re-heating, are generally the more robust. Although body fragments were found, most are non-classifiable and are not discussed here. Those that were inventoried and included in this catalogue (17.74-17.77, 17.80-17.86) either carry some form of decoration - mould-blown, engraved or applied - or are flat fragments and probably derive from four-sided flasks or window panes. The balance of the catalogued glass comprises beads, part of a glass bar/inlay, and what appears to be glass cullet.¹

Besides being fragmentary, most of the glass has suffered from corrosion. The durability of glass, and especially of complex ancient glasses, has stimulated extensive research over the years. While results of this research have yielded some understanding of the corrosive process, the many variables involved, including the composition of the glass and the type of environment in which it has been buried, have not helped to simplify the problem. The bulk of the material under discussion is Roman soda glass in which soda rather than potash has supplied most of the alkali. This type of glass is generally more durable than potash glass, but is nevertheless susceptible to the debilitating effects of weathering. This usually occurs when the moisture in the soil leaches the alkali from the glass thereby creating a silica-rich and alkali-deficient surface. The attack begins anew with a reduced surface layer and a now highly alkaline environment which again favours the leaching of alkali from the glass.²

Weathering, or corrosion, appears in a number of different guises: a surface crust actually composed of successive layers may easily flake off, leading to eventual dis-

¹ Time and circumstances have not permitted the inclusion in this catalogue of a further 36 fragments which were not originally considered worth inventorying. Reference, however, will be made to some of them; most are types already represented among the material catalogued here. All dates unless otherwise stated are After Christ (A.C.).

² Frank 1982, 12-14. On the durability of glass, including the studied attempts over the last three centuries to understand it, the methods used to assess its durability and the environmental influence on different glass compositions see Newton 1985.

integration through persistent thinning of the surface; pits or fine cracks may form in the glass, where cracks may later be mistaken for purposely abraded decorative lines; or the surface may become dull, frosted and opaque or iridescent. It is possible for more than one of these signs of corrosion to appear on a glass surface at any one time.

Much of the glass from Torone shows some degree of weathering with a resultant iridescent, dull and/or pitted surface. Where a crust has formed on the glass, it is invariably of a brown enamel-like sort which, if it flakes away, leaves behind an iridescent and sometimes pitted surface (17.2, 17.17, 17.18, 17.49, 17.70, 17.81, and 17.84).

In the wider framework of a continuous glass history, all the finds so far from Torone were made with the aid of a blowpipe, with the exception of the beads and one very weathered body fragment of a core-formed vessel, almost certainly an alabastron. It was excavated in the Lower City in 1982 and so is outside the scope of this study. No fragments from mould-made vessels of the Hellenistic period have come to light. Of the many varied and inventive decorative techniques achieved while the glass was in a hot or cold state, the evidence offered by the finds from Torone is frustratingly limited. It is quite likely that such glass, which was common throughout the Roman Imperial period and later, found its way to Torone but has either not survived or has not yet been excavated.

UNDECORATED FRAGMENTS

Many different techniques within the domain of blown glass manifest themselves among the fragments. A close examination of these reveals basic methods of manufacture which are the hallmarks of different shapes. The fragments have been organized into typological groups. This classification will facilitate an examination of techniques and consequently of types; and then assist with the chronology.

Feet, stems and bases

Among these fragments many belong to feet, stems and bases of stemmed drinking cups. The foot is a feature separate from the vessel on which, however, the vessel rests. It is either joined directly to the base of the vessel itself or is separated from it by a stem of varying length. It may also be an extension of the parent vessel, having been pulled out from it and subsequently manipulated. The stem is the shank or leg between the foot and the body of the vessel. The base of a vessel is its entire lower portion which, depending on the shape, may or may not include a foot and a stem. Although body, handle and foot fragments have occasionally been associated, in

some cases loosely, with rim fragments, it has not proved possible to conclude that any of them are from the same vessel.³

17.2-17.15 (Fig. 168; Pl. 94) represent a variety of feet with tubular base ring.⁴ They are all conical, either high or low. Their tubular edges may be circular or ovoid in section. Overall, their quality of manufacture is good, though the carefully made, symmetrical examples stand out from the less exact ones. Different hands, if not different workshops, still to be identified, may be discerned in the method of shaping and finishing these little feet. They belong to the bodies of vessels that are cup shaped. A dual purpose has been suggested for them: although usually described as drinking vessels, they are also considered to have been used as lamps. If the theory of their use as lamps is correct, the handles would have been used for suspension and the stemmed feet would have been redundant.⁵

Two main methods of manufacture, with a number of variations to the technique, have been cited in a study of similar stemmed feet found at Odarci in Bulgaria. The author, Maria Dekówa, describes her two main groups as follows.

Group I - the stem and foot are fashioned from the same bubble of glass as the body of the vessel.

Group II - either the stem is formed as a separate element and is fused to the foot and the body of the vessel while the glass is still hot, or the stem and the foot are fashioned as a single element and fused to the cup-shaped body of the vessel.⁶

³ Possible exceptions are fragments **17.7** and **17.67**, **17.15** and **17.40**, **17.8** and **17.47**. The glass in each pair is almost identical in colour, the slight variation in shade due probably to the different thicknesses of the glass. Small handles like **17.67** were known on stemmed vessels with tubular base ring feet, a form considered also to have been used as lamps (see below n. 5). Weinberg, however, says "This is called a lamp by the authors because of the handles at the rim ... It seems, however, unlikely that a base should have been added to a hanging lamp, and I am inclined to suggest the vessel's use as a goblet in spite of the handles." (1975, 138 f.) Axel von Saldern adds that "The problem of whether vessels of this type were used as goblets or lamps - or both - cannot be solved at present. (1980, 59, n. 58)

⁴ This type of foot - the tubular base ring - is described by Harden 1936, 16, no. 7. The result of the technique is a fold of glass on the outside of the vessel (the technical term is "cutting out") instead of on the inside walls of the vessel ("cutting in"). These rolls or folds occurred not only on the feet of drinking cups but also, and perhaps more commonly, on the necks of a variety of glass shapes, either near the rim or often at the base of the neck, at its junction with the body of the vessel. The technique made its debut in the 1st century. It was quite common from the 4th to 6th centuries, and during that time reached its most perfect shape in the well executed tubular base rings. See also Stern 1977, nos. 15 and 25; and for the "cutting in" technique, no. 9 and especially her nos. 1-2.

⁵ See above n. 3 for different views on the lamp/goblet problem and for possible correlations between fragments **17.7** and **17.67**, **17.15** and **17.40**, **17.8** and **17.47**. See also Hayes 1975, 84-85 and references in his n. 25; and Stern 1985, 44-46.

⁶ Dekówa 1985, and p. 159 for the description of her two main groups.

Not all variations detailed in her article are represented at Torone. As far as their fragmentary condition allows us to ascertain, only the technique illustrated by Dekówa's Group I, with some of its sub-groups, appears among them. The technique deserves a closer look, particularly since this type of foot accounts for almost half of the foot fragments that are examined here (as well as six of the fragments that are not included, see n. 1). Although two fragments are stems only (**17.35**, **17.36**, Fig. 168; Pl. 95), it is possible that they too belong to this variety of stemmed cup with tubular ring foot, and to Dekówa's group I rather than II.

As already mentioned, the cup (body, stem and foot) is made from a single bubble of glass. The body is first shaped with a necessary constriction at what is to be the neck of the stem. The remaining bubble of glass is pushed in towards the constriction, and the stem and tubular ring foot are then tooled into shape (**17.13-17.15**). For evidence of tool marks, see **17.15**, Fig. 168 and Pl. 94. Besides a foot with a tubular ring around its edge, another result of this pushed-in technique is, of course, a foot and sometimes also a stem with a double wall. Dekówa has isolated in her sub-groups examples in which the glass is pushed in as far as the bottom of the cup itself, creating a small omphalos in the floor of the vessel (*cf.* **17.13** and **17.15**), and others in which the pushed-in base reaches either half way up the stem or, in rather lazy fashion, only to the base of the stem. It is in these last two types that the stem is only partly, or not at all, double-walled, though the foot always retains its twin walls with the characteristic hollow edge.

The stems of this type of drinking cup vary slightly from almost cylindrical and wholly or partly solid (**17.35**) to narrow and pinched, cylindrical and hollow, or globular and hollow or partly so (**17.13**, **17.14** and **17.36**). Dekówa bases her classification on the fine differences of the pushed-in technique rather than on any profile details.⁷ Consequently, the various stem types cut across her groups and sub-groups; for example, the short, hollow or partly hollow stem with globular knop⁸ appears at least in sub-groups IA.2.b and IA.3.b.a.⁹

General parallels can be found among the fragments at Odarci, although the Torone fragments because of their small size and their mainly stemless condition

⁷ In her tables 4 and 5, pp. 171-172, giving the analysis of the chemical (where determinable), technical and chronological features brought out by her detailed study of the glass from Odarci, Dekówa adds the extra dimension of graphic symbols to represent the exterior form of the stems.

⁸ The widely accepted term "knop" rather than "knob" is used here; for its definition see Newman 1977, 172 f. The English word derives from the Latin *nodus* = knot, by way of the Dutch *knoop* or *knop*.

⁹ Dekówa 1985, figs. 1, 4 and 5.

cannot be assigned confidently to any of Dekówa's precise classifications.¹⁰ She notes correctly that, since descriptive details revealing the exact method of production rarely appear in any written and illustrated accounts of these bases, it is difficult to assess the distribution and chronology of glasses with feet similar to those found at Odarci (1985, 174). Yet taking the group as a whole (that is, stemmed feet with a tubular base ring formed by pushing-in and then pinching the folded foot to form a hollow, cut out ring around the edge), examples appear at many sites in the eastern Mediterranean countries, on the north shore of the Black Sea, in Bulgaria, in Greece and in Italy.¹¹ They appear almost exclusively from the 5th century on into the 12th century and later, with a flourish in the 6th and 7th centuries. They show the distinct conservatism in style and manufacture appropriate for such common and utilitarian ware, with only minor but none the less discernible variations to the stem, foot and/or bowl. Their absence as grave goods has been linked to the growing strength of Christianity and the adoption of its Spartan burial practices.¹²

Thirteen of the sixteen fragments in this group were found on the Isthmus, mostly in different contexts. The other three came from the Lower City. A bronze coin of Constantine the Great, dated 335-337, was found with **17.6** (Fig. 168; Pl. 94) giving a *terminus post quem* in the first half of the 4th century. Although it is of the tubular base ring variety, the fabric, colour and general appearance of **17.12** set it apart from the others in this group. It was found with an Ottoman coin of the 17th century which may explain the difference.

From comparative material, the Torone fragments appear to belong comfortably in the 5th and 6th centuries; on the basis of **17.6**, an earlier extension into the late 4th

¹⁰ Tentatively however, **17.12-17.15** seem to belong to her type IA.1.a. No. **17.35** may also belong there despite the fact that it is mainly a solid, rather than a hollow, stem and lacks a tell-tale foot. **17.36** may belong to the family of type IA.1.b since it is partly hollow and has a slightly concave, rather than convex, profile in the floor of the vessel.

¹¹ *Egypt* (Karanis): Harden 1936, 172, no. 489; re-dated to the late 5th/early 6th century by Hayes 1975, 2-3. The glass itself, however, is of a different fabric. *Cyprus*: Vessberg and Westholm 1956, 145, fig. 45:17-18, and pp. 199-200. Vessberg draws an analogy between the Karanis and Cypriot examples and concludes that "....there seem to be good reasons to assume the same dating for the Cypriot glasses as well...". (p. 200). With Hayes' redating of the Karanis examples, a late 5th/early 6th century date is applicable. *Syria-Palestine*: Fitzgerald 1931, pl. xxxix. 16; *Khirbat al-Karak*, 49, 6th and 7th century; Pirling 1978, 141-144, fig. 2, 5th century; *Samaria-Sebaste* III, 415, fig. 96:7, 4th or 5th century. *Asia Minor*: von Saldern 1980: 53-59, and related footnotes with copious bibliographical references, types 1b and 2b, early 5th to early 7th centuries; Stern 1985, 44-46 and fig. 3, 5th to mid-7th century. Stern herself notes that the Anemurium examples fit into Dekówa's types IA.1 and IA.2 (p. 46, n. 52). *Greece*: Weinberg 1962, 133, pl. 28, fig. 16, no recorded provenience but dated typologically to the 4th century and later; *Corinth* XII, especially no. 720, early 11th to mid-12th centuries. *Italy*: Harden 1966, 75, date uncertain, perhaps 6th to 8th centuries. *Black Sea and Bulgaria*: Dekówa 1985, 174 f. and related notes.

¹² Hayes 1975, 84.

century is also possible.¹³ With no evidence to date of a glass workshop in Torone, we may assume that the goblets were probably imported, perhaps from Syria-Palestine.

17.17 (Fig. 168) is also of the stemmed goblet family but it has a simple downturned edge to its foot rather than a folded and hollow one. Unfortunately, it is in too fragmentary a state to discern whether or not the stem and foot were an integral part of the body of the vessel, or whether they were joined to it as a separate element and then tooled into shape.

17.16 (Fig. 168; Pl. 94) appears to be an example of another type of tubular base ring. The technique involves pushing in the base of the vessel and tooling it to form a simple cut-out ring. The symmetrical form of this fragment shows more skilful craftsmanship than is apparent on most other vessels where the projecting roll can assume a shape anywhere between a tear drop and simply an unclosed protruding fold. Tubular feet of the type exemplified by **17.16** are common features on stemless vessels, namely dishes, bowls and beakers of the 2nd and 3rd century, and on their probable successors of the 4th to the early 5th century. According to Hayes, their home is in the Syria-Palestine region, although the technique is not unknown in the West, particularly in the late 1st to early 2nd century.¹⁴ The Torone example almost certainly came from a dish or large shallow bowl because of the portion of flat floor that has been preserved. Some close parallels can be seen at Sardis dating between the 4th and early 7th centuries.¹⁵ Hayes also has a very similar foot which he dates between the late 4th and the early 5th centuries.¹⁶

17.18 (not illustrated) appears to be Harden's true base ring type¹⁷ wherein a glass ring from a cylinder has been fused as a separate element to the base of the vessel.¹⁸ Analogies come from bowls at Karanis of the 4th to 5th century, and at Sardis

¹³ Weinberg 1962, 133 supports a 4th century date for this type of foot; but see Hayes 1975, 84 who states that there is no evidence for the occurrence of these feet earlier than the 5th century.

¹⁴ Hayes 1975, 40 f., nos. 177, 183-184, 186, 194-195, 2nd-3rd century; and *ibid.*, 89, nos. 370 and 468, 4th-early 5th century; also Vessberg and Westholm 1956, fig. 42:10-13, 15-17 and pp. 195-196, *ca.* 300. For the earlier Western evidence see Stern 1977, 56 f., no. 15.

¹⁵ Von Saldern 1980, 66 f. nos. 455 and 458, pl. 25. No. 455 was found in mixed fill with coins of the 4th and 5th centuries, and no. 458 is included among those dated about the mid-5th to the early 7th century.

¹⁶ Hayes 1975, no. 370.

¹⁷ Harden 1936, 16, no. 5.

¹⁸ Despite the crust of brown enamel-like weathering which prevents any close inspection of the fragment, the pad base technique (Harden 1936, 15 f., no. 4, below) is an improbable alternative since it should result in the underside of the vessel, where the foot is applied, being double the thickness of, or at least noticeably thicker than, the

from the Late Roman and Early Byzantine levels.¹⁹ The technique is a common one, which makes Torone's very small and weathered fragment difficult to pinpoint chronologically. Its context may hint at a 5th to 6th century date.

Fragments **17.19-17.21** (Fig. 168; pl. 94) are all examples of a coil base. Here, a thick thread or coil of glass is applied to the underside of the vessel, forming a ring on which it stands. The tail end of the coil is clearly visible on **17.19** and **17.20**. The technique is a long surviving one making it difficult, if not impossible, to date the Torone examples from the type alone, particularly as their upper forms are not preserved. A jar, beaker or jug shape is suggested, especially for **17.20** and **17.21**, primarily because of the angle of inclination of the up-turned lower wall and the diameters of their coil bases.

17.22 (Fig. 168) appears to be a pad base although, as discussed in the catalogue entry, a variant may have been used here. This was deduced from the fact that the base clearly had been applied as an element separate to the body. Also, both the foot and the bottom of the vessel where the base had been attached, seem to be of a double layer of glass. A fragment similar in form is illustrated among finds from the Syrian site of Ras Ibn Hani and dated from the 4th to 7th centuries, with parallels cited at Khirbet al-Karak.²⁰

17.23 (Fig. 168) is probably a pad base. The closest parallels in profile, colour and manufacturing details are from Karanis where a number of shallow bowls and jars among the various classes of vessel types have outplayed ring feet with "faint slanting impressions" on the upper side.²¹ The more comparable examples are of Harden's fabric 4, which is a late post-Constantinian ware.

17.24 (Fig. 168; Pl. 94) is a good example of a true ring base²² and unlike its two predecessors with relatively small diameters, has a diameter of 0.120 m. which suggests its overall shape was once a moderately large plate, shallow bowl or dish.

Von Saldern suggests that, on the basis of the diameters of rim fragments associated with them, the ring feet from the Sardis excavations belonged to bowls or bottles, adding that the rims and bases need not necessarily have belonged to the same

vessel's walls (see Harden 1936, no. 309, pl. XIV - "pad base", where the thick floor of the bowl is discernible in the profile drawing). In our example, the floor is the same thickness as the admittedly very small portion of the lower wall that is preserved, thus suggesting that the true base ring technique was used.

¹⁹ Harden 1936, nos. 221 f., pl. XIV; von Saldern 1980, 63 f. and nos. 401-444.

²⁰ Saliby 1981, 141 and n. 17, fig. 5:4.

²¹ Harden 1936, shallow bowls, Class II.A.1.(b) 3, especially no.108, pl. XII; and jars, Class VIII.A.II.1 and 2 and VIII.C.I.(a), especially nos. 494, 498 and 508, pls.VI and XVII.

²² Harden 1936, 16, no. 5.

vessels. Similarly **17.22** and **17.23** may have come from bottles. **17.24** relates closely to ring bases from Sardis of a 5th to 6th century date.²³

The group of base fragments **17.25-17.33** all come from vessels with relatively plain bases. Except for **17.33** with a rounded bottom,²⁴ all have been pushed up to create a variety of profiles ranging from slight cavities (**17.27**, possibly **17.28**, and **17.32**) to pronounced, often conical, kick-ups (**17.25-17.26** and **17.30**). On some (**17.29**, **17.33** and perhaps **17.31**), the scar left by either the pontil rod or the blow-pipe is noticeable.²⁵ What is clear from the base fragments is that the size of their original vessels varied. Their reconstruction, however, must remain conjectural both because the surviving fragments are small and because different shapes were sometimes finished with similar concave bases. This quick, effective and simple finish gave stability to flasks, bowls and beakers that might otherwise have had a rounded and unstable base. In addition, it did away with the need to apply a separate foot or to tool the base into shape, and it prevented the rough pontil mark from scratching furniture. Since this type of base construction is known on Roman, Byzantine and Islamic glass, it is difficult to date fragments from the base alone. As von Saldern pointed out, "the base of an ordinary bottle or bowl without ring made in the second century is in most cases indistinguishable from one made in the fifth or tenth century."²⁶

The only morphological information that can be gleaned from the Torone fragments is that some of the bases probably continued into a body that was straight-sided (**17.30**), cylindrical (**17.28**, **17.29** and **17.27**),²⁷ rounded, or ovoid (possibly **17.26**). **17.28**, **17.29** and **17.31** are probably from a class of miniature tube shaped bottles.²⁸ While it is impossible to establish a precise chronology on the basis of these fragments alone, a time frame from the very late 4th to early 7th century is feasible.

²³ For **17.22** and **17.23**, von Saldern 1980, 63 f.; for **17.24**, von Saldern 1980, 67 f., nos. 463, 467 and 470, pls. 13 and 25. They appear to have belonged to shallow dishes, a couple of which were estimated from their preserved diameters to be exceptionally large, for example no. 463.

²⁴ As does an additional fragment, Inv. No. 76.2149 Isthmus TR1 tr1 (3), not included in this catalogue (see above, n. 1).

²⁵ With a small pad of glass attached to its end, the blow-pipe can be used in the same way as the punty, or pontil rod.

²⁶ von Saldern 1980, 75, left column.

²⁷ Including a base fragment from a cylindrical bottle, Inv. No. 78.3757 Isthmus TR1 tr3 (1) and probably also Inv. No. 76.2128 Isthmus TR2 tr1 (3a).

²⁸ von Saldern 1980, 77, pl. 27, especially nos. 552 and 553 (very late Roman Imperial to middle Byzantine) and no. 554 (unstratified).

17.34 (Pl. 94) is from the base of an unguentarium. Its short, pointed toe was pinched and pulled out with a tool. Since the body shape, whether pithoid or elongated drop-shaped, cannot be determined from the fragment, dating is imprecise. Such little bottles with pointed, pulled out bases were common ware in both the Eastern and Western Empire during the 1st and even during the 2nd century, although they are not unknown also later.²⁹ Its context, however, suggests a date in the late Imperial period, that is, the first half of the 4th century.

Rims

Four broad categories of rim types can be discerned among the Torone fragments. The first comprises rims which are folded either inward (**17.37-17.40**) or outward (**17.41-17.42**). The second covers those rims which have been thickened by reheating (**17.43-17.49**). The third comprises rims which are characteristically splayed and unworked or roughly ground (**17.53-17.62**). The latter two groups are the most numerous. The last category contains those with some slight decoration on them (**17.50-17.52, 17.63**), unlike the plain rims of the first three groups. This typological arrangement does not necessarily infer that the fragments within a particular group are of a similar date, although this may be the case with group 3, the most cohesive of the four groups.

From their diameters and the degree of inclination of any surviving portion of the body, it is possible to make a hypothetical reconstruction of the fragments, and to suggest whether they came from the neck of a bottle, a beaker, a bowl or a goblet. In addition, the thickness of the walls may hint at a particular shape, although this feature is unreliable if used alone.

On the whole, folded rims, whether complex or simple, are less common than plain rims. Clearly, rims with a fold require more attention from the glass-maker than simply rounding off the rim at the furnace, or leaving it largely in its raw state when cracked off the blowpipe. Moreover, to fold a rim inwards is a more exacting technique than folding it outwards. This doubtless accounts for the comparative rarity of the inward-folded type. In folding a rim either inwards or outwards, a hollow edge or, at the very least, a thickened one may be created in the process. Irregularities in the finish are not unknown and many variations exist.

From the small portion of wall extant on **17.37-17.38** and **17.40** (Fig. 169) and from their diameters, these rims appear to have belonged to funnel shaped or conical

²⁹ Isings 1957, 24-25, form 9; Vessberg and Westholm 1956, 203, fig. 48:43-45, pithoid flasks of 1st-2nd century, and p. 206, drop-shaped tubular unguentarium, fig. 50:30, similar to one found in a tomb in Cologne with a coin of Constans (337-350 A.D.); also, La Baume n.d., pl. 56, 3/N14, balsamarium datable in first half of 1st century.

necks of flasks. This is confirmed, particularly in the case of **17.38-17.39**, by comparative examples at Sardis and especially at Karanis, which are dated from the late 4th to 6th centuries.³⁰ **17.40** was found in the same context as the tubular ring base fragment **17.15**, eliciting the suggestion that they were once part of the same goblet. The colour is almost identical and the inward-folded rim is not an unusual finish for a vessel with such a foot.

Supposing this to be the case, a date similar to that for the foot would be applicable for the rim, that is, 5th to 7th century. For **17.37-17.38** at least, the colour appears to suit Harden's fabric 5, but not enough remains of the fragments to meet all his criteria for that fabric and consequently to suggest for them an Egyptian origin.

17.39 (Fig. 168) may also belong with this group of neck fragments, mainly because of its small diameter (0.055 m.). With the little that remains of its upper wall (or neck ?), it would be speculation to suggest a profile for it. Nos. **17.41-17.42** (Fig. 169; Pl. 94:**17.42**) complete this group of folded rims. Both are turned outwards and a little downwards, thickening the rim probably more for practical than for decorative purposes.

Three of these fragments came from the Isthmus, the other three from the Lower City. On contextual evidence, with the exception of **17.40** (for which see above), a Late Roman/Early Byzantine date would be appropriate.

Rims of the second group (**17.43-17.49**) are of the plain, common variety. The lip has been smoothed and, at the same time, slightly thickened by re-heating. Diameters lie between 0.070 and 0.090 m. and surviving walls are thin, if not eggshell thin (**17.46-17.47** and **17.49**). Weathering too may well be partly to blame, especially on **17.49**. Von Saldern submits that vessels with estimated rim diameters of "ca. 6 to 8 cm. may have been part of goblets while diameters of over ca. 8 cm. seem to indicate that the rims must have come from bottles with wide necks or from bowls..."³¹ Other shapes with a diameter somewhat similar in size to the goblets, are deep bowls and beakers.³² This may be the case also at Torone, although the rim types differ slightly from those illustrated by von Saldern in that the Torone examples are all noticeably thickened at the top, with a slightly convex profile most often either on the inner or outer rim face.

³⁰ Harden 1936, class IX.A.1(a)9 (fabric 5) especially no. 557, pl. XVII, post 300, re-dated to the late 4th/5th century; von Saldern 1980, 81 f., nos. 594 and 595, pl. 27, 5th or 6th century, of which no. 594 appears, at least in a profile drawing, to be similar to **17.40** from Torone, although the fabric is different (von Saldern 1980, 36); and Pirling 1978, 145, fig. 4, 4th-6th centuries.

³¹ von Saldern 1980, 79.

³² For beakers, see *Samaria-Sebaste* III, fig. 95:22. For a beaker (4th-5th centuries) whose plain squat form is unusual see *ibid.* 413.

It would be presumptuous to date these fragments on the rim evidence alone. **17.47** comes from the same context as the tubular base ring **17.8** and may have formed part of the rim of that stemmed vessel. The slight variation in the intensity of colour between the two fragments is probably a result of the different thickness of the glass, as suggested for **17.7** and **17.67** and for **17.15** and **17.40** (see above n. 3 and 5). The respective diameters and the rim type itself support this hypothesis. Consequently, a 5th or 6th century date would be applicable.

The third group (**17.53-17.62**) consists of fragments with a very characteristic form of rim, common on lamps, beakers and some shallow bowls of the 4th and 5th centuries. The rims are splayed with unworked or roughly ground edges. Unworked rims, often sharp, would be decidedly uncomfortable for drinking. The simple ground rims are somewhat more practical though hardly ideal. A tool has been used to make a constriction of varying depth which encircles the vessel just below the rim. At Torone, a light yellow glass with a brownish or greenish tinge predominates, suggesting a similar area of manufacture. Where a sufficient portion of the wall is preserved, it invariably tapers downward. On the smaller fragments, this feature cannot be verified. The walls of three fragments, **17.57** (Fig. 169), Inv. No. 76.2135 and Inv. No. 78.3751, have a more convex profile than the others, suggesting an identification as bowls rather than conical lamps. No bases can be assigned confidently to these rims through association by context. In fact, none of the base types described by Harden as belonging to his class of conical lamps with splayed, unworked rims, that is, solid-pointed (class V.I.A) and hollow-flattened (class V.I.B) bases,³³ has been discovered at Torone; nor do any of the bases found seem suitable companions for these rims. One suggestion, admittedly premature, for this apparent gap is that the simple rounded or narrow flattened base, not strengthened by the application of additional glass or pushing-in, has not survived.

The diameters of the Torone rims range between 0.060 m. and 0.098 m., which is close to the variation among the Karanis examples. The profiles too vary somewhat from slightly splayed, somewhat outward bent (**17.53**, **17.54**, **17.57** and **17.59**, Fig 169: **17.54**, **17.57**) to sharply splayed almost to the point of exaggeration (**17.60-17.62**, Fig. 169 and Pl. 94: **17.60**, **17.62**). These latter rims seem barely suitable as drinking vessels and are more likely to have been lamps or even jars, with the pronounced splayed rim a potential flange for a cover.³⁴

³³ Harden 1936, 155-164, pls. V and XVI, conical lamps of class VI.A.I and VI.B.I (decorated and plain with unworked rims, fabric 3 or 5) redated by Hayes to the 4th and 5th centuries (1975, 2 f.). See also Crowfoot and Harden 1931. Cf. Isings 1957, form 106d and Matheson 1980, no. 253.

³⁴ See Vessberg and Westholm 1956, 198.

Nine more fragments of this type were inventoried but are not included here,³⁵ making this shape along with the tubular base ring foot the most common of the different glass types found at Torone. On the basis of contextual material, a 4th, even 5th, century date agrees with parallels of similar rim types elsewhere in the Mediterranean during the Late Roman/Early Byzantine periods. Splayed, unworked or roughly ground rims of the 3rd and 4th centuries are known from Cyprus, where they occur on beakers or jars with indented sides, from Karanis, also on indented beakers and on lamps and, indeed, from numerous sites throughout the Empire from *ca.* 200 onwards on open vessels essentially similar in form, but with differences in bases and decorative details.³⁶

The last group of rims (**17.50-17.52, 17.63**) has features not found on rims of the previous groups, even though a certain similarity may exist in their basic forms.

With its exceptionally large diameter (0.300 m.) and its gently outward sloping wall, **17.50** (Fig. 169) almost certainly belonged to a wide shallow dish. Whether it was circular or oval in shape is difficult to tell from so small a fragment. However, if it did come from an oval dish, this particular fragment would have formed part of one of the two longer sides which have a larger diameter than the shorter, rounder ends.³⁷ In addition, the almost horizontal rim with its down-turned edge hints at a serving vessel shape, perhaps a salver, rather than a vessel from which one would eat. Moreover, the decorative groove on its outer face lifts it out of the mass-produced and common forms into a class of somewhat finer ware.

Fragment **17.51** (Fig. 169; Pl. 94) is a rarity among the Torone glass. On account of its fabric type and subtle decoration, it stands in a class of its own. From its diameter (0.150 m.) and the angle of inclination of its upper wall, it appears to have come from a bowl rather than a plate or dish. The trail of blue glass was added to the vessel during its manufacture. There is no evidence that it was subsequently ground into shape. Although the thickness of the trail varies, it has been applied with care, sug-

³⁵ Inv. Nos. 76.2130, 76.2133, 76.2134B, 76.2135, 76.2138, 76.2146, 76.2152, 78.3751, 78.3758.

³⁶ Vessberg and Westholm 1956, 142 f. and 145, figs. 44:25-32, 45:13-16 and 54:7-8, types A.iv and B.iv; Harden 1936, 135 f., pls. IV and XV, class V.A.III; Isings 1957, form 32 is, admittedly, an early example of the 1st to early 2nd century but with greater representation in the 3rd and especially the 4th century; and form 35, apparently with an out-splayed rim, although neither the accompanying text nor the line drawing offers any confirmation of this. Like Isings' form 32, her form 35 is a 1st/early 2nd century type with Late Roman survivors. Cf. also Isings 1957, 48-49, form 34, with various base types and many with wheel-cut linear decoration; again, this is a 1st century form continuing into the 4th century. Finally, cf. Isings 1957, 136-138, form 109, whose body narrows significantly with "the appearance of a stem", 4th century. Matheson 1980, nos. 249-250, 3rd-4th century.

³⁷ Harden 1936, 47, makes a fine distinction between the terms dish (for the oval vessels of his class I.A) and plate (for the circular vessels of class I.B).

gesting experience and a certain finesse on the part of the glassmaker. The pale green colour of the wall, with its yellowish tinge, is manifest most distinctly at the points of fracture. Otherwise the colour is not particularly obvious. Its context places it outside the realms of antiquity where such rims are, in any case, uncommon. It recalls glass vessels of Venetian manufacture of the 16th and 17th century, whose rims, feet and handles were picked out with just such a blue thread, perhaps to create a decorative contrast between the almost colourless body and the blue trail, or to outline and define edges and profiles. The technique was known from Byzantine and Islamic glassworking traditions, on Crusader beakers and in mediaeval times.³⁸

By the 16th century, glass from Murano had achieved an élite place throughout Europe and the eastern Mediterranean. This success was propelled by Venice's sophisticated commercial network, itself dependent to a large extent on her merchant navy. Her export trade to the Middle East, particularly to Egypt, Syria and Rhodes, continued unabated from the mediaeval period into the 16th century. By this time, the Ottoman Turks had established their extensive empire with its capital at Constantinople, where Venetians had been living, trading and, quite possibly, blowing glass for centuries.³⁹ Venetian tableware, mirrors, bottles, window glass for the bath houses and lamps for the mosques were much sought after by those who could afford them.⁴⁰ Torone, with its excellent harbour, would have been host to Venetian ships *en route* to and from Constantinople and the Black Sea. It would not be surprising, therefore, if this fragment were a legacy of the Venetian presence in Torone (*cf.* 17.12, 17.17 and 17.23 above, and 17.89 below).

17.52 (Fig. 169) is almost certainly of the thickened rim variety of group 2 but has been relegated to this section because of the shallow groove decorating its outer face, a feature the other thickened rims lack. With its flattened top, the rim profile is almost triangular. Such rims graced the edges of bowls, beakers and goblets. A similar rim, though without the groove, is illustrated among fragmentary finds from Apamea in Syria.⁴¹ Its 4th to 6th century date would likewise be applicable to the Torone fragment.

The diameter of 17.63 (0.122 m.; Fig. 169 and Pl. 94), its sloping upper wall and flange-like collar encircling the rim suggest that it comes from a small bowl or the

³⁸ Stern 1985, fig. 4 (right) and fig. 7, pp. 54 and 58 f. where one of the Crusader beakers has a coloured thread on the rim which was subsequently ground. In this instance, Stern suggests Islamic rather than Byzantine inspiration. See also Tait 1979, 49.

³⁹ Brown 1920, 68 f.

⁴⁰ For an interesting account of the considerable use of Venetian glass throughout the Balkans, see Han 1985.

⁴¹ Pirling 1978, 145, fig. 4.

neck of a wide-mouthed jar. The collar is unusual. Almost certainly, it has been applied to the vessel rather than shaped from the wall of the vessel itself; at least at one point it has been pulled out with pincers. Presumably this occurred at intervals around the collar, creating a scallop effect. The profile brings to mind the cut-out flanges of jars and bowls of the 2nd to 5th centuries. These, however, are hollow or partly so, and are rarely as close to the lip as here on **17.63**.⁴² While pinched scalloped rims are not uncommon,⁴³ applied and scalloped flanges such as this are few and far between. With so little left of the body, any attempt to define its shape would be conjectural. Yet a bell-shape along the lines of the wide-mouthed jars with tubular flanges is a possibility.

Two substantial neck fragments figure among the Torone glass. The neck **17.64** (Fig. 170; Pl. 95) has survived intact from the unevenly folded, out-turned rim down its long tapering length to the base where it flares out to form the shoulders of the body, which is missing. Although the original size and form of the vessel cannot now be determined, the neck would have suited a flask. The angle of the outward flaring shoulder suggests a fuller bodied vessel than the ordinary little phials so common during the period from the 2nd to the 4th century. It is also worth noting that the base of the neck does not have the constriction prevalent among candlestick unguentaria of the later 2nd and of the 3rd century. These, moreover, tend to have inward folded and flattened rims. The rim finish is common, particularly for classes of bottles and flasks which were produced in quantity and with some speed and not necessarily with care. The uneven rim may be due not only to the hand of the glassmaker but also, if not instead, to the temperature of the glass at the time of manufacture. The vertically elongated bubbles in the glass indicate the way in which the neck was pulled straight out to its final length.

Most of the bubbles in **17.65** (Fig. 170), however, lie in an arc, suggesting that the neck was twisted slightly during shaping. The applied green collar, which offers some light colourful relief to the yellow-brown background, was trailed beneath the rim and probably after the rim was turned outwards. The beginning of the trail can be identified by the small tail of green glass which hangs from beneath the collar and down the neck wall for a short way. The technique was common in antiquity and, in addition to offering some contrast to the basic colour of the vessel, served also to

⁴² Cf., however, Hayes 1975, no. 295, fig. 9 which has a tubular flange with a "wide bulging rim" almost overhanging the flange; and his group of jars, nos. 323-332, both plain and with handles, of which a typical feature is a "hollow folded flange under the rim", mid 4th-5th century; also Vessberg and Westholm 1956, pyxides, fig. 50: 37-38 and 40-41 which have collar shaped rims delimited by a flange but which are early examples of this version, 1st-2nd century.

⁴³ Harden 1936, 111, no. 257, n. 2 and pl. XIV.

reinforce and protect what would otherwise have been a flaring rim susceptible to damage. The estimated diameter of the mouth and neck, and the curve of both the extant and reconstructed neck wall, suggest an overall neck length which is shorter than **17.64** and a shape which is stockier. The vessel could have been either single or double handled.⁴⁴ The collared, flaring rim finish and the colour scheme suggest a date in the 4th to 5th centuries. Von Saldern's group of "vessels with a heavy thread below rim" offers close comparisons; his no. 639 has evidence of the "remains of upper handle (?)". He dates the group to the late 4th or the 5th century and notes that "an almost imperceptible change of style defies a clear distinction between late fourth and early fifth century glass."⁴⁵

Handles

Of the eight handles **17.66-17.73**, three are intact or almost so and the remaining five are portions only. They fall into four groups: vertical handles, looped handles, strap handles and a thick, fluted handle which stands alone.

The handles devised in antiquity to grace the shoulders, rims and walls of glass vessels illustrate the seemingly limitless possibilities of a plastic medium such as glass, and of the artistic licence of thousands of glassmakers. Certainly there are basic forms which can easily be discerned among the multitude of types, but it is the variations on standard themes that attest to the individual creativity of the craftsmen.⁴⁶

The handles from Torone feature among the less experimental, more functional, types. By and large, handles were formed by attaching a strip or trail of glass first to the body or shoulder, then drawing it up and reattaching it at or near the rim. Tool marks where the glass was pulled and nudged into shape are often noticeable (**17.66** and **17.68**). This "bottom to top" technique is quite the opposite to that used in later centuries, in particular for antique English glass, where the handle was first applied near the rim and then re-applied on the shoulder or body, depending on the shape. In other words, a "top to bottom" method was employed. Despite the small size of our

⁴⁴ For a similar shape and finish to the rim of a single-handled flagon, see Hayes 1975, nos. 396 and 399, pl. 25 and of a two-handled jar, no. 387, pl. 25, 4th-5th centuries. See also Stern 1977, nos. 36-38, pl. 5, with provenances in Syria, Palestine and the Eastern Mediterranean, and a similar date range. The rim diameter of our fragment approximates these examples.

⁴⁵ von Saldern, 1980, 85, pls. 15 and 27.

⁴⁶ See, for example, the few, more ornate types illustrated by Morin-Jean 1913, pls. 2 f. A wonderful array of handle types can be found in many of the publications on Roman and Byzantine glass, particularly catalogues of museum collections, which show a broad spectrum of vessels from all over the ancient Roman world.

handle fragments, their detailed study yields a rewarding amount of information. As von Saldern writes in his introduction to the group of vessels with strap handles, "even a small portion of handle will give some information on the type of the original vessel, while a wall section of the same size is usually much less informative."⁴⁷

The two vertical looped handles (**17.67**, **17.68**, Fig. 170) differ from their two cousins, the plain vertical handles (**17.66** and **17.69**, Fig. 170), only in that the glass trail has been brought around in a full loop and reattached to the body directly above, if not actually to the base of the handle itself. The size, shape and direction of both types of handles, delicate and almost impractical, suggest that they once belonged to vessels without distinct shoulders. They are to be found on stemmed goblets/lamps of the 4th to the 6th centuries, re-appearing during the 9th to the mid-12th centuries.⁴⁸ The Torone examples more properly belong in the earlier chronological group. A predecessor may be seen in the ring handles of *modioli* from the late 1st to the early 2nd centuries.

Of the three strap handles, **17.70** and **17.71** (Fig. 170: **17.71**) are of the same specific class, being broad, flat, ribbon-like strips of glass attached by means of the "bottom to top" technique (see above). Most such handles were angled rather than rounded and these two may well have been no exception. The curve of the inside of the base of the handles naturally follows the curved line of that part of the vessel to which the handles were fused. In these two cases it is the rounded shoulder that is the most likely part. Hence, candidates for a vessel shape would be variously shaped flasks, described indiscriminately as flasks, flagons, bottles, jugs or bottle-jugs, which were either decorated or plain and had one or two handles and bodies that were rounded, cylindrical, square, or rectangular with high rounded shoulders. Bottle green colours, such as the green of **17.71** or the bluish green of **17.70**, were common for these shapes.

The original vessel size is difficult to gauge from the thickness or width of the handle fragments. It is not uncommon for vessels to have oversized handles, giving them a rather unbalanced look. Nor can the length of the neck be ascertained since

⁴⁷ von Saldern, 1980, 28.

⁴⁸ For this variety, see above pp. 681-684, and nn. 3 and 5. **17.66** and **17.69** are not dissimilar to handles in von Saldern 1980, 46-49, for example no. 249, pl. 11 (which appears to have been printed upside down) or even no. 246, pls. 11 and 23, from lamps dating to the 5th/6th centuries. Note also the handles on lamps reproduced in von Saldern 1980, pl. 23, from Shavel Zion and Jerash. The angle of the handle, however, is obtuse rather than at right angles to the body. Compare Weinberg 1975, fig. 25, particularly the centre example, 9th/10th centuries. For identical examples, see *Corinth* XII, no. 729, pl. 57, 11th/mid-12th centuries and p.12 where she adds, "The shape of the vessel to which those handles were attached is not known."

broad strap handles were found on short-necked, as well as long-necked, shapes.

Rounded, square and rectangular flasks with strap handles, for the most part ribbed but also plain, were common in the late 1st and particularly in the 2nd century. Yet a Late or Post-Roman date for similar handles is not to be excluded. At Sardis, while most such handles appear to belong to "well known groups of early to middle Roman Imperial vessels, primarily squat or high bottles with single or double strap handles", archaeological evidence may date one or more of them to "late or even post-Roman times".⁴⁹ According to Harden, rectangular bottles are "one of the commonest types of glass ... all over the Empire. Outside Egypt the overwhelming majority ... belong to the common green or bluish green bottle ware ... [they] lasted both in the east and in the west throughout the Imperial period."⁵⁰ Stern notes that one-handled bottles had a wider distribution pattern in the East. Her no. 24 (inv. 5675) from the Fondation Custodia collection, with handles similar to the Torone example, is dated from the mid-3rd to the mid-4th century and is assigned an origin in the Eastern Mediterranean.⁵¹ The origin of the Torone handles, however, is difficult to determine.

17.73 (Fig. 170), while of the same broad class of strap handles as **17.70-17.71**, differs in that it is ribbed on the outside and collared. The application of the handle - or handles - was generally the last step in the manufacturing process, prior to the vessel being knocked off the punty and placed in the lehr to cool. This is obvious on many vessels with handles, but it is less apparent in the case of this small fragment. While it is possible to apply the collar and to shape the flaring rim after attaching the handle (in effect squashing the collar between the handle and rim), it is easier to apply the handles after the collar and rim have been finished. Firstly, the centre of gravity of the vessel on the punty may be difficult to maintain if, with one or two thick and comparatively heavy handles already in place, the vessel requires still further manipulation to apply a collar and to finish the rim. Secondly, problems may be encountered when the mouth of the vessel is reheated to a temperature and plasticity suitable for finishing because of the difference in thickness between collar, rim and handle(s). If the handles are applied last, there is no need to reheat. Taking these two precautions into consideration, it would be easier, though not necessary, to apply the handle(s) as the final touch before annealing the finished vessel.

⁴⁹ von Saldern 1980, 28 f., particularly nos. 182 and 183 dated to the 4th century and after; and von Saldern's reference on his p. 28, n. 99 to Isings 1957, 63 f., forms 50 f.

⁵⁰ Harden 1936, 238.

⁵¹ Stern 1977, 86-88, no. 24, pl. 8:24; differences, however, lie in the colour and the fact that Stern's vessel has a collar.

The original shape of the vessel to which this handle fragment belonged can only be surmised. A shape along the lines of those described above for **17.70** and **17.71** would be possible, but with a flaring rim. Parallels occur in the late Imperial period in the east and west of the Empire.⁵² Since most of the glass found at Torone appears to have had an eastern Mediterranean origin, a similar origin for **17.73** would be quite reasonable. A date in the late 3rd continuing into the 4th century is proposed.

The last handle, **17.72** (Fig. 170), is thick and quite heavy in comparison with the thin-walled vessel to which it was fused. As von Saldern notes, "because of their thickness, vessel handles ... were relatively sturdy and, therefore, tended to survive intact more frequently than the fragile vessel walls."⁵³ From the curve of the extant wall, this handle almost certainly belonged to a vessel with a gently sloping shoulder such as an ovoid jug. Although the exact angle of the shoulder and hence of the handle cannot be determined, a vertical position for the handle would not seem out of place. Its outside surface has been combed into flutes lending it not only decorative interest but perhaps also some practicality in providing a better grip.

17.72 was found in the same context as **17.7**, **17.8**, **17.47** and **17.67** all of which have been dated between the 5th and 7th centuries. Such a date would seem appropriate also for this handle fragment.

DECORATED FRAGMENTS

The four decorated fragments **17.74-17.77** provide us with a representative, though narrow, sample of three of the main types of decoration associated with blown glass, namely mould-blown embossing, trailed threads and engraving.

The first, **17.74** (Fig. 170), is from the shoulder of a closed vessel, most probably a small jug or flask. It bears a pattern of mould-blown indentations. The decoration suggests a dense pattern of ribs or corrugations which almost certainly would have

⁵² *Karanis*: Harden 1936, no. 739, pls. IX and XIX, complete with a collar of glass similar to that of the body which the Torone fragment also seems to have, not before ca. 300. *Maastricht*: Van Lith 1987, 55 f. and especially her n. 16 with further references, where she makes comparisons with Isings 1957, 156-158, forms 126 or 127, single- or double-handled bottles respectively, mostly 4th century; but the Torone fragment definitely suggests a curved top to the handle rather than an angled one as in van Lith's fig. 11. *Syria/Palestine*: Hayes 1975, nos. 363 and 364 for numerous parallels; their fabric is a typical Class XII fabric, that is, later Syrian and Palestinian ware, early to mid-4th century. Hayes writes, "This type, with its broad reeded handle and coil decoration on the neck, corresponds to a common Western type of late 3rd- to mid 4th-century date (Isings form 126)" (p. 83). Here again, the handle is more angular than on Torone **17.73**.

⁵³ von Saldern, 1980, 28.

encircled the body of the vessel. The fragment is too small to show whether or not the pattern was re-blown and twisted.⁵⁴ Mould-blowing was a Syrian speciality, as were ribbed vessels, and it is presumed that this later twisted variation of the ribbed theme also originated in the east, spreading from Syria to other parts of the Roman world.⁵⁵

The second decorated fragment, **17.75** (Fig. 170), is flat with a mould-blown pattern of curved ridges giving the impression of a design of circles, perhaps tangential. It is not easy to assign it to a particular shape because of its small size, although a possible contender may be a four-sided flask, the base perhaps with a moulded trademark design. Yet its flatness and almost uniform thickness tend to militate against its interpretation as part of a trademark design, since these bases were generally convex to some degree rather than flat, and were thicker in the centre than at the sides.⁵⁶ Flasks, particularly those with moulded trademarks, were common during the 1st and 2nd centuries. The shape is known as well from later periods since it was an especially useful and practical form.

On the basis of their context, our two small fragments (**17.74** and **17.75**) would not be out of place in the 4th or even the 5th century.

For the convex-shaped fragment **17.76** (not illustrated) shapes such as a large bodied closed vessel, or an open vessel like a beaker, come to mind. The decorative lines are much finer than the deep substantial engraved lines found on many vessels, particularly flasks and beakers. Therefore a gentler technique such as light engraving, if not scratching, of the surface is suggested. Probably "lathe marks" is the best interpretation of such markings.⁵⁷ They appear to be the result of rubbing a rough surface such as a coarse stone (sandstone ?) wheel against the glass, which is a quick and easy way to apply a touch of decoration to a glass surface.

17.77 (Fig. 170; Pl. 95) came from the cylindrical neck of a flask which was repeatedly encircled, spiral fashion, by a fine thread of light blue glass. The trailing was done during the manufacture of the vessel. Shallow grooves are visible where the

⁵⁴ Stern 1977, 107-109, especially n. 14 on the technique and no. 33 for the ribs.

⁵⁵ Stern 1977, 156.

⁵⁶ A fragment (Inv. No. 78.3756 Isthmus TR1 tr3 [1]) not included here is very definitely from the base of a flask, probably a four-sided one. The relief pattern unfortunately is indecipherable. The fragment, which is fairly thick, evidently came from the edge of the base as one side of it curves slightly upwards to form the lower wall of the flask.

⁵⁷ As Hayes, who distinguishes between wheel incisions and slight wheel incisions or lathe marks. These latter seem aptly to describe the Torone examples. See Hayes 1975, nos. 132-137 for beakers and nos. 145-147 for closed vessels. Although this understated decorative technique is common on 1st-2nd century vessels, it is known also on the 4th-5th century glass. Cf. Torone **17.59**, a rim fragment with faint horizontal lines on the outer face.

threads, which had become somewhat embedded in the hot, viscous glass at the time of their application, have now broken away. Trailing threads on glass was a common decorative technique in antiquity. This neck fragment appears to belong to a specific group of rounded flasks with long necks. Some are slightly funnel-shaped at the mouth and taper towards the base of the neck. Others are of tapering cylindrical form. Palestine seems to be their homeland. They have been dated from the early 5th through to the 7th century.⁵⁸

FLAT FRAGMENTS: WINDOW PANES / FOUR-SIDED FLASKS (?)

Whether these unprepossessing looking fragments (17.80-17.86, not illustrated) once helped to fill window frames, or to form four-sided bottles, is uncertain. Evidence seems to point marginally to the former though such an identification is necessarily speculative.

It appears that glass was manufactured specifically for use in windows from the 1st century, that is, after the blowing technique had come into common use. This does not exclude the exceptional use of glass in windows prior to the Roman Imperial age. Schools of thought are divided on the actual technique used to make early glass window panes. One favours the cylinder or muff, later known as the broad glass method. The other suggests that casting in a mould preceded the use of the cylinder.⁵⁹ Both, however, agree that crown glass was a later development spreading west from Sassanian lands in about the 4th century. It was certainly known in Italy by the mid-6th century and in Britain by the later 7th century.⁶⁰ Large quantities of window glass made by the cylinder process were found at Sardis, but crown glass is unknown there in the Early Byzantine period. Much of it was of von Saldern's fabric I, a light aquamarine glass which differs from the colour found at Torone. The average thickness,

⁵⁸ Stern 1977, 139 f., no. 43, 6th-7th century; Hayes 1975, nos. 402-403, late 5th-6th century, although both these have the rather startling variant of a frilled collar between the trailed section above and the constricted base of the neck below. See also von Saldern 1980, 82 f. and nn. 90-92, especially no. 612, pls. 15 and 27 - Early Byzantine period (early 5th-early 7th centuries) on account of their safely dated contexts.

⁵⁹ Harden 1969, 45, n. 6 where he admits that there is disagreement among his colleagues on the view that the introduction of cylinder blown glass coincided with the invention of glass blowing. For a clear description of the broad glass method with an illustration reproduced from an 18th century text, see Frank 1982, 25-27 and fig. 6. The muff is another term for the cylinder of glass produced during the broad glass process before it is split (Newman 1977, 206).

⁶⁰ Again see Frank 1982, 25 for a short description of the crown glass process, with an 18th century illustration of it reproduced in fig. 5. For the Middle East origins and subsequent spread of crown glass, see Harden 1971, 83-84, especially n. 11, and 89.

however, of the fragments at Sardis (0.002 m.) compares well with that of the Torone fragments. The evidence from Sardis that the window glass had been fixed with lead and probably plaster, is as yet lacking at Torone.⁶¹

There are differences, often subtle, between these three methods of window glass production which may serve as guidelines for distinguishing one from the other. Frank advises that the broad glass technique tends to leave elongated bubbles along the axis of the cylinder (see in particular **17.78** from Torone), although she warns that all flat fragments with elongated bubbles are not conclusively from window panes made by the muff process.⁶² Fragments of crown glass, on the other hand, often show "spin marks, concentric circles, which developed as the glass was spun rapidly to open it out to form a disc on the end of the metal rod." (*ibid.*). Crown glass panes were usually of an inconsistent thickness and in antiquity did not acquire the thinness of cylinder glass.

In addition, cast and cylinder glass are of the glossy/matt variety: that is, the surface which has come into contact either with a mould in which cast glass was manually spread, or a table on which the glass cylinder or muff was opened out, loses its fire-born shine, while the other surface, though tooled to some degree, is nevertheless glossy by comparison. Crown glass, to the contrary, retains its fire polish on both sides since it requires no surface interference until it has cooled, at which stage it may be cut into smaller panes. Weathering and corrosion of the Torone fragments, in some cases quite marked, has made it impossible to distinguish a glossy from a matt surface.

Four-sided bottles/flasks were rarely as rigidly geometric as their name implies. Their sides were often slightly convex or concave and of a thickness which varied between the edges and the middle regardless of whether they were mould-blown or free-blown and then flattened into shape. With the exception of **17.81** which curves slightly along one side, it is more likely that the fragments here discussed are from window panes. The colour of the glass would also support this hypothesis since colourless glass tinged with yellow or green is uncommon for flasks.

Descriptions of finds from Corinth show similarities,⁶³ although most of the fragments there are opaque and/or have folded edges. They date variously to the 4th century and to the 11th to mid-12th centuries. At this stage and with only slight supporting evidence, any dating of the Torone fragments would be as provisional as declaring them to be from window panes rather than four sided flasks. "In some ways it is

⁶¹ von Saldern 1980, 36 and nn. 111-112, 116-117.

⁶² Frank 1982, 142.

⁶³ *Corinth* XII, 143-145, pl. 73, especially fragments from the deposit MF 8359. See also Boon 1966, fig. 1, where the configurations of the bubbles are similar to some of the Torone fragments, notably **17.83**.

more difficult to draw conclusions from finds of window glass, especially small, shattered pieces, than it is from vessel glass."⁶⁴

GLASS BAR

This is a curious fragment (**17.78**) and has been described as a bar for want of its correct name and function. Its broken state indicates that it was once part of a longer piece. Whether this short length was used as one of a linear series of such pieces, is not known but possible.

Close parallels occur at Corinth where they were found with a "considerable quantity of flat panes of glass ... among the Roman structures in the Corinthian Agora". The particular structure in question is a "tiny square room of a bath which was superimposed on the South Stoa", and which was later thought to have been a plunge bath. Davidson argues that the fragments, comprising larger panes and "small glass plaques, cut into various shapes for use as inlay", were more likely to have been used "to line the upper part of the walls, above the marble dado."⁶⁵ It is also interesting to note that the largest of these glass bars measures 0.04 m., which approximates the length of **17.78** from Torone (0.035 m.). While breakage may certainly have occurred, it is possible that the pieces were used as short inlay tesserae.

Unfortunately, neither the colour nor the thickness of the Corinth bars is given. Their shape appears very similar to the Torone example, that is, "mostly rectangular in section, a few curved on top with grooves in the surface."⁶⁶ It is not known whether the groove was intended as a practical measure or had a decorative function or whether it was merely a result of the manufacturing technique.

All the glass panes and inlay pieces which make up Corinth no. 1060 have been dated to the 4th century. A similar, though broader, date is proposed for the Torone fragment, primarily on the basis of the chronology of some rim fragments and a tubular ring foot fragment which share the same findspot as **17.78**.⁶⁷ By typological analogy with similar fragments discussed above (**17.13** in particular and **17.43-17.49** of

⁶⁴ Frank 1982, 141.

⁶⁵ *Corinth* XII, 143 f. no. 1060(f) and p1. 73. It is among these variously shaped glass plaques that parallels with the Torone fragments can be found (*supra* n. 63).

⁶⁶ *Corinth* XII, 144.

⁶⁷ Rim fragments Inv. Nos. 76.2140, 76.2141, 76.2142, 76.2150, 76.2151; fragments of tubular ring feet Inv. Nos. 76.2143, 76.2148; fragment of the root of a handle Inv. No. 76.2132. These are among the fragments that have been inventoried but not included in this catalogue (*supra* n. 1).

rim group 2, *supra* pp. 682-683, 688-689), these may also be dated between the late 4th and 6th centuries. This dating is tentatively, but not conclusively, supported by the context: although it yielded large quantities of Roman material, the latest identifiable objects are Post-Byzantine.

GLASS CULLET

Without appropriate scientific analysis of this very interesting chunk of glass (17.79),⁶⁸ any decision on its identification must remain conjectural. The fact that it is adhered to some iron slag and shows signs of having been chipped suggests that it was perhaps once part of a larger block of cullet, or from the remains of glass in a crucible. As the only such piece found to date on the site, it hardly provides sufficient evidence of glass manufacture in the ancient city. On the basis of other glass fragments found with it (17.37, 17.74 and especially 17.69) it may possibly date to the 4th or 5th century. As with the glass bar, this dating is tentative.

PERSONAL OBJECTS OF GLASS AND BONE

GLASS AND BONE BEADS, BONE BUTTONS AND MISCELLANEOUS WORKED BONE

By their nature these objects are the most personal of all the items in the catalogue. Though small and sometimes plain, they evoke individual taste and craftsmanship. This applies particularly to the buttons and beads, both of which are intimate fashion accessories.

The objects have been divided into three groups on the basis of their material and function. The first group comprises beads of glass and bone (17.87-17.93). Beads may be considered an item of personal adornment whereas buttons, which form the second group (17.94-17.97), are more of a fashion necessity, whether plain or decorative. All the buttons are of bone. Some overlap in function, and therefore in nomenclature. 17.92 could be a small toggle button or a bead, and 17.93 may have been a bead. The third group is a miscellany of worked bone objects which fall into neither of the two preceding groups. The precise function of each remains something of an enigma and, in the cases of 17.102 and 17.103, the question remains open as to whether they had a function at all.

⁶⁸ For a brief discussion of cullet itself, and as found at Sardis, see von Saldern 1980, 94-97.

BEADS

The beads appear to be confined to the 4th to early 2nd centuries B.C., with the notable exception of **17.89** (Fig. 170; Pl. 95). Though small, this stands out particularly from the three other glass beads in the group (**17.87**, **17.88**, **17.90**) because of its opaque red and white colour, the glass itself, and the comparative sophistication of its finish. These characteristics seem to betray a later date, a theory which is supported by its 17th century context.⁶⁹ To date, its place of origin is unknown, although Venice, famous at the time not only for her glass vessels but also for her beads, should not be discounted.

The group of four glass beads lacks any of the more unusual or colourful types which abounded in antiquity. Yet a number of the lovely eye-beads, common throughout the Mediterranean and Europe during the 1st millennium B.C. and on into Roman times, have emerged from later excavation seasons at Torone. **17.87** (Fig. 170; Pl. 95) is of interest for its distinct notched shape. It is known by its descriptive term of "melon" bead. Although size, shape and colour varied, the dark blue colour and memorable form were common during the Classical and Hellenistic periods. Nearly 700 such beads were found in the debris from a glass factory in Rhodes, where beads appeared to be the main line of production. Of these, more than half were dark blue. The debris was given a provisional broad date over the 3rd and early 2nd centuries B.C.⁷⁰ **17.87** could be expected to fall within that time frame, if not earlier.

BUTTONS

Buttons appear to have replaced fibulae around the early to mid-6th century B.C. Whereas differences lie in their appearance and the fine points of their mechanics, to all intents and purposes buttons perform the same fastening and clasping functions as fibulae. They were used on the peplos, himation, chiton and chlamys, where a thong, cord or wire fastened them to the garment by means of a knot. Button holes were known, but loop or string ties were probably more common.⁷¹ Buttons were made of

⁶⁹ Two bronze grossetti of Ragusa and two bronze German jettons of the 17th century were found in the same context (see Chapter 20, **20.38-20.41**).

⁷⁰ See in particular Weinberg 1969, 143-151, especially p. 144 and pl. 76a-b.

⁷¹ Elderkin 1928 and the numerous references in her footnotes. She bases many of her thoughts on evidence from vase paintings and sculpture.

almost any material - wood, glass, metal, bone and clay - but only those of bone are so far represented at Torone.

From their context, the four buttons, which were identified as such with certainty from the first three digging seasons at Torone, appear to be widely separated in date: as early as the 5th/4th century B.C. for **17.94** and possibly also for **17.95** (Fig. 170; Pl. 95), to the 16th or early 17th century, if not later for **17.96** and **17.97**.⁷²

MISCELLANEOUS BONE OBJECTS (Unidentified)

Each of the six objects in this groups is in some way puzzling. **17.98** (Fig. 170; Pl. 95) may have been a spatula or a gaming piece. In form it is reminiscent of a label-like bone object from Corinth, dating from the 1st or 2nd century, although it lacks the disk-shaped handle (?) at one end, and is not quite as thick.⁷³ Nor is the Torone fragment inscribed as is often the case with such pieces.⁷⁴ The origin of the copper stain on both sides remains a mystery. **17.99** (Fig. 170; pl. 95) was either suspended or attached to a surface, as the hole at one end suggests. That an iron nail was once used for this latter purpose may explain the small deposit of rust on one side around the hole. Its original length is unknown as only a portion now remains; and it shows no sign of having been inscribed.

The lead filled astragalus, **17.100** (Fig. 170 and Pl. 95), is a fascinating object and appears to be uncommon in antiquity. While bone astragali are in themselves very common compared for example with glass, stone, bronze and terracotta astragali, those made of lead or loaded with lead are rarer still.

In his discussion of an inscribed lead astragalus from the Villa of Good Fortune at Olynthos, Robinson mentions that Aristotle alludes to astragali loaded with lead: "τοῖς μεμολιβδωμένοις ἀστραγάλοις", and that an astragalus to which were attached three pieces of lead was found at Delos. The purpose, he adds, was "to make it fall in a definite way."⁷⁵

⁷² While **17.94** came from a 5th-4th century B.C. context, the context in which **17.95** was found included Post-Byzantine material along with Classical and earlier pottery. **17.97** came from a similarly mixed context consisting largely of quantities of Post-Byzantine material, but including also two Late Imperial bronze coins, one of Arcadius (384-388), the other of Valentinian (383-388).

⁷³ *Corinth* XII, 218, no. 1761, pl. 100; and *Délos* XVIII, pl. XCIV, no. 827:1-6 for similar pieces from Delos.

⁷⁴ *Supra* n. 73 for some inscribed examples from Delos.

⁷⁵ *Olynthus* X, 503, pl. 164 and accompanying nn. 74-75. As for the example from Delos, it is difficult to tell from the illustration (*Délos* XVIII, 333-334, pl. XCIII, no. 820) exactly how the lead was attached. Perhaps it was poured into the indentations as on the astragalus from Torone.

Whether the Torone astragalus was used simply as a weight, a counter, or as a loaded die/counter is unknown, but its identification as a counter seems to be more convincing. Untrimmed knucklebones have four broad surfaces and apart from lead attachments they are left in their natural state. Additionally, dice as well as game-counters were loaded ostensibly for the purpose of cheating, and so the fact that they have been tampered with ought to be concealed. Unless this piece was painted, the lead would have been easily detected and the possibility of misleading an opponent lost. Nor is it obvious that the amount of lead used on each side is sufficiently varied to ensure that in the throw it would favour one side rather than the other. On the other hand, astragali loaded in this way may well have been used as a form of two-up dice, with the lead lending some weight to the otherwise light knucklebone and at the same time making one side readily identifiable from the other. By context **17.98-17.100** are placed in the 4th century BC.

17.101 (not illustrated) is a conical object, probably of horn. The damage at one end may have occurred during manufacture, perhaps when it was pierced to make a hole. Its function is uncertain, though with its faceted and polished sides, it was clearly intended to be used. The attempt to make a hole indicates that it was meant to be attached to something, perhaps as a button or a weight, but neither explanation is entirely satisfactory. Without further comparative, and therefore corroborative, evidence, dating is conjectural.

Identification of the last two items (**17.102** and **17.103**, not illustrated) is difficult. Both show definite signs of having been worked, but to what end is unknown.

SUMMARY

From the results of only three excavation seasons, it is too early to assess the position of glass in the life of Torone. The site is extensive. The Isthmus, Lower City and Lekythos, each of which yielded glass, have been subject to hill-wash and/or sustained building activity. Resulting contaminated contexts have not always been reliable measures for dating the glass; nor has the fragmentary state of the glass vessels been helpful. As a result it has been necessary to seek corroborative evidence at other sites for typological identification and assistance with chronology. In some cases, fragments which were in a readily identifiable and datable condition, were themselves used to date a context rather than vice versa.

Seventy-two of the catalogued objects came from the Isthmus. The remainder was excavated in the Lower City (17), the Lekythos (10), the Gate Area (3) and Structure 1 (1). All the glass vessel fragments have been produced with the aid of the

blowpipe. As discussed above, the examples at hand cover a limited range of the shapes, manufacturing, decorating processes and colours known to have existed during the 1st millennium, and more particularly from the 4th to about the 7th century. Two common forms seem to have been popular:

- (i) stemmed drinking vessels/lamps (17.1-17.15, 17.35-17.36); handles (17.66-17.69); and rim fragments (17.40 and 17.47, which are possibly associated);
- (ii) beakers/lamps/shallow bowls with unworked rims (17.53-17.62).

Most of these fragments came from the Isthmus, with few exceptions excavated in the Lower City.

Bearing in mind that typological identification has been made, cautiously to be sure, from small fragments only, the remaining fragments can be said to have belonged to a variety of plain shapes such as beakers, bowls, dishes/plates, flasks and jars. Although decoration is limited, the few extant fragments with embellishment hint at the presence also of finer glassware. This hypothesis is reinforced by finds from later seasons, which strongly suggest that the city may yet furnish examples of the more unusual, and comparatively more costly, glass types from antiquity; this is not to infer, however, that Torone was a centre for the luxury glass trade of the later Roman Empire.

Varying and apparently conflicting factors must be considered when trying to resolve whether glass finds might determine the function of a particular area. For example, the Isthmus yielded most of the simple domestic-ware shapes and this would indicate that habitation there was dense. Yet the lack of association between the Roman deposits and architecture in this area suggests another interpretation: the quantity of domestic-ware shapes may simply be due to wash from the slopes above and some dumping in antiquity.

Overall, many close parallels exist with material from the Early Byzantine levels at Sardis,⁷⁶ and with glass from a number of other sites in the East Mediterranean and further inland, such as Khirbet al-Karak, Samaria, Apamea (Syria) and Beth-Shan.⁷⁷ While additional comparanda have been cited from Cyprus, Egypt, the Black Sea, Greece itself, Italy and Europe, the strength of the comparative material appears to lie chiefly in the eastern littoral of the Mediterranean. As a result, it may be conjectured that much of the glass at Torone either originated physically from that region, or its characteristic styles were adopted and perhaps adapted locally. While it may be

⁷⁶ von Saldern 1980, and numerous references made to it throughout this introduction.

⁷⁷ See also von Saldern 1980, 38, Table 3, in which he lists sundry other sites in the Near East which in terms of the style and date of the glass finds parallel Sardis. By extension, these would, in some cases, parallel Torone.

postulated that the glass, particularly from Late Roman-Early Byzantine times, reached Torone by way of the maritime trade routes, further evidence and research are required before this and related questions can be answered.

It is possible that Torone made its own glass, but with the evidence to date it does not seem probable. There are two factors to be considered here. Firstly, Torone is not mentioned in the sources as a glassmaking centre. Secondly, there is no incontrovertible archaeological evidence of glass production at the site. Glassmaking does not require a large amount of space; nor does it necessarily leave behind a significant quantity of glass waste. A lot of glass can be produced from a single furnace, and any scraps, spills, breakages and other waste, can be reused. In this respect Price⁷⁸ was right to draw attention to the possibility that when a glass-working site was abandoned, it was "customary to remove the scraps along with the tools and the serviceable equipment." The availability of suitable raw materials was widespread in the ancient world. Torone had no doubt such necessary ingredients nearby, as wood for the furnaces, clay for the pots and silica in the form of sand. Whether or not the sandy beaches which today define Torone's shores were a suitable source of glass-making silica requires professional analysis of its mineral and chemical content. The glass fragments themselves would also have to be analysed for an assessment of their chemical relationship to the local ingredients. Soda, in the form of natron or sea plants, could be imported if it was unavailable in the vicinity of Torone, as could cakes of coloured glass for remelting.

The second factor is that in many cases the small size of the vessel fragments does not give adequate, unarguable guidelines as to the exact profiles of the original vessels. Therefore it is not possible to determine whether particular styles were slavishly copied in Torone from Near Eastern prototypes or whether Torone produced its own local variations of Syrian-Palestinian shapes.

Provisionally it can be said that the glass from the first three digging seasons at Torone belongs to the Eastern Mediterranean glassmaking tradition and that Western Empire and North European examples are conspicuously, although not totally, missing. Typological comparanda and contextual data indicate that the largest proportion of glass and bone objects falls within the time frame of the late 4th to the 7th century. Of the remaining objects some can be dated between the early 5th and the late 3rd century B.C. Others can be assigned to the 17th century or later. On the basis of the evidence to date, the most prolific period at Torone in terms of glass importation, and perhaps production, was that of the Late Roman Empire and the Early Byzantine years.

⁷⁸ Price 1978, 70.

CATALOGUE

GLASS

UNDECORATED FRAGMENTS

*Feet, stems and bases***17.1** (76.780)

Fig. 168

Isthmus TR2 tr1 (3).

Part of a roughly conical foot with edge unevenly folded inward and partly hollow.

P.H. 0.010; D. 0.040; Th. 0.002-0.005.

Yellowish colourless.

Iridescence; enamel-like weathering; a few seeds; some surface pitting.

17.2 (76.147)

Fig. 168

Isthmus TR2 tr1 (2).

Part of conical foot with uneven tubular base ring. P.H. 0.010; D. 0.040; Th. 0.002-0.004.

Colour completely obscured by weathering. Covered by brown enamel-like weathering, except for one small section where the weathering has flaked off leaving a pitted, frosted and iridescent surface.

For general discussion of the tubular base ring foot (**17.2-17.15**) see Harden 1936, 16 no. 7; Stern 1977, nos. 15 and 25; Dekówa 1985.**17.3** (78.3303)

Fig. 168

Isthmus TR2 tr2 (1a).

Part of conical foot; with tubular base ring.

P.H. 0.014; D. 0.045; Th. 0.002-0.005.

Colour brownish.

Iridescence; some surface pitting; pitting and enamel-like weathering in interior of hollow edge.

17.4 (78.336)

Fig. 168

Isthmus TR1 tr2 (4).

Part of conical foot with slightly uneven tubular base ring.

P.H. 0.011; D. 0.035; Th. 0.002-0.004.

Yellowish colourless.

Iridescence; surface pitting; enamel-like weathering in interior of hollow edge.

17.5 (78.3499)

Fig. 168

Isthmus TR1 tr2 Baulk NE.

Part of low conical foot with tubular base ring.

P.H. 0.009; D. 0.037; Th. 0.003-0.005.

Colour brownish.

Iridescence and some surface pitting; interior of hollow edge with enamel-like weathering.

17.6 (76.517)

Fig. 168; Pl. 94

Isthmus TR1 tr2 (3).

Part of low conical foot with tubular base ring; small piece of root of stem preserved.

P.H. 0.010; D. 0.035; Th. 0.002-0.004.

Colour completely obscured by weathering.

Covered with white enamel-like weathering, except for small sections where it has flaked off leaving a pitted surface and a frosty blue-white and iridescent surface.

Cf. Weinberg 1962, 133; Hayes 1975, 84.

17.7 (78.965)

Fig. 168

Lower City TR2 (1).

Part of low conical foot with tubular base ring.

P.H. 0.008; D. 0.045; Th. 0.002-0.005.

Colour pale green with yellowish tinge.

Slight iridescence: some surface pitting and dulling.

Cf. **17.67**. On lamps with stemmed feet, see von Saldern 1980, 59, n. 58; Hayes 1975, 84-85 and references in his n. 25; Stern 1985, 44-46.**17.8** (78.3412)

Fig. 168

Lower City TR2 (1).

Part of conical foot with tubular base ring, the upper half of which has been broken revealing the concave interior.

P.H. est. 0.013; D. est. 0.045; Th. 0.002-0.003.

Colour brownish.

Slight iridescence; an elongated seed and streaks; some surface pitting and dulling, especially on the undersurface.

For lamps with stemmed feet, see the references at **17.7**.

Found in the same context as **17.47**, suggesting that the two fragments may have been part of the same goblet.

17.9 (76.1004) Fig. 168
Isthmus TR1 tr2 (3).
Part of conical foot with tubular base ring.
P.H. 0.013; D. 0.050; Th. 0.004-0.006.
Colourless with greenish tinge.
Filmy iridescence; much surface pitting.

17.10 (78.3028) Fig. 168
Isthmus TR1 tr2 (4).
Part of conical foot with tubular base ring; part of hollow edge broken so that interior is revealed.
P.H. 0.010; D. 0.045; Th. 0.002-0.004.
Colour light green with yellowish tinge.
Faint iridescence; myriad minute seeds; some surface pitting and enamel-like weathering in hollow edge.

17.11 (78.3501) Fig. 168
Isthmus TR1 tr2 Baulk NE (3)-(4).
Part of conical foot with tubular base ring.
P.H. est. 0.010; D. est. 0.040; Th. 0.003-0.006.
Colourless with greenish tinge.
Some brown enamel-like weathering, which has partially flaked off leaving a frosty blue-white and iridescent surface; pitting and dulling.

17.12 (76.488) Fig. 168
Isthmus TR1 tr2 (2).
Part of foot and floor of vessel.
P.H. 0.020; D. 0.040; Th. 0.004-0.006.
Colour greenish with bluish tinge.
Brown enamel-like weathering; some tiny seeds and slight surface-pitting.
The conical foot has concave sides and a tubular base ring; the preserved floor is slightly convex in profile.

17.12-17.15 appear to belong to type IA.1.a. as described in Dekówa 1985.

17.13 (78.684) Fig. 168; Pl. 94
Isthmus TR1 tr3 (2).
Complete shallow conical foot with unevenly formed tubular base ring and lower portion of short globular hollow stem.
P.H. 0.020; D. 0.036-0.040; Th. stem 0.010; Th. edge of foot 0.005.
Colour light green.

Iridescence; many seeds including a large air bubble in the undersurface of the tubular base ring; pitted surface from weathering and from where pin-prick bubbles at the surface have burst; two stones, accidental impurities; shallow indentations on the outer face of the foot, probably from the tool used to unify the double wall of glass; very fine curvilinear striations appear to follow the direction in which the glass flowed during the forming process; the omphalos in the top of the stem is a result of the technique used to form the foot, that is, a pushed-in base.

Note: The rough way in which this foot has been formed may have been due to the carelessness and inexperience of the glassmaker or to the difficulty he may have encountered in using a glass that had lost enough of its viscosity to make it less easy to manipulate.

See reference in **17.12**.

17.14 (78.3453) Fig. 168
Lower City TR3 (1) N.
Part of conical foot with tubular base ring and intact stem.
P.H. 0.018; D. est. 0.041; Th. 0.003-0.004.
Yellowish colourless.

Slight iridescence; a few seeds; surface pitting and dulling.
The short stem is hollow and slightly globular with shallow vertical toolmarks on the exterior surface.
See reference in **17.12**.

17.15 (78.08) Fig. 168; Pl. 94
Isthmus TR2 tr1 (3a).
Disk foot with tubular base ring and short, hollow globular stem.
P.H. 0.020; D. 0.038; Th. stem 0.007; Th. edge of foot 0.005.

Colour pale green with yellowish tinge.
 Filmy iridescence; surface pitting; some seeds.
 The constrictions at top and bottom of stem made with a tool; small portion preserved of flaring lower wall of bowl, in the floor of which is omphalos, the result of the pushed-in base technique. For lamps with stemmed feet, see the references in 17.7. See also the reference in 17.12.
 Found in the same context as 17.40 suggesting that the two fragments might have been part of the same goblet.

17.16 (78.3714) Fig. 168; Pl. 94
 Lower City TR3 (1) N.

Part of base with flat floor and squat ring foot consisting solely of a tubular base ring.
 P.H. 0.005; D. 0.034; Th. floor 0.001; Th. foot 0.005.

Colour green.
 Slight iridescence; surface pitting and dulling.
 Cf. Hayes 1975, 40 f. (nos. 177, 183-184, 186, 194-195) and 89 (nos. 370, 468); von Saldern 1980, 66 f. (nos. 455, 458).

17.17 (76.340) Fig. 168
 Isthmus TR1 tr2 (2).

Part of shallow conical foot with downturned edge and part of root of stem preserved.
 P.H. 0.014; D. 0.052; Th. 0.002.
 Colour almost totally obscured by weathering but possibly greenish.

Slight iridescence on the small section of clear surface; brown enamel-like weathering covering most of the foot and where it has flaked off leaving a frosty green-white iridescence; pitting; blowing spirals (?).

17.18 (76.497) Not illustrated
 Isthmus TR1 tr1 (3).

Part of convex floor and out-turned interior of vessel with ring foot attached.
 P.H. est. 0.012; P.W. 0.032; Th. floor 0.004.
 Colour almost totally obscured by weathering, but possibly greenish colourless.
 Almost completely covered with brown enamel-like weathering, which has left a frosty blue-

white iridescence where it has flaked off; pitting.
 Cf. Harden 1936, nos. 221 f., pl. XIV; von Saldern 1980, 63 f. and nos 401-444.

17.19 (78.3409) Fig. 168
 Lower City TR2 (1).

Small fragment of concave floor of vessel with ring foot.
 P.H. 0.011; D. est. 0.072; Th. foot 0.008; Th. floor 0.003.

Colour light green with yellowish tinge.
 Foot cloudy with multiple horizontal lines of seeds; surface pitting and dulling.
 Ring foot formed by trailing a coil of glass around the undersurface.
 Note: the overlapping of the coil is clearly visible.
 The concave floor surface may denote a kick-up in the base of the vessel.

17.20 (78.3063) Fig. 168
 Lower City TR2 NW corner.

Part of base with up-turned lower wall and floor thickening at centre with convex interior profile and slightly concave undersurface; ring foot applied as a coil to the undersurface.
 P.H. 0.013; D. 0.040; Th. 0.001-0.003.

Yellowish colourless.
 Some filmy iridescence; a few seeds; surface dulling.
 Note: the overlapping tail end of the coil base is clearly visible.

17.21 (78.983) Fig. 168; Pl. 94
 Lekythos TR1 (2).

Half of base with almost vertical lower wall and convex floor; the squat ring foot probably applied as a coil.
 P.H. 0.012; D. 0.044; Th. wall 0.001; Th. floor 0.002.

Colour pale green with yellowish tinge.
 Iridescence; many seeds; severely pitted surface, dulling.

17.22 (76.1000) Fig. 168
 Isthmus TR1 tr2 (3).
 Part of high flaring ring foot with shallowly scalloped resting surface.

P.H. 0.0145; D. est. 0.060; Th. 0.002-0.005.

Colour light blue with greenish tinge.

Some frosty iridescence; seeds; surface pitting and dulling.

Note: the double layer of glass at the floor of the vessel fragment and at the sides of the ring foot itself suggest that a variation of the pad-base technique was used, according to which an opened bubble of glass is applied to the undersurface and pushed in and upwards, so that it adheres to the entire undersurface. The walls of the foot, now double, are then pressed together and at the same time splayed. This pressing and splaying doubtless produced the scalloped resting surface. The alternative is that the true pad-base technique was used to form the high ring foot. Since the fragment is small and badly chipped at a couple of strategic points, which technique was used remains uncertain.

Cf. Saliby 1981, 141 and n. 17, fig. 5.4; also von Saldern 1980, 63 f.

17.23 (76.341)

Fig. 168

Isthmus TR1 tr2 (2).

Part of base with high flaring ring foot.

P.H. 0.014; D. est. 0.040; Th. 0.004.

Colour light yellow with brownish tinge.

Some seeds; slight surface pitting.

The outer surface of base displays diagonal tool marks; outcurving lower wall and floor with interior convex profile.

Cf. Harden 1936, especially no. 108 (pl. XII) and nos. 494, 498, 508 (pls. VI and XVII); also von Saldern 1980, 63 f.

17.24 (78.3360)

Fig. 168; Pl. 94

Lower City TR1 (2).

Part of flat floor of vessel with true ring foot attached.

P.H. 0.016; D. 0.120; Th. foot 0.005.

Yellowish colourless.

A little brown enamel-like weathering, which has mostly flaked off leaving a frosty iridescence; seeds; pitting.

On the technique, see Harden 1936, 16, no. 5; also *cf.* von Saldern 1980, 63 f., 67 f. (nos. 463,

467, 470; pls. 13, 25).

17.25 (78.2951)

Not illustrated

Isthmus TR4 tr1 (2).

Part of conical base, probably a kick-up base.

P.H. est. 0.013; Th. 0.001-0.003.

Colour pale yellow with greenish tinge.

Some iridescence; a few seeds; pitting and dulling of surface.

17.26 (78.3522)

Fig. 168

Isthmus TR1 tr3 (2).

Almost half of a kick-up base.

P.H. 0.019; D. est. 0.052; Th. 0.001-0.004.

Colour pale yellow with greenish tinge.

Iridescence; some brown enamel-like weathering; pitting and dulling of the surface.

17.27 (78.2577)

Not illustrated

Isthmus TR 4 tr2 (2).

Half of base, mould blown with convex floor profile.

P.H. est. 0.0045; D. est. 0.042; Th. 0.003.

Colour light green with yellowish tinge.

Very slight iridescence; some minute seeds.

Note: the undersurface is faintly patterned from contact with the mould.

17.28 (78.2580)

Not illustrated

Isthmus TR1 tr3 (3).

Part of concave lower wall and rounded edge of base with small part of floor.

P.H. 0.018; D. est. 0.035; Th. 0.001-0.002.

Colour light yellow with brownish tinge.

Very slight iridescence; some minute seeds; some pitting.

Small part of floor that is preserved shows slightly convex profile (?). The body of this and other fragments was probably cylindrical [nos. **17.29**, **17.31** and possibly **17.27**, as well as a base fragment from a cylindrical bottle, Inv. No. 78.3757, from Isthmus TR1 tr3 (1) and probably also Inv. No. 76.2128 from Isthmus TR2 tr1 (3a)]. Neither of the latter two fragments are included in this catalogue (see n. 1)]. Nos. **17.28**, **17.29** and **17.33** are probably from a class of miniature tube-shaped bottles, for which *cf.* von Saldern 1980, 77, especially nos. 552-554.

17.29 (78.1911) Fig. 168; Pl. 94

Isthmus TR1 tr2 (5).

Small kick-up base of unguentarium (?) with pontil mark on undersurface.

P.H. 0.0075; D. 0.021; Th. 0.002.

Colour green.

Seeds.

17.30 (78.2085) Not illustrated

Isthmus TR1 tr2 (4).

Part of what is probably the base of a mould blown four-sided (?) vessel with kick-up.

P.H. est. 0.014; Th. 0.004-0.008.

Colour pale green with yellowish tinge.

Very slight iridescence; some surface pitting.

On the undersurface at one end of the fragment, a low ridge.

17.31 (78.3523) Not illustrated

Isthmus TR3 tr2 (2).

Thick base of a cylindrical vessel.

P.H. 0.009, D. est. 0.030.

Colour pale green.

Slight iridescence; semi-opaque due to masses of seeds; surface pitted and dulled.

The interior surface of the vessel is convex and the undersurface has a small kick-up; remains of pontil mark (?) on undersurface.

17.32 (78.3626) Not illustrated

Isthmus TR2 tr1 (4).

Part of concave base of vessel with pontil mark.

P.H. 0.008; Th. 0.005.

Colour green with yellowish tinge.

Very slight iridescence: a few seeds; surface scratched and dulled.

17.33 (78.2086) Not illustrated

Isthmus TR1 tr2 (4).

Part of rounded base of unguentarium.

P.H. est. 0.0045; Th. 0.003.

Colour pale blue.

A few scattered seeds.

Cf. Inv. No. 76.2149 from Isthmus TR1 tr 1 (3), not included in this catalogue (see n. 1).**17.34** (78.3464) Pl. 94

Isthmus TR1 tr2 (5).

Part of pointed base of unguentarium.

P.H. 0.014; Th. 0.004.

Colour bluish.

Very slight iridescence; surface dulling.

Two very small indentations at the end of the toe indicate the way in which the toe was drawn out from the body.

Cf. Isings 1957, 24-25, form 9; Vessberg and Westholm 1956, 203, fig. 48: 43-45, and p. 206, fig. 50:30; also La Baume n.d., 3/N14, pl. 56.**17.35** (76.114) Fig. 168; Pl. 95

Isthmus TR1 tr 1 (1).

Complete stem and part of sloping (perhaps conical ?) foot.

P.H. 0.021; Th. stem (max.) 0.010, Th. foot 0.002.

Colour green.

Slight iridescence; some brown enamel-like weathering; a little surface pitting.

The short and almost cylindrical stem has a rounded top which formed the omphalos in the base of the bowl.

17.36 (78.3627) Fig. 168; Pl. 95

Isthmus TR2 tr1 (4).

Part of conical foot and complete globular stem, which is partly hollow.

P.H. est. 0.014; Th. stem 0.009; Th. foot 0.002.

Yellowish colourless.

Some iridescence and white enamel-like weathering; a few seeds; dulling and pitting of surface.

The foot is most likely of the tubular base ring variety; and as such, may belong to the family of type IA1.b described in Dekówa 1985.

*Rims***17.37** (78.1788) Fig. 168

Isthmus TR1 tr3 (1).

Part of flaring upper wall of open vessel and inward folded hollow rim, which is vertical.

P.H. 0.012; D. 0.100; Th. wall 0.001; Th. rim 0.005.

Colour light yellow with greenish tinge.

Very slight iridescence; some brown enamel-like weathering, which has partially flaked away leav-

ing a frosty blue/pink iridescence; seeds; surface pitting.

17.38 (78.3405) Fig. 168
Isthmus TR1 tr3 (2).

Part of vertical rim, inward folded and hollow, preserving tiny piece of steeply flaring upper wall.

P.H. 0.009; D. 0.060; Th. 0.004.

Colour light yellow with brownish tinge.

Some filmy iridescence; seeds; surface dulling and scratching.

Cf. Harden 1936, class IX.A.I(a)9 (fabric 5), especially no. 557; von Saldern 1980, 81f, nos. 594-595; Pirling 1978, 145, fig. 4.

17.39 (78.1870) Fig. 168
Lower City TR1 N (3).

Part of vertical rim, inward folded and hollow, preserving small part of almost vertical upper wall.

P.H. 0.008; D. 0.055; Th. rim 0.004; Th. wall 0.002.

Colour light green with yellowish tinge.

Very slight iridescence, some brown enamel-like weathering on one of the breaks; some seeds; a little surface dulling.

See references in **17.38**.

17.40 (78.3426) Fig. 169
Isthmus TR2 tr1 (3A).

Part of inward folded, outward thickened rim.

P.H. 0.015; D. 0.070; Th. 0.001-0.003.

Colour light green with yellowish tinge.

Very slight iridescence; some seeds; some pitting and dulling on rim.

The inner face of the rim is flush with the sloping upper wall but with a narrow groove marking the join; the outer face of the rim is convex in profile.

See references at **17.15** and **17.38**. Cf. von Saldern 1980, 82, no. 594, which appears, at least in profile drawing, to be similar to **17.40**, although the fabric is different (*ibid.*, 36).

17.41 (78.2568) Fig. 169
Lower City TR1 N (1).

Part of outward folded and thickened rim with inward sloping upper wall.

P.H. 0.007; D. 0.015; Th. 0.001-0.003.

Colour pale yellow with greenish tinge. Very slight filmy iridescence; some seeds; a little surface pitting.

17.42 (78.3230) Fig. 169; Pl. 94
Lower City TR2 (1).

Part of outward folded and thickened rim with inward sloping wall; the outer face of the rim convex in profile.

P.H. 0.024; D. 0.120; Th. 0.001-0.005.

Colour green.

Very slight iridescence; patchy brown enamel-like weathering; seeds and a couple of small stones; pitting and dulling.

17.43 (78.142) Fig. 169
Isthmus TR3 tr1 (2).

Part of thickened rim with rounded lip and gently inward sloping upper wall.

P.H. 0.020; D. 0.090; Th. 0.001-0.003.

Colour pale yellow with greenish tinge.

Filmy iridescence; seeds, some of which have burst at the surface; pitting and dulling.

17.44 (78.3408) Fig. 169
Lower City TR2 (1).

Part of vertical inward thickened rim with rounded and gently inward sloping upper wall.

P.H. 0.017; D. 0.090; Th. 0.001-0.002.

Colour greenish.

Thin brown enamel-like weathering partially flaked off leaving frosty rainbow iridescence; surface pitted and very dull.

17.45 (78.1822) Not illustrated
Lower City TR3 (3) N upper.

Part of outward thickened rim with rounded lip and inward sloping upper wall.

P.H. 0.018; D. 0.080; Th. 0.001-0.002.

Colour greenish.

Filmy as well as frosty rainbow iridescence: badly pitted surface; some dulling.

17.46 (78.2437) Not illustrated
Isthmus TR3 tr2 (2).

Part of thickened rim with rounded lip and gently

inward sloping upper wall.

P.H. 0.008; D. 0.070; Th. 0.0005-0.002.

Colourless with greenish tinge.

Some filmy iridescence; a few seeds; badly pitted surface; some dulling.

17.47 (78.3411) Not illustrated

Lower City TR2 (1).

Part of thickened rim with rounded lip and gently inward sloping upper wall.

P.H. 0.013; D. 0.080; Th. 0.002-0.005.

Brownish colourless.

Some iridescence; a few seeds; some pitting and dulling.

For comments, see **17.8**.

17.48 (78.2824) Not illustrated

Isthmus TR2 tr1 (3).

Part of thickened rim with rounded lip and gently inward sloping upper wall.

P.H. 0.011; D. 0.085; Th. 0.001-0.003.

Yellowish colourless

Very slight iridescence; some pitting.

17.49 (76.317) Not illustrated

Isthmus TR2 tr1 (1).

Part of thickened rim with rounded lip and inward sloping upper wall; two joining fragments.

P.H. 0.010; D. 0.076; Th. 0.0005-0.002.

Colour difficult to determine due to weathering but possibly greenish colourless.

Much brown enamel-like weathering partially flaked away leaving frosty rainbow iridescence; much pitting.

17.50 (78.3713) Fig. 169

Lower City TR3 E Baulk (2).

Part of gently outward sloping wall with down-turned rim and rounded lip.

P.H. 0.014; D. 0.300; Th. 0.001-0.003.

Colour greenish.

Very slight filmy iridescence; seeds, some of them elongated; some dulling and pitting.

A deep groove on the outer face of the rim; the shape appears to have been a shallow dish.

17.51 (78.1691) Fig. 169; Pl. 94

Lekythos TR2 (2).

Part of flaring upper wall and thickened rim with rounded lip, the rim consisting of a trail of blue glass applied along the edge of the upper wall.

P.H. 0.015; D. 0.150; Th. 0.001-0.003.

Colour pale green with yellowish tinge (wall) and blue (rim).

Very slight iridescence: small patches of brown, enamel-like weathering partially flaked off leaving frosty pale blue iridescence which also covers most of the blue rim; myriad of seeds; pitting; slight dulling.

See Stern 1985, 54, 58 f. and figs. 4 (right) and 7; Tait 1979, 49; for an account of the considerable use of Venetian glass throughout the Balkans, see Han 1985.

17.52 (78.1912) Fig. 169

Isthmus TR1 tr2 (5).

Part of almost vertical upper wall.

P.H. est. 0.017; D. est. 0.100; Th. 0.001-0.005.

Colour light green with yellowish tinge.

Faint sheen of iridescence; seeds, many of them horizontally elongated; pitting and some dulling.

The lowest part of the preserved upper wall curves slightly outward; the inward thickened rim is flattened on top and has rounded edges; a very shallow horizontal groove runs just below the rim on the outer surface.

See Pirling 1978, 145, fig. 4 for a similar rim found at Apamea in Syria; it lacks, however, the groove found on this example.

17.53 (76.1002) Not illustrated

Isthmus TR1 tr2 (3).

Part of almost vertical upper wall and splayed, ground rim.

P.H. 0.014; D. 0.065; Th. 0.001.

Colour bluish.

Slightly filmy iridescence; some pitting on interior surface; dulling.

Note: **17.53-17.62** comprise a group of splayed rims with unworked or roughly ground lips known from Cyprus (on beakers or jars with indented sides of the 3rd-4th centuries), from Karanis (also

on indented beakers and on lamps), and from numerous sites throughout the Empire from *ca.* 200 onwards on open vessels essentially similar but with differences in bases and decorative details.

See nn. 29 and 31 for various parallels.

17.54 (78.1804) Fig. 169

Isthmus TR1 tr3 (2).

Part of almost vertical upper wall with gently splayed, ground rim.

P.H. 0.021; D. 0.085; Th. 0.003.

Colour pale green.

Some filmy iridescence; small patches of thin brown enamel-like weathering partially flaked away leaving frosty pale blue iridescence; myriad of seeds with one large elongated seed; exterior surface affected mostly by dulling and slight pitting.

17.55 (78.2183) Fig. 169

Isthmus TR1 tr2 (4).

Part of almost vertical upper wall and splayed, ground rim.

P.H. 0.023; D. 0.070; Th. 0.003.

Colour light yellow with greenish tinge.

Faint iridescent sheen; some tiny seeds and two large ones just below rim; exterior surface dull.

17.56 (78.2541) Fig. 169

Isthmus TR1 tr2 (4a).

Part of downward tapering upper wall with gently splayed, ground rim.

P.H. 0.032; D. 0.090; Th. 0.004.

Colour light yellow with greenish tinge.

Iridescence; a few seeds; pitted and scratched surface; rim badly chipped.

17.57 (78.3500) Fig. 169

Isthmus TR1 tr2 Baulk NE (3)-(4).

Part of downward tapering upper wall with splayed, ground rim.

P.H. 0.040; D. 0.080; Th. 0.002.

Colour light yellow with greenish tinge.

Filmy iridescence; a few seeds; surface dulling; rim chipped.

17.58 (76.2112) Fig. 169

Isthmus TR1 tr2 (2).

Part of almost vertical upper wall with gently splayed, unworked rim.

P.H. 0.032; D. 0.080; Th. 0.001-0.002.

Colour greenish.

Filmy iridescence; seeds; surface pitted and dull.

17.59 (78.2088A) Not illustrated

Isthmus TR1 tr2 (4).

Part of almost vertical upper wall with gently splayed and ground rim; faint abraded horizontal lines on outer face of rim.

P.H. 0.022; D. 0.080; Th. 0.002.

Colour light yellow with brownish tinge.

Some filmy iridescence; some seeds; slight surface dulling and scratching.

17.60 (78.582) Fig. 169; Pl. 94

Isthmus TR1 tr3 (1).

Part of slightly convex, downward tapering upper wall with sharply splayed, ground rim curving upwards to a vertical lip.

P.H. 0.050; D. 0.098; Th. 0.001.

Colour light yellow with greenish tinge.

Slight iridescent sheen; seeds; large elongated air bubble just below rim; pitted, dull surface especially on exterior.

17.61 (78.2184) Fig. 169

Isthmus TR1 tr2 (4).

Part of downward tapering upper wall and sharply splayed, ground rim which curves upwards to a vertical lip.

P.H. 0.025; D. 0.070; Th. 0.001-0.002.

Colour light yellow with brownish tinge.

Faint iridescent sheen: a few seeds including two larger elongated ones; a little pitting and dulling.

See **17.60**.

17.62 (78.1803) Fig. 169; Pl. 94

Isthmus TR1 tr3 (2).

Part of almost vertical upper wall with sharply splayed and ground rim curving upwards into a vertical lip.

P.H. 0.025; D. 0.060; Th. 0.002.

Colour light yellow with brownish tinge.

Thin brown weathering with iridescent sheen beneath; a few seeds; surface dulling.

See **17.60**.

17.63 (78.189)

Fig. 169; Pl. 94

Isthmus TR3 tr2 (2).

Part of vertical rim with rounded lip and gently sloping upper wall.

P.H. 0.012; D. 0.122; Th. collar 0.005; Th. wall 0.001-0.002.

Light yellow with greenish tinge.

Patchy, filmy iridescence and dulling on upper surface; a few seeds and stones.

An applied collar around the rim, thick and somewhat flattened; it has been pulled out with pincers at one point.

This fragment is set apart from the class with pinched, scalloped rims (for an example of which see Harden 1936, 111, no. 257, n. 2 and pl. XIV) by its flange-like collar which appears to have been applied to the vessel rather than shaped from it. The indentations from the pincers are clearly visible.

17.64 (78.275)

Fig. 170; Pl. 95

Isthmus TR1 tr2 (4).

Complete neck and rim.

P.H. 0.070; D. est. 0.021-0.024; Th. wall 0.002.

Colour green.

One small patch with an iridescent sheen; myriad of seeds, many of them vertically elongated; surface dull in some places.

The long neck tapers to a splayed and unevenly formed rim, part of which has been folded inwards and part of which has been left plain giving the rim a lopsided appearance; at the base of the neck, the shoulder flares outwards.

17.65 (78.214)

Fig. 170

Isthmus TR1 tr2 (4).

Part of a cylindrical (?) neck; the rim splayed with a rounded lip; trailed around the rim, a collar of green glass; the beginning of the trailed collar visible in the small tail of green glass that lies beneath the collar and hangs down the neck for a short way.

P.H. 0.030; D. rim 0.051; Th. 0.003.

Colour light yellow with brownish tinge on neck and green tinge on collar.

Faint iridescent sheen evident only on the breaks; myriad of seeds, a number of which have burst on the inner surface; some are elongated and most, if not all, lie in an arc, their orientation is probably evidence of the slight twisting of the glass to form the neck; some pitting; the collar has many seeds and its surface is faintly pitted and dull.

For an example of a single-handled flagon with a similar rim finish and shape, see Hayes 1975, nos. 396, 399; for an example of a two-handled jar, see *ibid.*, no. 387 (4th-5th centuries). See also Stern 1977, nos. 36-38 (4th-5th centuries). The rim diameter of **17.65** approximates these examples.

Handles

17.66 (78.413)

Fig. 170; Pl. 95

Isthmus TR1 tr2 (4).

Almost complete vertical handle of uneven thickness attached at lower end to slightly convex wall. P.H. 0.028; Th. 0.003-0.015.

Colour green.

A little frosty pale blue-white iridescence; seeds; a few stones; two large air bubbles where handle joined body; tool marks on inside of handle.

Cf. **17.69**. Handles similar to **17.66** and **17.69** (plain, vertical handle) and **17.67-17.68** (vertical looped handles) are to be found on stemmed goblets/lamps of the 4th-6th centuries, re-appearing during the 9th to mid-12th centuries. For comparanda, see n. 48.

17.67 (78.3407)

Fig. 170; Pl. 95

Lower City TR2 (1).

Complete vertical loop handle attached to slightly convex wall; a thin streak of dark coloured glass (?) runs the length of one side within the handle. P.H. 0.030; W. handle (max.) 0.015; Th. wall 0.002.

Colour pale yellow with greenish tinge.

Iridescence and some encrustation; seeds; surface pitted, striated and dull.

Note: The technique involved attaching a blob of

glass to the wall of the vessel, flattening it, then looping it upwards and re-attaching it to the vessel directly above the first attachment. The glass was then pulled back and cut off. The resultant thin tail of glass hung down, and adhered to the handle.

Cf. **17.68**. Found in the same context as stemmed foot **17.7**, raising the possibility that the two fragments may have come from the same vessel; see catalogue entry for **17.7**.

17.68 (78.064) Fig. 170
Isthmus TR3 tr1 (2).

Complete vertical loop handle of uneven thickness attached to slightly convex wall. P.H. 0.023; W. max. 0.012; Th. wall 0.001.

Colour pale yellow with greenish tinge.

Very slight iridescence; seeds; striated and dull surface; tool marks on inside of handle.

Note: technique is similar to that of **17.67** above.

17.69 (78.1961) Fig. 170
Isthmus TR1 tr3 (1).

Portion of lower part of vertical handle attached to slightly convex wall.

P.H. 0.025; Th. handle 0.003-0.013; Th. wall 0.002.

Colour light green with yellowish tinge.

Very slight iridescence; some brown enamel-like weathering, which has flaked off in parts leaving frosty pale blue/white iridescence; seeds; striated surface.

Cf. **17.66** above.

17.70 (75.179) Not illustrated
Isthmus TR1 tr1 (1).

Lower part of strap handle attached to convex shoulder, most probably from a flask of cylindrical shape.

P.H. est. 0.020; Th. handle 0.013 (base), 0.004 (top); W. handle 0.033 (top).

Colour light blue with greenish tinge.

Some iridescence over the brown enamel-like weathering, which covers most of the surface and which leaves frosty light blue iridescence where it has flaked off; surface pitted, striated and dull.

See Stern 1977, 86-88, no. 24 (pl. 8:24) though with differences in the colour and in the fact that Stern's vessel has a collar.

17.71 (78.2881) Fig. 170
Lower City TR1 S (3).

Lower part of a narrow strap handle attached to convex shoulder, most probably from a flask.

P.H. est. 0.030; Th. handle 0.003-0.008; Th. wall 0.002.

Colour green.

Slight iridescence; a little patchy brown enamel-like weathering which has partially flaked off leaving frosty light blue iridescence; seeds, many of them elongated; some stones.

See note for **17.70**.

17.72 (78.966) Fig. 170
Lower City TR2 (1).

Lower part of vertical fluted handle attached to shoulders; in section, hexagonally scalloped; two joining fragments.

P.H. est. 0.074; W. handle 0.037 (base), 0.016 (top).

Colour pale green.

Very slight iridescence; semi-opaque due to myriad of seeds, many of them elongated; some stones; surface pitted, striated and dull.

17.73 (78.190) Fig. 170
Isthmus TR3 tr2 (2).

Upper part of downward curving ribbed handle attached to neck, where the rim begins to flare out (a small part has been preserved); collar applied between flaring rim (small part also preserved) and handle.

P.H. 0.015; W. est. 0.023; Th. 0.005.

Colour green.

Some patchy brown staining; seeds; surface dulling.

Note: the following sequence appears to have been used to finish the vessel: the handle, having been attached to the shoulder/body and pulled up, was then attached to the upper neck (the tail end of the handle which is characteristically folded back on itself after being detached from the punty

is visible); the collar was then applied around the upper neck, bridging and sitting snugly on the handle(s); the rim was then splayed outwards resting on the collar in the process.

Some parallels from Karanis, Maastricht, and Syria/Palestine are listed in n. 52.

DECORATED FRAGMENTS

17.74 (78.2239) Fig. 170
Isthmus TR1 tr3 (1).

Fragment from the concave junction of neck and shoulder and part of the downcurving convex shoulder which bears a pattern of mould blown indentations.

P.H. 0.018; Th. 0.002.

Colour light yellow with brownish tinge.

Filmy iridescence; some seeds and stones; surface dimpled from the mould.

The decoration suggests a ribbed pattern. Although the fragment is too small to be certain of the exact technique used, it is possible that it may exemplify the Syrian specialty of re-blowing and twisting, for which see Stern 1977, 107-109 (especially n.14 on the technique) and pl. 56.

17.75 (78.1805) Fig. 170
Isthmus TR1 tr3 (2).

Flat wall fragment with moulded decoration in the form of curved ridges on the outer surface.

0.019 x 0.021; Th. 0.003-0.004.

Colour pale yellow with greenish tinge.

Slight iridescence; some seeds and pitting of the surface; a little brown enamel-like weathering on the break.

Note: the preserved decoration suggests a pattern of concentric circles.

17.76 (78.2581) Not illustrated
Isthmus TR1 tr3 (3).

Slightly convex wall fragment with four very finely abraded lines on outer surface.

P.H. 0.016; Th. 0.002.

Colour light yellow with greenish tinge.

Very slight iridescence; minute seeds.

See Hayes 1975, nos. 132-137 (beakers) and nos. 145-147 (closed vessels) which are described as being decorated with lathe-marks, which are to be distinguished from wheel incisions and slight wheel incisions.

17.77 (76.2113) Fig. 170; Pl. 95
Isthmus TR1 tr2 (2).

Part of cylindrical neck with threads of light blue glass trailed horizontally across it; where the threads have come away from the fragment shallow grooves are visible.

P.H. 0.022; D. est. 0.025; Th. 0.005 (with threads), 0.004 (without threads).

Colour pale green with yellowish tinged neck and light blue threads.

Filmy and frosty pale blue/white iridescence; dulling and some pitting of the surface; light blue threads pitted and dull.

Examples of cylindrical neck with trailed decoration include Stern 1977, 139 f., no. 43 (6th-7th centuries) and Hayes 1975, nos. 402-403 (late 5th-6th centuries); both these pieces provide examples of various forms of frilled collar between the trailed section above and the constricted base of the neck below; see also von Saldern 1980, 82 f. and nn. 90-92, especially no. 612 (pls. 15 and 27: early 5th-early 7th centuries).

GLASS BAR

17.78 (76.2114) Fig. 170
Isthmus TR1 tr2 (2).

Part of a glass bar roughly square in section with three rounded edges and what appears to have been a shallow groove along the fourth edge.

L. 0.035, Th. 0.009-0.011.

Colour light yellow with greenish tinge.

Brown enamel-like weathering, which has partially flaked away leaving a frosty pale blue/white/gold iridescent surface; some seeds and stones; much surface pitting.

See *Corinth* XII 1952, 143 f. no. 1060 (f), pl. 73.

GLASS CULLET

- 17.79** (78.2016) Not illustrated
Isthmus TR1 tr3 (1).
Piece of glass slag adhered to chunk of iron slag;
glass shows some signs of having been chipped
away.
0.039 x 0.030.
Colour opaque blue.
Glass with pitted and chipped surface; iron slag
partly rusted; small pebbles included in the slag.

FLAT FRAGMENTS

- 17.80** (78.2083) Not illustrated
Isthmus TR2 tr2 (2).
Flat fragment broken on all sides.
0.030 x 0.037; Th. 0.002.
Colour greenish.
Small patch of brown enamel-like weathering,
some milky weathering; iridescence; some seeds
and a couple of stones; heavy pitting and etching
especially of one surface.
For the group **17.80-17.86** parallels may be found
among the fragments from deposit MF8359 at
Corinth (*Corinth* XII, 143-145, pl. 73).
- 17.81** (76.116) Not illustrated
Isthmus TR2 tr1 (1).
Flat fragment broken on all sides and curving
slightly along one side; probably from a four-
sided flask.
0.047 x 0.084; Th. 0.003.
Colour almost totally obscured by weathering,
but possibly greenish colourless.
Surface badly affected by brown enamel-like
weathering which has left frosty rainbow irides-
cence where it has flaked off; seeds; much pit-
ting.
- 17.82** (78.1053) Not illustrated
Lekythos TR 2 (2).
Flat fragment broken on all sides.

- 0.024 x 0.025; Th. 0.001.
Colourless with yellowish tinge.
Frosty pale green/gold iridescence as well as
filmy iridescence; severely pitted and etched sur-
face.
- 17.83** (78.1849) Not illustrated
Lekythos TR2 (4).
Flat fragment broken on all sides.
0.028 x 0.032; Th. 0.002.
Colourless with greenish tinge.
Filmy iridescence; seeds, most of them elongated
and in parallel rows; slight pitting on one side.
See **17.80** and Boon 1966, fig. 1, where the con-
figurations of the bubbles are similar to those in
17.83.
- 17.84** (78.1658) Not illustrated
Lekythos TR2 (5).
Flat fragment broken on all sides.
0.019 x 0.026; Th. 0.003.
Yellowish colourless.
One side is mostly covered with a thick brown
enamel-like weathering which has left frosty
gold/rainbow iridescence where it has flaked off;
deeply pitted; the other side has only a small part
covered with brown enamel-like weathering,
which has left frosty gold iridescence where it has
flaked away; filmy iridescence and slight pitting.
- 17.85** (78.1394) Not illustrated
Lekythos TR2 (6).
Flat fragment broken on all sides.
0.022 x 0.031; Th. 0.002.
Colour difficult to determine due to weathering
but possibly yellowish.
Frosty pale green/gold iridescence; pitting.
- 17.86** (78.1434) Not illustrated
Lekythos TR2 (6).
Flat fragment broken on all sides.
0.023 x 0.044; Th. 0.002.
Yellowish colourless.
Filmy iridescence; frosty gold/green irides-
cence.

PERSONAL OBJECTS OF GLASS AND BONE

17.87 (75.355) Fig. 170; Pl. 95

Gate Area TR2 tr2 (6b).

Circular glass bead with large round central hole, vertical notches on outer face, some clearer than others.

H. 0.005; D. max. 0.009; D. hole 0.004.

Colour blue.

Some seeds/stones (?); surface pitting and dulling.

The form is known by the descriptive term of "melon bead". See Weinberg 1969, 143-151, particularly pl. 44 and pl. 76a-b.

17.88 (78.082) Not illustrated

Isthmus TR3 tr2 (2).

Half of circular glass bead with large round central hole.

H. 0.009; D. 0.011; D. est. hole 0.005.

Colour blue.

Surface heavily pitted.

17.89 (76.476) Fig. 170; Pl. 95

Isthmus TR1 tr2 (2) FC II.

Spherical bead with narrow central hole.

H. 0.009; D. 0.010; D. hole 0.002.

Opaque white and red glass. Surface slightly chipped

Possibly from Venice. Found in the same context as two German jettons of the 17th century and two bronze grossetti of Ragusa, dated 1649 and 1650.

17.90 (75.373) Fig. 170; Pl. 95

Gate Area TR1 tr2 (wall fill).

Spherical bead slightly flattened at top and bottom, with narrow central hole.

H. 0.010; D. 0.011; D. hole 0.002.

Colour green.

White weathering; some pitting.

Over part of the surface, impressed marks in the form of tiny semi-circles (perhaps from the manufacturing process ?).

17.91 (78.010) Fig. 170; Pl. 95

Isthmus TR1 tr1 (4a).

Bone bead.

H. 0.011; D. 0.015; D. hole 0.005.

Texture fine.

Spherical bead slightly flattened at top and bottom with central pierced hole; polished surface.

17.92 (75.768) Fig. 170; Pl. 95

Gate Area TR2 tr2 Pot Burial Tomb 2.

Bone bead/button.

H. 0.016; D. 0.007-0.009; D. hole 0.003.

Texture fine; small part of surface flaking off; rust deposit covering small section of surface.

Cylindrically shaped bead with slightly incurved ends and a ridge around the centre on either side of which are faintly incised lines circling the bead; pierced lengthwise.

17.93 (76.325) Fig. 170; Pl. 95

Isthmus TR2 tr1 (2).

Bone bead/button.

Th. 0.006; D. 0.017-0.018; D. hole 0.006.

Texture semi-coarse.

Thickened circular bead or button flattened at top and bottom, with rounded edges and hole through centre.

17.94 (75.317) Fig. 170; Pl. 95

Structure 1 TR1 tr1 (8).

Bone button.

L. 0.009; D. 0.007; D. hole 0.001-0.001.

Texture semi-coarse; slight chipping.

Cylindrical button pierced lengthwise with another hole pierced in the side to meet the central hole at right angles.

17.95 (78.1660) Fig. 170; Pl. 95

Lekythos TR2 (5).

Bone button.

D. 0.016; D. hole 0.005; Th. 0.002-0.004.

Texture fine.

Disk-shaped button with the outer edge cut away leaving a central dome; flat undersurface with faintly incised concentric circles surrounding the central hole.

17.96 (78.1673) Fig. 170; Pl. 95

Lekythos TR2 (2).

Bone button, two joining fragments, some chipping.

D. 0.020; D. hole 0.005; Th. max. 0.005.

Texture fine.

Disk-shaped button; the flat undersurface decorated with a groove around the central hole; the sloping upper surface has three incised concentric circles and a slightly raised central dome; the edge is encircled by a deep groove; polished surfaces.

17.97 (76.322)

Fig. 170; Pl. 95

Isthmus TR1 tr1 (2).

Bone button, slightly chipped.

D. 0.016; D. hole 0.001; Th. 0.002.

Texture semi-coarse.

Disk-shaped button, slightly warped but otherwise flat; three incised concentric circles decorate the edge of the upper surface and an incised line encircles the edge; centrally pierced.

MISCELLANEOUS BONE OBJECTS

17.98 (76.800)

Fig. 170; Pl. 95

Isthmus TR2 tr1 (3)

Bone gaming piece (?)

L. 0.093; W. 0.013; Th. 0.002-0.004.

Texture fine to coarse, the latter especially where the trabeculae (that is, the natural surface pitting of the bone) are deepest; copper stain on both sides.

Thin rectangular strip, polished on one side; the other side only partly polished due to the deep trabeculae; on the latter side, at each end three incised lines. See *Corinth* XII, 218, no. 1761 (pl. 100); see *Délos* XVIII, pl. XCIV, no. 827:1-6 for similar pieces from Delos, including some inscribed examples which are not represented at Torone.

17.99 (78.644)

Fig. 170; Pl. 95

Isthmus TR3 tr2 (3) B18.

Bone object, broken at one end.

P.L. 0.040; W. 0.014; Th. 0.003.

Texture fine; a small deposit of rust at the unbroken end.

Flat, thin, rectangular piece of bone pierced at one end; polished on one side.

17.100 (76.493)

Fig. 170; Pl. 95

Isthmus TR2 tr1 (3a).

Astragalus.

L. 0.029; W. 0.018; Th. 0.008.

Weight: 8.58 gms.

Texture semi-coarse; three of the four non-articular recessed surfaces filled with lead that is stabilised by a coating of basic lead carbonate; surface covered for the most part with trabeculae.

A knucklebone weighted with lead, the upper and lower surfaces filed down to make a counter of

even thickness.

See *Olynthus* X, 503, and nn. 74-75 and *Délos* XVIII, pl. XCIII, no. 820.

17.101 (78.1048)

Fig. 170

Lekythos TR2 (4).

Conical bone object.

H. 0.054; D. base 0.020-0.022; D. est. top 0.013.

Texture fine to semi-coarse.

Broken and chipped, central core of trabeculae visible.

Truncated conical object of horn, multi-faceted in section, with the faceted sides polished; traces of a hole crosswise through the object near its midpoint; slashes at top and bottom.

17.102 (76.2033)

Not illustrated

Isthmus TR1 tr1 (3).

Bone object, broken at one end.

L. 0.041; W. 0.017; Th. 0.002-0.007.

Texture fine.

Roughly rectangular part of an object which comes to a blunt point at one end; one face flat and polished, with a broad V-shaped groove cut into it; the other face concave.

Cf. **17.103** below.

17.103 (78.3392)

Not illustrated

Isthmus TR2 tr1 (3).

Bone object, broken at one end.

L. 0.041; W. 0.021; Th. 0.005-0.007.

Texture fine.

Roughly triangular part of an object that comes to a blunt point at the unbroken end; one face slightly convex, the other concave.

Cf. **17.102** above.

18. THE METAL OBJECTS

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GENERAL INTRODUCTION¹

Sources of metal

The two principal materials used in the metal objects found at Torone in the course of the first three seasons are bronze and iron. There are smaller numbers of silver and lead objects, and a very small number of items incorporating gold.

Although the sources of these metals must remain for the time being uncertain, since none of the finds has been subjected to elemental or any other type of analysis,² there is good reason to suspect that much of the metal probably derives from a local or north Aegean source. Indeed, a number of recent studies have effectively explored the evidence for mining in the region,³ and it has even been suggested that the name *Chalkidike* ultimately derives from the Bronze Age word for metal (from the root *chalk-*) and alludes to the rich metal sources of the region.⁴ The whole question of the exploitation of metal in Chalkidike has not received the attention it deserves, despite the fact that the location of mines in Macedonia was discussed by Casson as early as the 1920s, followed by Davies' more thorough accounts of the 1930s.⁵ In 1979, Gale listed various districts in Macedonia and Thrace together as one of the four main centres of lead and silver attested by ancient authors (the others being Laurion in Attica, Siphnos and Thasos).⁶ Within the *chora* of Torone as defined by

¹ As will be seen from what follows, many of the metal objects found at Torone are problematic. Some cannot be identified with any degree of certainty, usually due to the fragmentary nature of the finds and the advanced state of corrosion in the case of those made of iron. Many cannot be securely dated from their context and have to be dated from published parallels: the result is often inconclusive.

² Such examination need not necessarily yield particularly useful results, given the ancient practice of reusing metal, for which there is clear evidence at Torone (see **18.118-18.119**).

³ The evidence is summarized in J. K. Papadopoulos, "Euboians in Macedonia? A Closer Look," *OJA* 15, 1996, especially pp. 172-174, with fig. 9, and much of the following introduction is based on this evidence.

⁴ *Ibid.*, pp. 171-174; with further discussion and debate in J. K. Papadopoulos, "Archaeology, Myth-History and the Tyranny of the Text: Chalkidike, Torone and Thucydides," *OJA* 18 (1999), pp. 381-382.

⁵ S. Casson, *Macedonia, Thrace and Illyria* (Oxford 1926), pp. 57-97; O. Davies, "Ancient Mines in Southern Macedonia," *Journal of the Royal Anthropological Institute* 62 (1932), pp. 985-987; *id.*, *Roman Mining in Europe* (Oxford 1935); for further references see Papadopoulos (*supra* n. 3).

⁶ N. H. Gale, "Some Aspects of Lead and Silver Mining in the Aegean," *Miscellanea Graeca* 2 (1979), pp. 9-60.

Zahrnt, there are two disused mines within five kilometres of the modern village of Sykia.⁷ According to the 1978 IGME map, these are the only outcrops in the Sithonia peninsula, one yielding galena/copper, the other galena/iron pyrites (the two most common metals found at the site of Torone). Direct physical evidence for metalworking in Chalkidike as early as the Early Iron Age is now furnished by the recent excavations at Koukos near Sykia, a one-and-a-half hour walk from Torone, and within the chora of the Classical city.⁸ Other mines are known in mainland eastern Chalkidike,⁹ two immediately north of the modern village of Metangitsion, and several further north, near the modern Stratonion and Olympias (the latter now equated with ancient Stageira).¹⁰ These mines are rich in both copper and lead/silver ores.¹¹ There is to date no conclusive independent evidence for the exploitation of the eastern Chalkidike ores in antiquity, though extensive Byzantine and Post-Byzantine exploitation is proven.¹² Despite this, the lead ores in particular of the Chalkidike, high in silver content, have a lead isotope composition distinct from similar ores from other parts of the Aegean.¹³ It has even been suggested that six of the fourteen silver objects from the Shaft Graves at Mycenae analysed by the Oxford Laboratory

⁷ See G. A. Wagner, E. Pernicka, M. Vavelides, I. Baranyi and Y. Bassiakos, "Archaeometallurgische Untersuchungen auf Chalkidike," *Der Anschnitt* 5-6 (1986), pp. 166-186; E. Pernicka, "Erzlagerstätten in der Ägäis und ihre Ausbeutung im Altertum: Geochemische Untersuchungen zur Herkunftsbestimmung archäologischer Metallobjekte," *JRGZM* 34 (1987), pp. 607-714, esp. p. 655, fig. 23; G. A. Wagner and G. Weisgerber, *Silber, Blei und Gold auf Siphnos, prähistorische und antike Metallproduktion* (*Der Anschnitt* Beiheft 3, Bochum 1985). For the chora of Torone, see Zahrnt 1971, pp. 132-133, 136-137, Map 5, pp. 247-251. The location of these mines is also indicated in Papadopoulos (*supra* n. 3, p. 172, fig. 9).

⁸ J. Carington Smith and I. Vokotopoulou, "Excavation at Koukos, Sykia," *AEMTh* 6 (1992), pp. 495-502, esp. 502, pl. 6 (mould); note also the nodules of melted bronze, J. Carington Smith and I. Vokotopoulou, "Η ανασκαφή στον Κούκο Συκιάς, 1990," *AEMTh* 4 (1990), p. 447.

⁹ See Pernicka (*supra* n. 7), p. 655, fig. 23; Papadopoulos (*supra* n. 3), p. 172, fig. 9.

¹⁰ For the mines, see Wagner *et al.* (*supra* n. 7), Pernicka (*supra* n. 7), pp. 654-657. For the identification of Olympias/Olympiada as ancient Stageira, see K. Sismanides, "Ερευνες στην αρχαία Κασσανδρεία και στα αρχαία Στάγειρα," *AEMTh* 4 (1990), pp. 375-378, and following annual reports in *AEMTh*.

¹¹ Z. A. Stos-Gale and C. F. Macdonald, "Sources of Metals and Trade in the Bronze Age Aegean," in *Bronze Age Trade in the Mediterranean: Papers Presented at the Conference Held at Rewley House, Oxford, in December 1989* (Jonsred 1991), pp. 249-288; Pernicka (*supra* n. 7).

¹² See Stos-Gale and Macdonald (*supra* n. 11), pp. 267-268, 272, 280; Wagner *et al.* (*supra* n. 7); for Byzantine and later exploitation, see K.-P. Matschke, "Zum Anteil der Byzantiner an der Bergbauentwicklung und an den Bergbauerträgen Südosteuropas im 14. und 15. Jahrhundert," *Byzantinische Zeitschrift* 84-85 (1991/1992), pp. 49-71.

¹³ See Stos-Gale and Macdonald (*supra* n. 11), p. 272; E. Pernicka, G. A. Wagner, K. Assimenos, C. Dumas, F. Begemann and W. Todt, "An Analytical Study of Prehistoric Lead and Silver Objects from the Aegean," *Beiträge zur Herkunft prähistorischen Bleis und Silbers aus der Ägäis* (Heidelberg 1983).

reveal lead isotope data consistent with Chalkidike.¹⁴ If this is correct, the historical ramifications for Chalkidike and early mining are significant.¹⁵

Metal manufacturing at Torone

There is evidence for the melting of metal, especially lead, on the Isthmus. This presumably included re-melting, as is suggested by the presence of metal objects which were clearly collected for reuse. There is also evidence for the working of metal into a form ready for later manufacture (e.g. **18.114-8.120**). It is hoped that future excavations at Torone may reveal further evidence of metal working in the region.

1. WEAPONS

The weapons found at Torone in contexts related to fighting came almost exclusively from Hill 2 and the Isthmus. Only two arrowheads, both iron, were found in the Gate Area.¹⁶ This suggests that the Isthmus and Hill 2 were the focus of attack with sling bullets and arrows, weapons used especially in long-distance fighting. The absence of a variety of weapons at the Gate Area suggests that the rather confined space was more appropriate for fighting at a closer distance.

There is nothing to suggest that these weapons are early enough to date from the attack of Brasidas in the winter of 424-423 B.C.¹⁷ The dating suggests that they are perhaps associated with Philip's attack in 349 B.C.¹⁸ The absence of earlier weapons may well be due to conscientious collection of the metal and its reuse.

A. LEAD SLING BULLETS (**18.1-18.11**)

The sling bullets have been divided into two groups. They are found in two shapes, mounded and flat; the former are found in two sizes, small and

large. Examples are found with legends (on both faces or only one face) and without legends.

The small mounded sling bullets have the following approximate dimensions and weights: L. 0.030, H. 0.016, Th. 0.013, Wt. 30-31.5 gms.¹⁹

¹⁴ Stos-Gale and Macdonald (*supra* n. 11), pp. 273-279. For further details and discussion see Papadopoulos (*supra* n. 3), p. 175, n. 10.

¹⁵ The historical ramifications are more fully considered in Papadopoulos (*supra* n. 3), pp. 173-174.

¹⁶ These exclude, of course, the weapons found at the Gate Area in the burial "Tomb 1" TR2 tr4 (see figs. 25-27; pl. 22 b-f).

¹⁷ Thuc. iv. 110-116.

¹⁸ Diod. xvi. 53, 2.

¹⁹ Cf. I. Michailidou-Nikolaou, "Ghiande missili di Cipro," *ASAtene* XLVII-XLVIII NS XXXI-XXXII (1969-1970) p. 359, where a slightly heavier weight is suggested.

Minor variations in length mostly depend on how close the casting-spur is cut:²⁰ **18.1** has the longest projection in this group. Parallels are found at Olynthos for **18.1**²¹ and **18.3**.²² Uninscribed examples may be found in *Corinth* XII, p. 200, nos. 1525-1527, pl. 91.

The large mounded sling bullets are approximately twice the size of the small ones. The large size is represented at Torone by a single example, **18.10**, which is only partly preserved and has a legend on both faces. Parallels do not exist for this size at Olynthos. It is approximately 50% heavier than the heaviest found there.

The single example of a flat sling bullet is **18.11** which is of a slightly smaller length and height than the mounded ones and, being thinner, is of rather lower weight. This example has a legend on both faces. Parallels have not been found.²³

The differences in shape do not appear to reflect a chronological difference, since the small variety, **18.6**, **18.8** and **18.9**, and the flat variety, **18.11**, were both found in the same context.²⁴

The lead sling bullets were all found on Hill 2 and appear to date from the end of the fifth century or from the early fourth century B.C. They must derive from the attackers rather than from the defenders: most are found either inside or

outside the wall, accompanied by arrowheads,²⁵ and most are deformed or broken, presumably by impact. In this same area were found a number of water-smoothed pebbles, which might also have been used as sling missiles. The absence of sling bullets in the Gate Area probably reflects the different method of fighting in the area excavated there, the confined space immediately in front of the Gate.

A more precise indication of date for **18.10** might have been given (had it been legible) by the coin found with it **20.68**; the pottery found with **18.3** and **18.5** is mostly of the fourth century B.C., though **18.5** comes from a context which yielded small quantities of later material as well. In general, the nature of the Hill 2 deposits was such that they rarely provided any conclusive chronological information.

The Olynthos parallels suggest a connection with Philip's attack, especially if the otherwise unknown Kleoboulos is to be associated with the known Hipponikos in Philip's army.²⁶

Such sling bullets would have been used with a hand sling, a staff sling being used for heavier missiles. We could expect a skilled slinger to have a range of up to 400 m.: the range depended partly on the skill of the slinger and partly on the length of the sling, the longest being

²⁰ For information on casting and cutting sling bullets, see *Olynthus* X pp. 419-420 and n.148, with a reference to a similar mould on p. 437.

²¹ *Olynthus* X, nos. 2217 a and b, 2218, of almost identical dimensions but lower weight.

²² *Ibid.* nos. 2202 a and b - 2216.

²³ See A.M. Snodgrass, *Arms and Armour of the Greeks* (London 1967) 84, for general comments on sling bullets.

²⁴ Hill 2 TR2 Area 3 (1).

²⁵ As mentioned, numbers **18.6**, **18.8**, **18.9** and **18.11** were all found in TR2 Area 3 (1). From the same deposit come the two catalogued arrowheads **18.16** and **18.17** and the uncatalogued ones Inv. Nos. 78.1030 78.464, 78.465, 78.464 and 78.467, all of which are of the same type as **18.16** (n. 49). Also found in this deposit were the uncatalogued arrowheads Inv. nos. 78.564 and 78.568 which are of the same type as **18.18** (n. 50). Sling bullet **18.7** is from TR2 Ext. (3) where arrowheads **18.15** and **18.18** were also found. Uncatalogued arrowheads from that deposit include Inv. nos. 78.1025 and 78.1027 which are the same type as **18.16** (n. 49), and Inv. no. 78.1026 which is the same type as **18.15** (n. 48).

²⁶ *Olynthus* X, pp. 428-429.

used for longer distances. Similarity of weight between the sling bullets used would increase the slinger's efficiency, since he would not have to adjust each throw to varying weights. The usual weight range is 29 - 50 gms.²⁷

The Names on Torone Sling Bullets

NA/MEP and NA. The legend of **18.1** and **18.10** has parallels at Olynthos.²⁸ The legend on **18.4** and **18.5** is confined to one side and presumably represents the beginning of a name. Suitable personal names would be Ναμέρτας and Ναμερτίδας.²⁹ To identify the sling bullet names with one of these names, or with a similar one, seems less strained than Robinson's suggestion that we have an abbreviation for Mekyberna. The parallel cited by Robinson³⁰ for NA (= Ναξιων) does not seem helpful in this context.

MIKI/NAΣ. The legend of **18.2** is clear, and not paralleled on sling bullets. The name Μικίνας is unusual, but it is known from the fourth century B.C. Variant forms are cited by Pape-Benseler: e.g. Μικίνης and Μυκκίνας.³¹ A problem, howe-

ver, remains in that the names of originators of sling bullets are usually given in the genitive case (as in the example which follows).

ΚΛΕΟ/ΒΟΥΛΟ. The legend of **18.3** is paralleled at Olynthos³² and discussed by Robinson. The name is known, but not as Macedonian.³³ The legend should represent the genitive case.

OP- - /ΔΑΣ. The legend of **18.11** is not clear enough for a reading to be certain: two of the letters are doubtful, and it is not possible to calculate accurately the number of missing letters, though three or four seem most likely. Pape-Benseler provides no suitable names ending in -λας. Possible names ending in -δας include Ὀρεστάδας³⁴ and Ὀρφώνδας;³⁵ apart from these, a variant on Ὀρμενίδης is also possible.³⁶ As with MIKI/NAΣ above, the nominative case is unexpected.

The ΚΑΛΟΣ inscription on **18.11** is the only example known to us of a such an inscription on a sling bullet. Robinson discusses a corresponding inscription which uses ὥραϊος,³⁷ but his discussion seems misguided.

²⁷ For an illustration of a very lightly armed slinger operating behind a hoplite, see a pithos fragment from Sparta, dating to the first half of the sixth century B.C., *Artemis Orthia*, pls. 15-16. For the use of slings see also the pygmies mounted on goats in the frieze decorating the foot of the François Vase (volute-krater Florence 4209, *ABV*, p. 29, no.1).

²⁸ *Olynthus* X, p. 429, nos. 2217 a and b, 2218.

²⁹ Pape-Benseler p. 972 and P. M. Fraser and E. Matthews (eds.), *A Lexicon of Greek Personal Names* IIIA (Oxford 1997) p. 310. See also the Athenian name Ναμέρτιος, M. I. Osborne and S. G. Byrne (eds.), *A Lexicon of Greek Personal Names* II (Oxford 1996) p. 325: the first as the name of a Spartan, the second as the name of a Corinthian.

³⁰ *Olynthus* X, p. 429.

³¹ Pape-Benseler p. 923. See also P. M. Fraser and E. Matthews (eds.), *op. cit.* I, p. 313; M. J. Osborne and S. G. Byrne, *op. cit.* II, p. 313 and P. M. Fraser and E. Matthews, *op. cit.* IIIA, pp. 300-301. The name Μικίνας also occurs in Egypt, F. Preisigke, *Namenbuch* (Heidelberg 1922) p. 217.

³² *Olynthus* X, pp. 427-429, nos. 2202 a and b - 2216.

³³ Pape-Benseler *op. cit.* p. 673. See also P. M. Fraser and E. Matthews (eds.) *op. cit.* I, pp. 260-261; M. J. Osborne and S. G. Byrne, *op. cit.* II, p. 265 and P. M. Fraser and E. Matthews (eds.) *op. cit.* IIIA, p. 246.

³⁴ *Ibid.* p. 1070. See also P. M. Fraser and E. Matthews (eds.), *op. cit.* IIIA, p. 345.

³⁵ *Ibid.* p. 1079.

³⁶ *Ibid.* p. 1073.

³⁷ *Olynthus* X, pp. 422-423, no. 2180, and n. 159.

MOUNDED

Small

Legend on both faces:

18.1 (78.268) Fig. 171
Hill 2 TR1 (2).
L. 0.0281; W. 0.0153; Th. 0.0139; Wt. 28.18 gms.
Legend: NA /MEP
Intact.

18.2 (78.462) Fig. 171; Pl. 96
Hill 2 TR1 (2).
L. 0.0323; W. 0.0156; Th. 0.0139; Wt. 29.47 gms.
Legend: MIKI /NAΣ
Chip missing from one side.

18.3 (78.878) Fig. 171; Pl. 96
Hill 2 TR3 (2).
L. 0.0269; W. 0.0168; Th. 0.0128; Wt. 28.70 gms.
Legend: KΛEO / BOYΛO
Damaged.

Legend on one face:

18.4 (78.244) Not illustrated
Hill 2 Tr1 (2).
L. 0.0300; W. 0.0172; Th. 0.0134; Wt. 29.50 gms.
Legend: NA
Air-hole; slightly underweight.

18.5 (78.688) Fig. 171
Hill 2 TR1 (3).
L. 0.0303; W. 0.0163; Th. 0.0127; Wt. 30.13 gms.
Legend: NA
Intact.

No legend:

18.6 (78.565) Not illustrated
Hill 2 TR2 Area 3 (1).
L. 0.0313; W. 0.0157; Th. 0.0135; Wt. 31.46 gms.
One face slightly deformed by impact.

18.7 (78.1024) Not illustrated

Hill 2 TR2 Ext (3).

L. 0.0310; W. 0.0168; Th. 0.0128; Wt. 31.39 gms.
Both faces rough, but no trace of legend; air holes; slightly underweight.

18.8 (78.1028) Not illustrated
Hill 2 TR2 Area 3 (1).
L. 0.0312; W. 0.0169; Th. 0.0129; Wt. 31.57 gms.
Both faces rough; no trace of legend. Intact.

18.9 (78.1029) Not illustrated
Hill 2 TR2 Area 3 (1).
L. 0.0240; W. 0.0151; Th. 0.0126; Wt. 26.98 gms.
Both surfaces rough; no trace of legend. One end broken off.

Large

Legend on both faces:

18.10 (78.1351) Fig. 171
Hill 2 TR3 (4).
L. 0.0218; W. 0.0201; Th. 0.0159; Wt. 29.38 gms.
Legend: NA /MEP
Damaged; approximately half preserved.

FLAT

Legend on both faces:

18.11 (78.463) Fig. 171
Hill 2 TR2 Area 3 (1).
L. 0.0375; W. 0.0183; Th. 0.0111; Wt. 38.82 gms.
Legend: OP — - ΔΑΣ (in two lines) / ΚΑΛΟΣ
retrograde.
Surface very worn.

B. IRON SPEAR-ENDS (18.12-18.13)

A number of iron spear-ends comes from Hill 2, the Isthmus and the Gate Area. In general, corrosion and damage make it difficult to record accurately their original forms. There is no doubt, however, that **18.12** and **18.13** are spear-ends and not spear-heads of Olynthos type B,³⁸

³⁸ E.g. *Olynthus* X, p. 414, no. 2154, pl. 128.

since there is no trace of any blade attachment at their sides. The form of both small and large spear-ends is the same: hollow and tapering towards the point. Most are rectangular in section throughout. Some of the large ones may be circular in section at the top, but become rectangular towards the point. In one case (Inv. No. 75.774, a parallel for **18.12**; see n. 40) the section is rectangular, and the cavity is circular. This is the closest approach to the bronze spear-end dedicated *ca.* 425 B.C. in Athens,³⁹ which has greater dimensions than the Torone ones. Two of the large Torone examples, **18.13** and one of its parallels, Inv. No. 78.1306 (see n. 41), retain remains of wood.

The context of **18.12** indicates a Late Classical or Early Hellenistic date; the context of **18.13** is less informative.

No corresponding spear-heads have been found.

Small

18.12⁴⁰ (75.775)

Fig. 171

Gate Area TR2 tr4, Tomb 1.

L. 0.030; Th. (outer) 0.007 x 0.007, (inner) 0.005; Wt. 16.1 gms.

Rectangular in section, tapering downwards to point; tip of point not preserved; top hollow, broken.

Large

18.13⁴¹ (78.1350 B)

Fig. 171; Pl. 96

Hill 2 TR3 (4).

L. 0.068; Th. (outer) 0.0155 x 0.0155, (inner) *ca.* 0.010 x 0.010; Wt. 19.39 gms.

Perhaps circular in section at top, tapering downwards to point; bottom rectangular in section. Top hollow, broken. Remains of wood in cavity.

C. ARROWHEADS (**18.14** - **18.18**)

IRON

The iron arrowheads were found mainly on Hill 2 and at the Isthmus. Two further examples come from the Gate Area and another two were discovered in a grave excavated in the same area. Only one iron arrowhead is catalogued here.

All are badly corroded, but appear to be of the same basic form. The head is long, rectangular in section, tapering up towards a point, and has a flat base. The shaft is rectangular in section and thin. Three examples may perhaps taper from the base to the shaft (Inv. Nos. 78.141, 78.647 and 78.725, all from the Isthmus, see n. 44) but the apparent taper may be due to corrosion or damage.

The contexts of those pieces which derive from more informative deposits would suggest a date around the middle, or into the second half, of the fourth century B.C. There is a superficial resemblance to much later arrowheads found, for example, at Corinth;⁴² but there is nothing in the contexts to suggest that the iron arrowheads of Torone are so late. There are parallels at Olynthos: these are of Robinson's type E, dated to *ca.* 350 B.C.⁴³

The weights vary between 11.62 and 18.15 gms.

³⁹ J. McK. Camp II, "A Spear-butt from the Lesbians," *Hesperia* 47 (1978) 192-195.

⁴⁰ Other examples: Gate Area - TR2 tr4 Tomb 1: 75.774; Isthmus - TR2 tr1 (3a): fragment 76.492B; TR3 tr1 (3) B8: 78.1423

⁴¹ Other examples: Hill 2 - TR3 (3): 78.1068A, 78.1068B, 78.1290A and fragment 78.1290D; TR3 (4): 78.1350D, 78.1754 and fragment 78.1350F. Isthmus - TR3 tr1 (3) B17: 78.1306.

⁴² *E.g.* Corinth XII, no. 1557, dated to the seventh century A.C. by the elaborate imported buckles found with it, or no. 1532, probably of the fourth century A.C.

⁴³ *E.g.* Olynthus X, pp. 392-397, pl. 123.

18.14⁴⁴ (76.727)

Fig. 171

Gate Area TR6 tr1 N (3).

H. 0.083. Head: L. 0.655; Th. (base) *ca.* 0.012, (top) 0.002. Shaft: Th. *ca.* 0.004 x 0.005. Wt. 16.63 gms.

Head rectangular in section, tapering towards point. Point preserved. Base flat. Shaft rectangular in section. Shaft bent. Heavily corroded.

BRONZE

All the bronze arrowheads are from Hill 2. Because of damage (e.g. the bent point of Inv. No. 78.576, a parallel of **18.16**, and the bent barb of **18.17**) and their precise provenience, they are assumed to have been used by the attackers.

The small arrowheads are not true triple-barbed arrowheads; rather, they represent a simplified method of manufacture. Despite variations in form, these arrowheads would all have been produced in the same way. Three-sided pyramidal depressions would have been made in moulding material, using existing arrowheads. These depressions would be joined by overflow channels, in the usual way. Into the mould thus created would be poured the molten bronze. When this had cooled slightly, the shafts would be inserted. As the metal contracted on cooling, the shaft was gripped tightly, rendering any means of attachment unnecessary. The holes sometimes found in the side of these arrowheads were produced when the shaft declined from the vertical and the end of the shaft touched the side of the mould. When the arrows were removed from the mould and separated by cut-

ting off the metal from the overflow channel, the barbs were produced by filing parallel to the sides; this also created the round exterior of the socket. The filing was not always deep and, if not done carefully, sometimes shortened the barbs. Thus the variations in form which are noted, as here, are accidentally produced. Such a method of production allowed a large number of arrowheads to be produced easily and quickly on demand, probably using remelted bronze from used arrowheads and other discarded metal gathered on the battlefield. The width of the base of the pyramid varies: the widest is *ca.* 0.0111, the narrowest is *ca.* 0.007. The average weight is *ca.* 1.6 gms. **18.15** is the same as Olynthos type G V.⁴⁵ **18.16** is the same as Olynthos type G III.⁴⁶ Robinson's suggested date for both of these is after 400 B.C.

The large arrowheads are true triple-barbed arrowheads and would have been cast in a bivalve mould, the casting line of which is clear on the socket of the largest example, **18.17**. **18.17** has the same form as Olynthos C, but only *ca.* 2/3 of its size (L. 0.041 as opposed to 0.065 - 0.07). **18.18** is paralleled in type G I at Olynthos,⁴⁷ which Robinson dates after 400 B.C.

Both large and small examples are found in the same contexts, and appear to date from *ca.* 350 B.C.

Small

*Barbs at centre:***18.15**⁴⁸ (78.879)

Fig. 171

Hill 2 TR2 Ext (3).

⁴⁴ Other examples: Gate Area - TR2 tr4 Tomb 1: 75.776, 75.777; TR4 Ext. 1 (3): 76.862 B. Isthmus - TR1 tr3 (3): 78.725; TR2 tr1 (3): 78.216; TR3 tr1 Feature 1 (B7): 78.622; TR3 tr1 (3) B17: 78.647 and fragment 78.1276; TR3 tr2 (2): 78.141; TR3 tr2 (3) B19: fragment 78.1481. Hill 2 - TR3 (3): 78.1295 A, 78.1295 B and fragments 78.1288, 78.1290 B, 78.1290 C, 78.1295 D; TR3 (4): 78.1350 A, 78.1350 E and fragment 78.1350 C.

⁴⁵ *E.g. Olynthos X*, no. 2126.

⁴⁶ *E.g. ibid.* no. 2104.

⁴⁷ *E.g. ibid.* no. 2097.

⁴⁸ Other examples: Hill 2- TR2 Area 3 (1): 78.310; TR2 Ext (3): 78.1026.

L. 0.0163. Barbs: L. *ca.* 0.003; W. 0.0029. Socket: D. (inner) 0.0035, (outer) 0.0068; Depth *ca.* 0.004. Wt. 1.69 gms.

Triple-barbed socketed bronze arrowhead.

Barbs at bottom:

18.16⁴⁹ (78.1031) Fig. 171
Hill 2 TR2 Area 3 (1).

L. 0.0152. Barbs: L. 0.0160; W. *ca.* 0.0085. Socket: D. (inner) 0.0045, (outer) 0.0070; Depth *ca.* 0.009. Wt. 1.48 gms.

Triple-barbed socketed bronze arrowhead; hole in socket.

Large

Over 4 cm.:

18.17 (78.309) Fig. 171; Pl. 96
Hill 2 TR2 Area 3 (1).

L. 0.0411. Barbs: L. 0.0422, 0.0428. W. 0.0160. Socket: D. (inner) 0.0065, (outer) 0.0075. Depth *ca.* 0.014. Wt. 6.10 gms.

Triple-barbed socketed bronze arrowhead. Blunted point; fault near point; one barb bent; hole in socket; mould join clearly visible.

Under 4 cm.:

18.18⁵⁰ (78.881) Fig. 171
Hill 2 TR2 Ext (3).

L. 0.00375. Barbs: L. 0.0345, 0.0352, 0.0348. W. 0.017. Socket: D. (inner) 0.0065, (outer) *ca.* 0.0077; Depth *ca.* 0.008. Wt. 5.20 gms.

Triple-barbed socketed bronze arrowhead. Point broken.

D. LEAD BALL (18.19)

The cast lead ball is perhaps grapeshot from a cannon. Its date is unknown, but could perhaps be as late as Post-Byzantine.

18.19 (78.1676) Pl. 96
Lekythos TR2 (3).

D. 0.009.

Cast lead sphere with mould join visible.

2. FISHING EQUIPMENT

The importance of fishing in the daily lives of the inhabitants of such a coastal city as Torone hardly needs comment. If anything, it is surprising that more fishing equipment has not been found. What has been found illustrates the common methods of fishing as represented at most other coastal sites: angling with fish-hooks and netting with a weighted throw-net or drag-net. There is no indication of the spearing of large fish, such as the tunny found especially in the Hellespontine region⁵¹ and probably elsewhere;⁵² nor of harpooning cephalopods.⁵³ The variation in size of the fish-hooks, however, suggests their use in catching a range from small to large fish.

⁴⁹ Other examples: (a) larger: Hill 2 - TR2 Area 3 (1): 78.465, 78.569, 78.576, 78.577, 78.578, 78.1030; TR2 Ext (3): 78.882, 78.1027. (b) smaller: Hill 2 - TR2 Area 3 (1): 78.464, 78.466, 78.467; TR2 Ext (3): 78.1025.

⁵⁰ Other examples: Hill 2 - TR2 Area 3 (1): 78.564 and fragment 78.568.

⁵¹ See R. Virchow's appendix to H. Schliemann, *Troja* (London 1884) p. 349.

⁵² See H. Boyd Hawes, *Gournia, Vasilike and other Prehistoric Sites on the Isthmus of Hierapetra* (Philadelphia 1908) p. 34. pl. IV.

⁵³ Cf. Ch. Tsountas, *AE* 1898, pp. 199 f.

A. BRONZE FISH-HOOKS (18.20 - 18.23)

The shape of Greek bronze fish-hooks seems to change very little over the years. The earliest metal fish-hooks are of copper or bronze and they date from the Early Bronze Age. Already in the Bronze Age the standard shape has been established: a curved hook which is either merely pointed or else barbed at one end and flattened at the other to form a disk.⁵⁴ There are occasional variants such as the example from Teichos Dymaion, which is barbed and has the other end bent over,⁵⁵ the two from Grave 453 excavated by Ch. Tsountas at Siphnos, which are pointed,⁵⁶ and the large ones from the Ulu Burun wreck.⁵⁷ These and other examples from the Bronze Age⁵⁸ illustrate the geographical spread, the range of sizes used, the solutions found to the problem of attaching the hook to the line⁵⁹ and of keeping the fish

on the hook, and perhaps also different fishing techniques. The cemetery at Perati has produced Late Mycenaean examples, along with lead net-weights,⁶⁰ and excavations have yielded a more or less continuous series up to modern times.

Archaic, Classical and later fish-hooks are generally barbed, with the upper end flattened or bent to form a ring.⁶¹ Variants in this period include a multiple hook from Thasos with barbed bronze hooks projecting from a lead weight, and another from Delos,⁶² hooks with notched or triangular upper terminals,⁶³ and an example from Nemea with the shaft bent in towards the hook.⁶⁴

With one exception, the Torone examples conform to the general pattern in shape, with single barb and unpierced flattened upper terminal, and they illustrate the range of sizes. 18.20 and 18.21 come from a Classical fill deposit with some later contamination. The rest of the exam-

⁵⁴ See, for example, *Samos* I, p. 54, nos. 16-20, pl. 50, nos. 8-10, 15-16 - barbed with disk; J. L. Caskey and E. G. Caskey, "The Earliest Settlements at Eutresis," *Hesperia* 29 (1960) p.156, pl. 53 VIII.60 - pointed with disk. For a number of early fish-hooks see *Poliochni* I, pp. 353, 354, 375, 456, 665, pls. 175.2 and 177.16-19.

⁵⁵ See E. Mastrokostas, *Ergon* 1966, p. 162, fig. 191 right.

⁵⁶ See Ch. Tsountas, *AE* 1899, p. 104, pl. 10. 38 and 39.

⁵⁷ See *AJA* 93 (1989) p. 5, fig. 9 for a large one; and p. 8, fig. 13 for another which is 10 cm. long, perhaps a gaff rather than a hook.

⁵⁸ For examples from Crete see *BMMA* 1924, p. 292, probably from Psychro and *BSA* 69 (1974) pp. 202 and 230, no 12 = B 28, fig. 18 and pl. 40, from Sellopoulo tomb 4.

⁵⁹ Which was presumably of linen as in *Iliad* 16.408.

⁶⁰ S.E. Iakovides, *Περατή. Τὸ Νεκροταφεῖον* (Vols I-III Athens 1969-1970) I, pp. 332, 336, 453, 455.

⁶¹ See *Olynthus* X, pp. 365-374, nos. 1788-1882, pls. 117-119, and parallels cited there; *Emporio*, p. 226, nos. 395-396, fig. 147, pl. 93; about forty from Thasos, *BCH* 80 (1956) pp. 425-426, fig. 33; two examples from Nemea, *Hesperia* 45 (1976) p.184, pl. 33 and *Hesperia* 53 (1984) p. 184, pl. 41b; a Hellenistic example found with a net-weight at Asine, *Asine*, pp. 336-337, fig. 227; another, probably Hellenistic, from Makrysia in Elis, *AD* 25 (1970) *Chron.* p. 192, pl. 168; a Hellenistic or Roman example from Tarsus, *Tarsus* I (1950) p. 393, no. 112, fig. 266; another of the same period from Abdera, *AD* 20 (1965) *Chron.*, p. 456, pl. 544e; a number found in the Early Imperial galleys from Lake Nemi, G. Ucelli, *Le navi di Nemi* (Rome 1950) pp. 134-135, fig. 143; and a seventh-century example from Knossos, *BSA* 71 (1976) pp. 35, 37, no. B.5, fig. 9.

⁶² For Thasos, see n. 61 above; for Delos, see *Délos* XVIII, p. 201, pl. LXIX, no. 552.

⁶³ See *Corinth* XII, p. 193, nos. 1447-1448, pl. 88.

⁶⁴ See *Hesperia* 49 (1980) p. 194, no. BR 728, pl. 44d.

ples from the Isthmus come from the upper levels and from deposits which are mixed and contain Post-Byzantine material as well as quantities of Roman and some Classical. **18.22** comes from a late Roman deposit of the Lower City. Inv. Nos. 78.527 and 78.964, both from the Lower City, come from mixed top-soil deposits including Byzantine and Post-Byzantine material in addition to Classical and Late Roman.

The exception to the regular shape is **18.23** which is paralleled by the bent example from Nemea mentioned above, though the Torone example is approximately twice the size.

Torone provides no example of an iron fish-hook, such as that found at Chios.⁶⁵

There are in addition two fragments which probably come from fish-hooks.⁶⁶

Very small

18.20 (78.468) Fig. 171
Isthmus TR3 tr1 (3) B8.
H. 0.0167; L. 0.031; Th. 0.0015 x 0.0015 - 0.0012 x 0.0012; Wt. 0.25 gms.
Single-barbed hook; shaft rectangular in section, tapering slightly towards barb; flattened terminal unpierced.

Small

18.21⁶⁷ (78.482) Fig. 171; Pl. 96
Isthmus TR3 tr1 (3) B8.
H. 0.0245; L. 0.0491; Th. 0.0012 x 0.0016 - 0.0010 x 0.0013.
Single-barbed hook; shaft rectangular in section, tapering slightly towards barb; flattened terminal unpierced.

Large

18.22⁶⁸ (78.865) Fig. 171
Lower City TR1 S (3).
H. 0.0426; L. 0.0715; Th. 0.0025 - 0.0023; Wt. 1.93 gms.
Single-barbed hook, barbed end broken off; shaft circular in section, almost uniform; flattened terminal unpierced.

Rectangular

18.23 (78.272) Fig. 171
Isthmus TR2 tr2 (1).
H. 0.0343; W. 0.0444; L. 0.0927; Th. 0.0018 - 0.0025 x 0.0023 - 0.0021 x 0.0019; Wt. 2.95 gms.
Shaft contains right-angled bend. Barbed end broken off; shaft circular in section from terminal to right-angled bend, then rectangular in section, tapering slightly towards end; flattened terminal unpierced.

B. LEAD NET-WEIGHTS (**18.24**)

The Torone lead net-weights, of which only one is catalogued, vary greatly in length (only one is certainly broken), but are more uniform in folded width. One has three longitudinal folds. The others are all formed merely by folding a narrow strip of lead over upon itself and crimping it around the heavy thread of the edge of the net. The range in weight is from *ca.* 11 gms. down to *ca.* 2.5 gms.

Similar folded pieces of lead, identified as net-weights, are found in the Bronze Age in the Ulu Burun wreck and at Perati in LH III C.⁶⁹ Later parallels are found in Chios and many other

⁶⁵ See *Emporio*, p. 230, no. 463, fig. 151.

⁶⁶ Isthmus- TR1 tr2 (2): 76.486; Lower City - TR1 (1): 78.527.

⁶⁷ Other examples (average weight *ca.* 0.5 gm.): Isthmus- TR1 tr2 (2): 76.339; TR1 tr3 (1): 76.285; Lower City- TR2 (1): 78.964.

⁶⁸ Other example: Isthmus- TR1 tr2 (2): 76.345.

⁶⁹ See Pulak, *AJA* 92 (1988) p. 32 and *AJA* 93 (1989) p. 7, not illustrated; and S. Iakovides *supra* n. 60, *op. cit.* I, p. 453, II, p. 355, pl. 135b (M172); *PAE* 1961, p. 24, pl. 8b; *Ergon* 1961, p. 19, fig. 19.

sites.⁷⁰ From a Byzantine context in Corinth came about forty examples whose length ranges from 0.03 to 0.055 m.⁷¹

The find-spots of the Torone examples do not affect the identification as net-weights. Although none was found with fish-hooks, in several cases fish-hooks were found in adjacent trenches and in similar levels. All examples except those from the Isthmus are probably Classical; the Isthmus examples could be Late Roman to Post-Byzantine in date.

The Torone examples are not found in large enough numbers to suggest the usual quantity attached to a net. In the Bronze Age, the usual number seems to have been 17-18, for what is estimated to be a light net.⁷²

18.24⁷³ (75.208) Fig. 171; Pl. 96
Structure 1 TR1 tr1 (9).
L. 0.060; W. (folded) 0.010, (unfolded) *ca.*
0.019; Th. 0.002; Wt. *ca.* 11 gms.
Narrow strip of lead folded over on itself along

long axis.

C. BRONZE NETTING NEEDLE (18.25)

The consideration of parallels suggests that this broken item is part of a netting needle, rather than a fork. The size of the space between the tines suggests the use of very fine thread, presumably linen as in the case of fishing lines.⁷⁴ The complete object is illustrated by finds from Delos, where 15 examples range in length from 0.135 - 0.305.⁷⁵ The context suggests a Classical or Late Roman date.⁷⁶

18.25 (76.801 A) Fig. 171; Pl. 96
Isthmus TR2 tr1 (3).
L. 0.1014. Shaft: Th. 0.0038. Tines: L. 0.0421;
Th. *ca.* 0.0028 - 0.0020.
Shaft roughly rectangular in section; branching
at one end into two slightly tapering tines which
bend in towards each other; other end broken.

⁷⁰ See *Emporio*, p. 204, nos. 160-161, fig. 134 for examples from Chios and p. 202 n. 5 for references to examples from other sites. A number of examples have been published subsequently from Herakleia, about 7 cm. long and weighing between 25 and 30 gms., found in an amphora in the Acropolis area and dating from the seventh century B.C.: see B. Neutsch, *AA* 1968, pp. 766 f., fig. 13; *Alasia* III, pp. 47, no. 413, figs. 15.15A-15B, pl. XXI.19; and T. Dothan and A. Ben-Tor, *Excavations at Athienou, Cyprus 1971-1972* (*Qedem* 16, 1983) pp. 134-135, nos. 18-20, p. 126, fig. 57.18-20, pl. 47.4, and especially no. 20, where crimp-marks are clearly visible.

⁷¹ See *Corinth* XII, p. 193, no. 1449, pl. 88.

⁷² See W.M.F. Petrie *Ancient Gaza* III, *Tell el-Ajjul* (*BSAE* 55) p. 6, pl. IX.35 and G.F. Bass, *Cape Gelidonya: a Bronze Age Shipwreck* (*TAPS* n.s. 57 part 8 [1967]) pp. 131-132, nos. L 1-18, fig. 139, L 1. The evidence from the Cape Gelidonya shipwreck of 18 net-weights concreted together is instructive, as is the Ulu Burun find of 21 such weights found in pithos KW250, Pulak, *AJA* 92 (1988) 32, where the specifically noted crimping of the weights indicates that they were not spares but belonged to an actual net. We know of no later evidence for net-size.

⁷³ Other examples: Hill 2 - TR2 Area 3 (1): 78.567; Gate Area - TR1 tr1 (5): 75.141; Isthmus - TR2 tr1 (1): 76.134; TR3 tr2 (2): 78.139.

⁷⁴ The word *λίον* indicating a fishing line is mentioned in the *Iliad* (16.408) where it is also used to mean a fishing net (5.487). Diodorus Siculus uses the word *λίνα* to indicate hunting nets (1.60.10) and the *Suda* defines *λίνα* as τὰ δίκτυα.

⁷⁵ *Delos* XVIII, p. 202, pl. LXIX, 550.1-12, under "Navettes". The author draws attention to examples with tines at one end only, and speculates whether they are correctly assigned to this category; cf. **18.67** below.

⁷⁶ A recently published example is found in J.W. Shaw, "Excavations at Kommos (Crete) during 1980," *Hesperia* 50 (1981) 229 and n. 64, pl. 59b, from a temple dump deposit of the first century B.C. presumably dedicated in the temple. Classical parallels are from Olynthos, *Olynthos* X, pp. 364 f., nos. 1763-1781, pl. 116 and Thasos, where again many were found, *BCH* 80 (1956) pp. 425-426, fig. 33. A Hellenistic or Roman one comes from Abdera, *AD* 20 (1965)

3. JEWELLERY AND ITEMS OF PERSONAL USE

Items of jewellery have been found mostly on the Isthmus, not surprisingly associated with domestic buildings. The scarcity of jewellery in the few burials found might suggest a low economic level for those buried, despite the prominent location of the graves at the Gate Area and the relatively elaborate construction for the sarcophagus buried there in TR4. This latter contained besides the body only a simple iron ring (which disintegrated on handling), found on the finger of one hand.

A. BRACELETS (18.26-18.28)

BRONZE

18.26 (78.585) Fig. 171; Pl. 96

Isthmus TR2 tr1 (5a).

D. 0.054 - 0.061; W. 0.007; Th. 0.004. Heads: L. 0.021, 0.017; W. 0.008. Wt. 22.97 gms.

Band convex outside and flat inside, tapering towards ends, then thickening to become roughly modelled snake heads. Hoop not circular and heads not overlapping; probably forced out of original shape.

This snake-headed bronze bracelet comes from a Late Classical context. Such a date agrees with parallels from Olynthos.⁷⁷ Our bracelet is a very simplified example of the usual type. There is no reason to regard the simplification as due to the addition of more detailed work in gold as, for example, on a silver armlet in the British Museum.⁷⁸

18.27 (78.279) Fig. 171

Isthmus TR1 tr2 (4a).

L. ca. 0.141; D. ca. 0.045; W. 0.003; Th. 0.002 - 0.001; Wt. 3.98 gms.

Undecorated flat bronze band, widened in centre, tapering at ends.

IRON

18.28 (78.359 A) Fig. 171

Isthmus TR2 tr1 (3).

L. 0.041; Th. 0.002.

Undecorated flat band of fairly uniform thickness, widened in centre, tapering at ends. Ends missing.

The form is almost identical to that of **18.27**, a simple narrow flat band which is enlarged at the centre. **18.28** comes from a deposit at the Isthmus assigned to phase II, which is Late Roman, though the lower levels of this deposit cut into Unit 3a, part of the Late Classical Amphora deposit.

B. EARRINGS (18.29 - 18.30)

SILVER

18.29 (76.375) Fig. 171; Pl. 96

Isthmus TR1 tr2 (2) FCI.

L. 0.083. Ring: D. 0.018.

Thin wire ring, almost complete circle, twisted at bottom to form another small ring; hanger consists of oblong plaque with "pearl" set in centre (L. 0.012), leaf (L. 0.016), double link (L. 0.005), ring (D. 0.009) suspended from sin-

Chron., p. 456, pl. 544d; a Late Byzantine or Late Roman one from Kythera, *Kythera*, p. 215, no. w 357, fig. 61, pl. 63; and another late one from Corinth, *Corinth* XII, p. 175, no. 1273, pl. 79.

⁷⁷ *Olynthus* X, pp. 69-72, nos. 179-225, pls. 12-13, type 1.

⁷⁸ See F. H. Marshall, *Catalogue of the Jewellery, Greek, Etruscan and Roman in the British Museum* (London 1911), p. 99, no. 1202, pl. XIII.

gle link (L. 0.007), second "leaf" of different form (L. 0.021).

This elaborate silver earring comprises several different elements: a flat plaque with a "pearl" set in a collet, two cast "leaves" of different shape, and a single ring. The separate elements are joined either by loops (at the upper ends of both "leaves" and the lower end of the top "leaf") or by specially constructed links which allow a horizontal wire to pass through a loop. The result is an articulated hanger which can be flexible and constantly in motion.

From its context it belongs to the Post-Byzantine period: it was found with a group of iron objects (18.106-18.111), some green-and-yellow-glazed pottery (e.g. the jug Inv. No. 76.374), and four coins dating to the 17th century A.C. (20.38-20.41). The use of the collet and glass pearl is paralleled as early as the sixth or seventh century A.C. in a bronze ring from Corinth.⁷⁹

BRONZE

18.30 (78.706)

Fig. 171

Lower City TR3 (1) N.

Ring: D. 0.0265, Th. (max.) 0.0025. Chain: L. 0.024 (each link L. 0.014), Th. 0.0015 - 0.002. Ring circular in section, tapering towards ends which are hooked and crossed. Two links of

figure-of-eight chain, upper part of each link twisted at right angles to lower.

This bronze earring closely resembles the frequently found simple gold or silver earrings of the Roman period (which can occur as early as the Hellenistic period). The chain is paralleled in 18.89. 18.30 was found in topsoil in the Lower City area and consequently the context provides no chronological clue; parallels suggest a date in the second century A.C. or later. A more or less similar bronze earring comes from one of a set of very poor graves at Nemea, Grave 5, GJ 35, and dates perhaps from the sixth century A.C.; a smaller one from Knossos is probably of the seventh century A.C.⁸⁰ Such earrings come also from burials elsewhere.⁸¹ Some have in addition a pendant.⁸²

C. RINGS (18.31-18.35)

The bronze rings 18.31 and 18.32 with the pointed-oval bezel are of Late Classical to Early Hellenistic type. They represent a simplified version of Boardman's type XIII, although the bezel is larger than suggested by Boardman who does not mention bronze examples of this type.⁸³ The decoration of the bezel of 18.31 is unclear because of corrosion; that of 18.32 might be thought to be of a type such as his fig.

⁷⁹ *Corinth* XII, pp. 234-235, no. 1821, fig. 41.

⁸⁰ See S. G. Miller, "Excavations at Nemea, 1979," *Hesperia* 49 (1980) p. 192, pl. 43a and H. W. Catling and D. Smyth, "An Early Christian Osteotheke at Knossos," *BSA* 71 (1976) pp. 35 and 37, B.3, fig. 9. For gold examples of Hellenistic date in Greece see *AD* 21 (1966) *Chron.* p. 165, pl. 165a. Similar, but sturdier rings occur elsewhere, e.g. at the centre of a bronze balance probably of the Byzantine period, see *Corinth* XII, no. 1671, p. 216, pl. 98.

⁸¹ See *AD* 22 (1967) *Chron.*, p. 344 and pl. 248/7. For other examples of the use of bronze for earrings see W. W. Rudolph, *Hesperia* 48 (1979) p. 320, no. 58, fig. 14, a bronze earring of the early Byzantine period from Grave 18 in Area 3 at Halieis and W. R. Lamb, *BSA* 35 (1934-35) p. 150, nos. 31-36, pl. 32, six examples from Kato Phana in Chios.

⁸² See F. H. Marshall (*supra* n. 78) no. 2421; cf. L. Allason-Jones, "Roman earrings," *Current Archaeology* 94, (1984) pp. 340-341, Type 3.

⁸³ See J. Boardman, *Greek Gems and Finger Rings* (London 1970) pp. 214, 230-232, fig. 217.

796 which he describes as not going beyond the fourth century repertoire.⁸⁴ Here too, however, corrosion makes it impossible to be certain. Both rings were found in the Isthmus in contexts assigned to the Late Classical Phase III. (18.34 comes from the same unit as 18.31 and must be contemporary). Parallels suggest that a Late Classical to Hellenistic date is possible, even though closer parallels appear to date from the fourth to the sixth centuries A.C., the tenth to the eleventh centuries A.C. or even later.⁸⁵ The bronze ring 18.33 is of similar construction, being a simple band with slightly rounded terminals to which a separately made bezel seems to have been attached. The context is Post-Byzantine but it also yielded some Late Roman and a little Classical material. The date of the ring is likely to be late.⁸⁶

BRONZE

18.31 (78.529) Fig. 171
Isthmus TR3 tr1 (3) B8.
H. 0.009; W. 0.022; Th. 0.002 - 0.0015. Bezel:
L. 0.019, W. 0.0085. Wt. 2.70 gms.
Hoop flattened and thickened in centre to form bezel, which is perhaps decorated with three circular projections; hoop preserved only on either side of bezel.
Heavily corroded.

18.32 (78.1275) Fig. 171; Pl. 96
Isthmus TR3 tr1 (3) Road Surface B8.
D. ca. 0.0181; W. 0.0028; Th. 0.0021. Bezel:
W. 0.0078, Th. 0.0019.
Hoop approximately circular in section, flattened in centre to form bezel with indistinct intaglio decoration. Heavily corroded.

18.33 (76.191) Fig. 171
Isthmus TR1 tr2 (1).
D. 0.023 - 0.024; W. 0.003 - 0.005; Th. 0.001.
Strip of bronze of uniform thickness but variable width, curved section. Corrosion at slightly rounded terminals may indicate attachment of bezel in another metal to complete hoop.

18.34 (78.480) Fig. 172
Isthmus TR3 tr1 (3) B8.
L. 0.056; W. 0.006 - 0.008; Th. 0.001.
Strip of bronze of uniform thickness and fairly uniform width, bent into rough ring. (Not certainly an item of jewellery.)

GILDED BRONZE

18.35 (78.733) Fig. 171; Pl. 96
Isthmus TR2 tr2 (2).
D. 0.020 - 0.022; W. 0.008 - 0.004; Th. (max.) 0.0022; Wt. 3.8 gms.
Roughly circular ring, convex outside and flat inside; part of hoop flattened to form bezel which is decorated with central motif resembling fleur-de-lis surrounded by zig-zag between two lines; at either side, sloping away from bezel, raised floral resembling palmette; opposite bezel, double-outlined lozenge; both decorative elements linked by ridge with zig-zag line on either side. All decoration now black.
This elaborately decorated gilded bronze ring was found in a Post-Byzantine context.

D. SILVER PENDANT (18.36)

18.36 (76.481) Fig. 172
Isthmus TR1 tr2 (2) FCII.

⁸⁴ *Ibid.*, p. 230.

⁸⁵ Cf. *Corinth* XII, p. 238, nos. 1863, 1866-1869, pls. 103-104.

⁸⁶ See *Corinth* XII, p. 235, no. 1825, pl. 102, which is useful for showing the hemispherical collet soldered to the band, and p. 236, no. 1840, pl. 103; both rings date from the tenth to the eleventh centuries A.C., and are thicker than no. 18.33. See also the bronze rings from Neochoropoulon Ioanninon AD 22 (1967) *Chron.*, p. 344, pl. 2488.

H. 0.008; D.0.009.

Hemisphere with small ring attached at centre. This silver object is presumably either a button or the upper half of a spherical pendant attached to an earring or, more likely, some larger item of jewellery such as a necklace, belt or headband. It should be noted that there is no trace of the attachment of a lower hemisphere; nor is there any trace that an object of another material (*e.g.* a stone) was set into it. The context indicates a Post-Byzantine date.

E. IRON PIN (18.37)

Iron pins have been found in various parts of the site, all too heavily corroded to allow certainty about whether the section is circular (as expected) or not. Several broken pieces were found in the re-interred pot-burial of an adult or adolescent in the Gate Area.⁸⁷ The others are merely isolated finds which in some cases could have been considered as very thin nail-shafts were it not for their very small diameter.

The context of 18.37 suggests a Classical date or Early Hellenistic date; the same applies to the other examples.

18.37⁸⁸ (78.1750)
Hill 2 TR3 (4).

Pl. 96

L. 0.0495; Th. 0.005 x 0.002.

Shaft probably rectangular in section; tapers towards one end; tip of point not preserved.

F. IRON STRIGIL (18.38)

The iron strigil fragments 18.38 come from a youth's burial. Despite the small number of fragments, only three of which seem clearly to be associated, the identification as a strigil is hardly open to doubt. Parallels are found in Olynthos⁸⁹ and Corinth⁹⁰ and these suggest a Late Classical date.

The fragment Inv. No. 75.166⁹¹ may be the part which joins the end of the bent-back handle to the shaft of the strigil.

In neither of these items is there a trace of a rivet for attaching the end of the handle to the blade. In such cases, the makers relied on the strength of their materials.

In the Classical period both iron and bronze were used: *cf.* Rhitsona Grave 139 (440-424 B.C.), where four bronze and two iron strigils were among the grave goods.⁹² The relative infrequency of iron strigils may be caused by their greater vulnerability to corrosion and thus their failure to survive or be recognised. Robinson refers to the use of strigils by women, as well as by men.⁹³

⁸⁷ Gate Area - TR2 tr2 tomb 2: 75.769-75.772 and 75.779. One of these, 75.769, is notable for having an impression of textile in its corrosion; it is not possible to be certain how many pins are represented by these six fragments. For another simple iron pin with textile impressions, see *Corinth* XII, p. 281, no. 2264, pl. 117, which, however, is from a Geometric grave of the eighth century B.C. Corinth has no iron pins later than *ca.* 700 B.C.; and bronze dress pins are increasingly rare after the end of the fifth century, *Corinth* XII, pp. 276-277.

⁸⁸ Other examples: Structure I- TR1 tr1 (9): 75.158. Hill 2- TR3 (3): 78.1294. Gate Area - TR2 tr2 (4): 75.110; and see above n. 87.

⁸⁹ See *Olynthus* X, pp. 172-180, nos. 517-569, pls. 32-36.

⁹⁰ See *Corinth* XII, pp. 180-181, 183, nos. 1310, 1311, 1315, 1317, pls. 81-82 for fifth century examples: the variety of forms is illustrated in the diagram fig. 28, p. 183. For a slightly later iron strigil, see *AD* 21 (1966) *Chron.*, pp. 344-345, pl. 363ζ (Early Hellenistic).

⁹¹ See note 94.

⁹² P. N. Ure, *Sixth and Fifth Century Pottery from Rhitsona* (London 1927) p. 7. For iron strigils see also *Olynthus* X, pp. 177-180, nos. 539-540, 544, 563-569, pl. 34.

⁹³ *Olynthus* X, p. 172 n. 48, citing *BMFA* 37 (1939) pp. 77 and 79, fig. 10.

18.38⁹⁴ (75.778)

Not illustrated

Gate Area TR2 tr4, Tomb 1.

Three non-joining fragments.

(a) L. 0.013; W. (max.) 0.019, (min.) 0.010; Th. ca. 0.003 - 0.004, (bowl) 0.002.

(b) L. 0.087; W. 0.006; Th. 0.004.

(c) L. 0.033; W. 0.024; Th. 0.002.

(a) flat thin sheet of fairly uniform thickness, narrower in centre, with remains of two rivet-heads; (b) narrow rod, curved at one end; (c) narrow curved part of bowl of strigil with remains of bronze pin.

G. BRONZE TWISTED WIRE (18.39)

Twisted wire like **18.39** was used in jewellery over a long period.⁹⁵ There is no clear indication of the precise form of the object made from this wire, but its being gilded suggests personal adornment. It may be worth noting that the gilding was done before twisting and that it seems to have been done by amalgamation⁹⁶ or some similar process, rather than by adhesion.

18.39 (78.1163)

Pl. 96

Lekythos TR2 (3).

D. 0.0015 - 0.0020, (strands) 0.0010. L. ca. 0.1400, ca. 0.1350, ca. 0.0940, 0.0300.

Four fragments of twisted bronze wire, gilded. Each is circular in section, with twisted spiral band of two strands. Two fragments have flattened ends, which may be outer ends of original object.

The context suggests a date in the Post-Byzantine period. The uniform thickness of the wire (probably produced by the use of a draw-plate, although there is no trace of longitudinal striations) agrees with such a date.⁹⁷

H. GILDED BRONZE SHEET (18.40)**18.40** (75.305)

Pl. 96

Gate Area TR2 tr2 (6).

Fr. 1: 0.0085 x 0.0050; Th. 0.0003. Fr. 2: 0.0075 x 0.003; Th. 0.0002.

Two fragments of very thin bronze sheet with traces of gilding.

Because the gilded bronze fragments are so thin, they can scarcely have been used for anything as substantial as, for example, the covering for a box. They are therefore listed here as being more likely to have come from an item of jewellery. The gilding appears to have been done by amalgamation⁹⁸ or some similar process, rather than by adhesion. Waldstein mentions bronze sheet plated with gold at the Argive Heraion, but gives no indication of thickness.⁹⁹

4. CAST LEAD RELIEFS

All the reliefs come from the Isthmus.

⁹⁴ Other example: Structure 1 - TR1 tr1 (7): fragment 75.166.

⁹⁵ Cf. *Corinth XII*, no. 2137, p. 263, pl. 112, a bracelet dating probably to the twelfth century A. C.; and M. Comstock and C. Vermeule, *Greek, Etruscan and Roman Bronzes in the Museum of Fine Arts, Boston* (Boston 1971) pp. 226-227, nos. 313 and 315, Etruscan examples of the same technique.

⁹⁶ See R. Higgins, *Greek and Roman Jewellery* (London 1961) p. 32.

⁹⁷ *Ibid.*, p.14.

⁹⁸ See note 96 above.

⁹⁹ See C. Waldstein, *The Argive Heraeum II* (Boston 1905), p. 273, no. 1823, pl. CV; in note 1 he also refers to a piece of bronze plated with gold at Eleusis, but he gives no further details apart from its decoration.

A. LEAD HERMS (18.41)

Parallels for lead double herms are found at Olynthos,¹⁰⁰ but these include as one of the pair a draped female figure, probably Aphrodite, who is clearly not present in the Torone piece. A closer parallel is a bronze group, on one base, of two ithyphallic Dioskouroi from a sanctuary near Chalkis.¹⁰¹ Other than the lead herms from Olynthos, no other lead examples are mentioned by Lullies.¹⁰² Lead herms are rare.¹⁰³

18.41 (76.391)

Fig. 172; Pl. 97

Isthmus TR2 tr1 (3a).

H. 0.0424; W. 0.0349; Th. (max.) 0.0049; Wt. 22.9 gms.

Cast lead plaque showing two herms sharing a horizontally grooved base; flat back; edges untrimmed; no casting spur.

Despite the difficulty in discerning details on this piece, it is clear that the two herms are differentiated. The left-hand one is unbearded and ithyphallic; the right-hand one is probably bearded, its genitals are not clearly indicated, and the shaft of its herm is shorter; the hair-styles appear to be different.

It was formed simply by pouring lead into an open mould. There was no attempt to trim the surplus lead from around its edges. Since there is no trace of a casting-spur, the group will have been cast as an isolated piece.

The context is dated to the later fourth century B.C.

B. CAST PLAQUES (18.42 - 18.43)

Both of the cast lead plaques come from de-

posits assigned to the Late Roman Phase II at the Isthmus. These deposits yielded material not later than the Late Roman period, but they also included smaller quantities of earlier material, primarily of the Classical period. The function of the plaques is not clear, partly because of the paucity of parallels and partly because of damage. While it is certain that one type is formed by casting in an open mould, it is not clear how the other was manufactured.

"Table" Relief Plaques (18.42)

There are two such plaques, but only one is catalogued here. Both bear similar blemishes, which suggest that either they were cast in the same mould or that separate moulds were made from the same original.

18.42¹⁰⁴ (78.153)

Fig. 172

Isthmus TR1 tr2 (4).

H. 0.035; W. 0.079; Th. (edge) 0.002.

Rectangular plaque with relief border and decoration; flat back; edges untrimmed; cut casting spur in centre of left-hand end, broken ones above and below towards right-hand end. Decorated with central shield (?) with boss and two concentric rings; in each lower corner a smaller shield (?) with boss; above, left, a bunch of grapes and, right, a damaged pyramidal projection; flanking the central motif, left, a haunch and leg of a hoofed animal facing right and, right, an indeterminate object (fish?).

The contextual evidence is not particularly helpful. 18.42 was found with fragments of lead sheet (e.g. 18.118 and Inv. No. 78.32A, n. 165), and some of these are clearly linked with items in the nearby trench Isthmus TR2 tr1 (3)

¹⁰⁰ See *Olynthus* X, pp. 7-14, nos. 3-7, pls. 2-3.

¹⁰¹ See *PAE* 1912, p.147, fig. 2.

¹⁰² See R. Lullies, "Die Typen der griechischen Herme," *Königsberger Kunstgeschichtliche Forschungen* iii (1931) p. 15.

¹⁰³ See the list in *Olynthus* X, p.10, n.47.

¹⁰⁴ Other example: Isthmus- TR1 tr3 (2): 78.729.

(e.g. **18.82** and Inv. No. 78.72, n. 165). The nail holes in these suggest that they formed a thin lead covering for another object. The plaques may have been intended for nailing on as decoration. Since our plaques have untrimmed edges and no nail holes, however, clearly they were never used in this way. Parallels are few. Schiering, in describing an example found in Miletos which is close to our **18.42**, takes it to be a three-legged dining-table.¹⁰⁵ This interpretation seems most unlikely: the three "legs" are better seen as overflow channels linking similar items in a multiple mould (which must have produced at least six similar pieces - one above and one below ours - with a similar row of three to the left). The depiction of a Herakles figure on Schiering's example also argues against interpreting these as tables holding food offerings.

The combination of grapes and an animal leg, and the possible inclusion of a fish, suggest alternative interpretations for uncertain objects depicted. The pyramidal projection may also be food: a cake is possible, though the pyramidal cakes in sixth/fifth century B.C. vase-paintings appear to be round-based cones; possible also is a mound of flour or soft cheese patted into shape. It may be that the three "shields" are reversed metal plates with central depressions. While this may make better sense than taking them as shields, this interpretation is purely speculative.

The only real clue to their use is given by the Miletos example, which has a handle for suspension in the middle of the upper edge. This suggests that these "table" plaques were used as

votives. If so, the Miletos example would have been offered at a shrine of Herakles. The destination of the Torone examples remains uncertain.

Small Relief Plaque (**18.43**)

18.43 (78.685)

Fig. 172

Isthmus TR1 tr3 (2).

H. 0.038; W. 0.027; Th. 0.002.

Part of rectangular plaque with relief decoration; ridges on back corresponding to edges of depressions on front; right-hand edge preserves a damaged decorative extension. Decorated with a fish to the right and another object to the left. Broad border plain except for slightly indicated mitring in corners.

This small fragmentary plaque is even more enigmatic than **18.42**. Along its three preserved sides the plaque has merely a broad, slightly raised band with an indeterminate edge, and it is impossible to be sure about its original dimensions. The ridges on the back appear to indicate either that it was cast in a two-piece mould (which seems an unnecessarily complicated way of making such a piece) or that it was produced by striking (which also seems unlikely); the ridges do not appear to be the result of the metal shrinking in cooling, since the corresponding marks on the front are not deep. The right-hand side perhaps preserves two nail holes along its damaged edge, which suggests that it was originally part of a lead-covered box (see above). If this is so, the irregular right-hand edge was presumably covered by a piece of lead sheet.

¹⁰⁵ See W. Schiering, "Milet: eine Erweiterung der Grabung östlich des Athenatempels," *Ist.Mitt.* 29 (1979) 77-108, esp. pp. 100-101 and pl. 21, 1-3. The only parallel which he can find is from Limyra, published in *TürkArkDerg* XX-1 (1973) pp. 44 f., p. 51 fig. 6. Both date from the second half of the fourth century and appear to have religious connections.

5. NAILS AND IRON BOSSES

Until the Roman period, and presumably mostly for shipbuilding, joints and dowels were used for wood-work of high quality. See, for example, the Hellenistic wooden sarcophagus from Elaia near Pergamon,¹⁰⁶ which is a work of the best quality. For routine work and rough construction, however, we should expect the use of nails. To meet the different requirements of construction, different types of nails were developed, and such a variety of nails existed already in the Classical Period.

Nails were used in connection with burials at least as early as the sixth century B.C. Burrows and Ure drew attention to the iron nails from graves 49 and 50 at Rhitsona dating from about 540 B.C.,¹⁰⁷ and suggest that a bier was used for burial. C. Watzinger also mentions nails found in Dipylon graves which were no doubt used for biers, on which the dead lay in state at home, before being placed on a cart and driven to the Dipylon cemetery in Athens for burial.¹⁰⁸ This claim is supported by the finds of Petsas at Vergina¹⁰⁹ where about thirty nails were found. They are not illustrated separately, but the plan suggests that they are not the same as the Torone triangular-headed nails used in a similar context.

The nails have been classified according to their material and form. Despite Manning's comments on earlier classifications of Roman iron nails in Britain,¹¹⁰ we have considered it more useful to divide the Torone nails into several categories rather than, as he did, lump all into two classes each of which contained a number of allowable variations. The mere number of the Torone nails makes a subdivision into a number of classes more useful.

A. NAILS

IRON (18.44 - 18.51)

Triangular head, medium rectangular shaft

18.44¹¹¹ (75.162)

Fig. 172

Structure 1 TR1 tr1 (7).

L. 0.074. Head: Th. 0.014 x 0.012. Shaft: Th. 0.008 x 0.006. Wt. 11.78 gms.

Thin triangular head; shaft rectangular in section, tapering towards point. Point not preserved.

¹⁰⁶ W. Gaitzsch, P. I. Kuniholm, W. Radt and S. Schiefer, "Ein hölzerner hellenistischer Sarkophag aus Elaia bei Pergamon," *Ist.Mitt.* 35 (1985) pp. 139-172, pls. 31-37.

¹⁰⁷ See *BSA* 14 (1907/8) pp. 242-245, figs. 6 and 7, and the comments in note 5.

¹⁰⁸ See *Griechische Holzsarkophage*, p. 66.

¹⁰⁹ See *AD* 18 (1963) *Chron.* pp. 228-229 and 231, fig. 23, burial LXXIII A.

¹¹⁰ See W. H. Manning, "The Iron Objects," in S. Frere *et.al.*, *Verulamium Excavations* 1 (London 1972) p.186, who questions the validity of subdividing nails into specific typological groups even in such cases as the Inchtuthill hoard where the nails are remarkably well preserved.

¹¹¹ Cf. *Olynthus* X, pp. 323, 327-328, nos. 1529-1540, pl. 95. Other examples: Gate Area - TR2 tr4 (4): 75.466 A

Small, thin flat circular head, thin rectangular shaft

18.45¹¹² (76.735)

Fig. 172

Gate Area TR6 tr2 (3).

L. 0.01. Head: D. 0.021; Th. 0.0035. Shaft: Th. 0.003 x 0.003.

Head thin, flat and circular; shaft rectangular in section, tapering towards point, joining head slightly off-centre. Point not preserved.

Large fairly thin flat circular head, medium rectangular shaft

18.46¹¹³ (76.870 B)

Fig. 172

Gate Area TR4 Ext 1 (3).

L. ca. 0.15. Head: D. 0.025; Th. 0.004. Shaft: Th. 0.010 x 0.010.

Head fairly thin, flat and circular; shaft rectangular in section, tapering towards point; bent at right angle.

Large flat circular head thick at join with shaft, medium rectangular shaft

18.47¹¹⁴ (78.928)

Fig. 172

Lower City TR2 (1).

L. 0.041. Head: D. 0.017; Th. 0.002. Shaft: Th. 0.008 x 0.008 - 0.0045 x 0.0045.

Round flat head, thick at join with shaft; shaft rectangular in section, tapering towards point. Point not preserved.

Large thick circular head, thick rectangular shaft

18.48¹¹⁵ (78.635)

Fig. 172

Isthmus TR3 tr2 Ext. 1 (2).

L. 0.010. Head: D. ca. 0.025. Shaft: Th. 0.012 x 0.012. Wt. 56.23 gms.

Head thick, flat; shaft rectangular in section, tapering towards point, bent. Head corroded and slightly damaged; point perhaps preserved.

Small thick circular head, thin rectangular shaft

18.49¹¹⁶ (78.707)

Fig. 172

Lower City TR2 (1).

L. 0.0414. Head: D. 0.011; Th. ca. 0.005. Shaft: 0.0057 x 0.0063 - 0.003 x 0.003.

and B; TR2 tr4 (4) Tomb 1: 75.749, 75.751- 53, 75.755, 75.756 A, 75.759, 75.760, 75.761+75.762 (joining), and 75.764; seven nail shaft fragments of similar size and thickness were also found in this deposit at regularly spaced intervals around the skeleton (75.750, 75.754, 75.756 B, 75.758, 75.763, 75.765 and 75.766).

¹¹² Other examples: Gate Area - TR7 tr1 (3): 76.744. Isthmus - TR1 tr2 (6): 78.839; TR2 tr1 (3): 78.1076. Hill 2 - TR3 (4): 78.1755. Further examples (probably with thicker heads and shafts, badly corroded, but comparable with 78.1076): Isthmus - TR2 tr1 (4): 78.446; TR2 tr1 (5a) 78.403.

¹¹³ Other examples: Gate Area - TR4 Ext 1 (3): 76.860, 76.862 A, 76.864 B, 76.865, 76.868, 76.870 A; TR4 Ext 1 (4): 76.355 A; TR4 (3): 75.465; TR6 tr2 W (3): 76.372 A and fragment 76.372 B. Structure 1 - TR1 tr1 (1)-(3): 75.19. Structure 3 - TR15 (4): 78.520.

¹¹⁴ Cf. *Olynthus* X, pp. 323-324, nos. 1486-1495, pl. 95. Other examples: Isthmus - TR1 tr1 (1): 76.70; TR2 tr1 (4-5): 78.547 A; TR2 tr1 (3a): 76.492 A, 78.75 C; TR3 tr1 (3) B8: 78.484; TR3 tr2 (2): 78.133; TR3 tr2 (3) B14: 78.485. Structure 3 - TR7 (2): 76.15. Lower City - TR1 (1) NE: 78.566; TR1 (1) E: 78.1067; TR3 (3) N: 78.1456; unstratified: 78.1215. Lekythos - TR1 (2): 78.1641; TR2 (3): 78.1677; TR2 (4): 78.1044, 78.1045.

¹¹⁵ Other examples: Isthmus - TR1 tr1 (1): 76.112; TR1 tr1 (2): 76.146, 76.321, 76.323, 76.334, 76.335; TR1 tr1 (4): 78.11; TR1 tr1 (4a): 78.38; TR1 tr2 (4a): 78.278; TR1 tr2 (6b): 78.1180; TR1 tr3 (1): 78.282; TR2 tr1 (1) S Ext: 76.329 A, 76.331; TR2 tr1 (5a): 78.402; TR2 tr2 (1): 78.784; TR2 tr2 (2): 78.723, 78.794; TR3 tr1 Ext. (1): 78.80; TR3 tr1 (3) B6: 78.1366; TR3 tr1 (3) B8: 78.601, 78.812, 78.814; TR3 tr2 (2): 78.1304; TR3 tr2 Ext 2 (2): 78.1499; TR3 tr2 (3) B18: 78.643; TR3 tr2 (3) B19: 78.1483. Lekythos - TR1 (1): 78.1003; TR1 (2): 78.993, 78.994; TR1 (3): 78.1054, 78.1464, 78.1465; TR2 (2): 78.1050; TR2 (3): 78.991; TR2 (4): 78.1046; TR2 (6): 78.1343, 78.1344. Hill 2 - TR3 (4): 78.1449.

¹¹⁶ Other example: Isthmus - TR2 tr1 (3): 78.1077.

Small thick flat round head; shaft rectangular in section, tapering towards point. Point not preserved.

Round conical head, thin rectangular shaft

18.50 (78.525)

Fig. 172

Lower City TR2 (1)

L. 0.035. Head: D. 0.020; Th. (max.) 0.010. Shaft: Th. 0.005 x 0.005 - 0.003 x 0.003.

Round conical head; shaft rectangular in section, tapering towards point. Point not preserved.

Unidentifiable (perhaps nail shaft with flattened end)

18.51¹¹⁷ (76.16)

Not illustrated

Structure 3 TR10 (2).

L. 0.046; Th. 0.006 x 0.006 - 0.003 x 0.003.

Shaft rectangular in section, tapering towards point, with flattened upper end. Point not preserved.

BRONZE (18.52 - 18.61)

Very small thin flat head, thin rectangular shaft

18.52 (78.42 A)

Fig. 172

Isthmus TR2 tr1 (3a).

L. 0.0201. Head: D. 0.0066; Th. 0.0010. Shaft: Th. 0.0025 x 0.0025 - 0.0013 x 0.0011.

Very small thin flat head; short shaft, rectangular in section, tapering towards point. Point not preserved; shaft slightly bent; head damaged at edges.

This example was found in a nail-hole in the bronze sheet **18.81**. It is not a tack (e.g. **18.53**) since the head is too small and the shaft too thin and long. The original shape of the head is impossible to determine, since the edges are damaged; as preserved, the shaft is joined off-centre.

Medium thin flat head, thin rectangular shaft (tack)

18.53¹¹⁸ (78.06)

Pl. 97

Isthmus TR2 tr1 (3a).

L. 0.0225. Head: D. 0.0173; Th. 0.0007. Shaft: Th. 0.0038 x 0.0036 - 0.0012 x 0.0016. Wt. 2.05 gms.

Thin flat round head; short shaft, rectangular in section, tapering towards point. Point preserved. No trace of hammering.

Medium thin flat head, long thin rectangular shaft

18.54¹¹⁹ (78.680)

Fig. 172; Pl. 97

Isthmus TR2 tr1 (5a).

L. 0.060. Head: D. 0.0138; Th. 0.0012. Shaft:

¹¹⁷ In addition there are 60 nail shaft fragments inventoried from the site: Lekythos - TR1 (2): 78.1640; TR2 (1): 78.997; TR2 (2): 78.1052. Gate Area - TR1 tr1 (5): 75.142; TR2 tr2 (5): 75.107; TR2 tr2 (5) SE corner: 75.112; TR4 Ext 1 (3): 76.861, 76.863 A and B, 76.870 C and D; TR4 Ext 1 (4): 76.355 B, 76.857; TR6 tr2 baulk (2): 76.754; TR6 tr3 (4): 76.751. Structure 1 - TR1 tr1 (4): 75.30; TR1 tr1 (5): 75.76; TR1 tr1 (6): 75.161; TR1 tr1 (7): 75.165; TR1 tr1 (8): 75.159; 75.163. Hill 2 - TR2 Ext (2): 78.877; TR2 Area 3 (1): 78.1033; TR3 (3): 78.1068 C. Isthmus - TR1 tr1 (2): 76.336; TR1 tr1 (3): 76.475; TR1 tr2 (2): 76.478; TR1 tr3 (1): 78.333; TR1 tr3 (2) SW: 78.799; TR2 tr1 (1) S Ext: 76.505, 78.17, 78.75 A; TR2 tr1 (2): 76.327, 76.347; TR2 tr1 (3): 78.359 B, 76.494, 76.805 A-C, 78.1078; TR2 tr1 (3a): 78.39 A, 78.39 B, 78.75 B, 76.795, 78.349; TR2 tr1 (4a): 78.303, 78.390, 78.391; TR2 tr1 (5a): 78.401, 78.547 B; TR2 tr2 (2): 78.793; TR3 tr1 Ext 2 (1): 78.626; TR3 tr1 (3) B8: 78.637, 78.811 A and B, 78.813, 78.1277; TR3 tr2 (2): 78.267; TR3 tr2 Ext 2 (2): 78.886; TR3 tr2 (3): 78.1482; TR3 tr2 Ext 2 (3): 78.1515; TR4 tr1 (3): 78.1412.

¹¹⁸ Other examples: Isthmus - TR1 tr1 (3): 76.511; TR2 tr1 (3): 76.508, 76.522, 76.799, 78.68, 78.69; TR3 tr1 (3) B8: 78.472, 78.1745; TR3 tr1 Ext 2 (2): 78.921; TR3 tr2 (2): 78.130; TR4 tr1 (2): 78.916. Structure 3 - TR5 (2): 76.411.

¹¹⁹ Other examples: Isthmus - TR2 tr1 (3): fragment 78.28; TR2 tr1 (3a): 76.506; TR3 tr2 (2): fragment 78.132. Lower City - TR1 (1): 78.526. Hill 2 - TR3 (4): fragments 78.1447 A and B.

Th. 0.0044 - 0.0012 x 0.0012. Wt. 5.89 gms.
Medium thin flat round head; long shaft, circular in section at top, then rectangular in section, tapering towards point; shaft apparently joined slightly off-centre. Point preserved; shaft slightly bent. No trace of hammering.

Small thin flat head, thin rectangular shaft

18.55¹²⁰ (78.330) Fig. 172
Isthmus TR2 tr1 (4-5).
L. 0.0222. Head: D. 0.0112; Th. 0.0006. Shaft: Th. 0.003 - 0.0013 x 0.0019.
Small thin flat round head; short shaft, circular in section at top, then rectangular in section, tapering towards point; shaft joined a little off-centre. Point not preserved; shaft slightly bent. Hammered.

Small thin flat head, thick rectangular shaft

18.56¹²¹ (78.1427) Fig. 172
Isthmus TR3 tr1 (3) B6.
L. 0.0260. Head: D. 0.0115; Th. 0.0018. Shaft: Th. 0.0063 - 0.0031 x 0.0031.
Small thin flat round head; thick shaft, circular in section at top, then rectangular in section, tapering towards point. Point not preserved; shaft slightly bent. No trace of hammering.

Small thick flat head, thick rectangular shaft

18.57¹²² (78.280) Fig. 172
Isthmus TR1 tr3 (1).
L. 0.0307. Head: D. 0.0137; Th. ca. 0.0034. Shaft: Th. 0.0075 x 0.0082 - 0.0035 x 0.0035.

Small thick flat round head; long shaft, rectangular in section, tapering towards point. Point not preserved. Head made slightly convex through hammering.

Very large thick flat head with down-turned edges, thick circular shaft

18.58 (78.19) Fig. 172
Isthmus TR2 tr1 (3a).
L. 0.0475. Head: D. 0.0286; Th. ca. 0.0033. Shaft: Th. 0.0091 - 0.0072.

Very large thick flat round head, probably with down-turned edges; long shaft, circular in section, with some facets, tapering slightly towards point; shaft joined slightly off-centre. Point not preserved; shaft bent; head slightly damaged at edges, distorted. No trace of hammering.

Medium thick flat head with down-turned edges, thick circular shaft

18.59¹²³ (78.284) Fig. 172
Isthmus TR1 tr3 (1).
L. 0.0400. Head: D. 0.0200; Th. 0.0040. Shaft: Th. 0.0074 - 0.0055.

Medium thick flat round head with down-turned edges; long shaft, circular in section, with some facets, tapering slightly towards point. Point not preserved; shaft bent; head bent against side of shaft. No trace of hammering.

Small thick flat head with down-turned edges, thick circular shaft

18.60¹²⁴ (78.124) Fig. 172; Pl. 97

¹²⁰ Other example: Isthmus - TR1 tr1 (2): 76.333.

¹²¹ Other example: Isthmus - TR1 tr3 (1): 78.286.

¹²² Other examples: Isthmus - TR2 tr1 (1): 76.318; TR2 tr2 (1): 78.841; TR3 tr1 Ext. 1 (2): 78.630.

¹²³ Other examples: Lekythos - surface find: fragment 76.99. Isthmus - TR3 tr2 (3) B6: fragment 78.1074.

¹²⁴ Other examples: Isthmus - TR1 tr1 (3): 76.473; TR1 tr2 (4a): 78.731; TR1 tr2 (5-6b): 78.840; TR1 tr2 (6a): fragments 78.954, 78.955; TR1 tr3 (2a): fragment 78.922; TR1 tr3 (3): 78.861; TR2 tr1 (3): fragment 76.803; TR2 tr1 (3a): 76.797; TR2 tr1 (4): 78.123; TR2 tr1 (4-5): 78.331; TR2 tr1 (5a): fragment 78.405; TR2 tr2 (1a): 78.926; TR3 tr1 (2) Feature 1 B7: 78.613; TR3 tr1 (3) B7: fragment 78.1274; TR3 tr1 (3) B8: 78.474, 78.528; TR3 tr1 Ext 3 (3) B3: fragment 78.883; TR3 tr1 Ext 3 (3) B4: fragment 78.1386; TR4 tr1 (3) B7: fragments 78.1387, 78.1388. Lower City - TR1 S (4): 78.1214. Hill 2 - TR3 (4): 78.1348 A and fragment 78.1348 B.

Isthmus TR2 tr1 (4a).

L. 0.0870. Head: D. 0.0160; Th. 0.0044. Shaft: Th. 0.0065 - 0.0018 x 0.0018. Wt. 14.78 gms.

Small thick flat round head with down-turned edges; long shaft, circular in section, with some facets, becoming more rectangular in section as it tapers towards point. Point preserved; shaft bent. Head made slightly convex through hammering.

Large thick flat head with down-turned edges, thick circular shaft

18.61¹²⁵ (78.835)

Fig. 172

Isthmus TR1 tr2 (5).

L. 0.1297. Head: D. 0.0240; Th. 0.017. Shaft: Th. 0.0092 - 0.0062.

Large thick flat round head with down-turned edges; thick circular shaft becoming more rectangular in section as it tapers towards point; shaft joined to head a little off-centre. Point not preserved. Shaft bent. Head slightly convex through hammering.

B. IRON BOSSES (18.62 - 18.63)

Small

18.62 (78.257)

Fig. 172

Isthmus TR3 tr2 (2).

H. 0.0224. Head: D. 0.0390; Th. 0.0031. Shaft: L. 0.014; Th. 0.0170 x 0.0114. Wt. 26.70 gms. (head 22.88 gms.).

Thick round convex head; thick shaft, rectangular in section. Shaft broken; head distorted by corrosion.

Large

18.63¹²⁶ (78.16)

Fig. 172; Pl. 97

Isthmus TR2 tr1 (3).

H. 0.0806. Head: D. 0.0508; Th. *ca.* 0.0025. Shaft: Th. 0.0119 x 0.0102 - 0.0081 x 0.0078.

Thick round convex head; thick shaft, rectangular in section, tapering towards end. Point not preserved; shaft broken, bent; head damaged.

6. HOUSEHOLD ITEMS AND SMALL EQUIPMENT

A. BRONZE KNIFE SHEATHS (18.64 - 18.65)

Both sheaths come from the Isthmus and are of Post-Byzantine date. In each case the sheath is formed of thin bronze sheet, which was folded over with the edges joined along the slightly curved cutting-edge side. The decoration is

confined to one face. **18.65** has a separately attached decorated band at the handle end. The holes in **18.64** and the break at about the same distance from the point as in **18.65** suggest that **18.64** had a similar band. **18.65** evidently had a wooden lining, required by the extreme thinness of the bronze. There is no trace of wood in

¹²⁵ Other examples: Isthmus - TR2 tr1 (3): 78.05; TR3 tr1 (3) B8: fragment 78.483. Lower City - TR1 S (3): fragment 78.708; TR1 NE Ext (2): fragment 78.1335. Structure 1 - TR1 tr1 (8): fragment 75.160. Hill 2 - TR2 Area 3 (1): fragment 78.764. 78.483 is included here with some hesitation, as it is precisely rectangular in section with clearly defined edges: it does taper, and it is perhaps a shaft which was being processed. Inv. No. 78.708 is more clearly a nail than is Inv. No. 78.483, which combines taper with faceted rectangular section.

The following are possibly bronze nails: Isthmus - TR1 tr1 (1): fragment 76.117; TR1 tr2 (3): fragment 76.498; TR2 tr1 (3): fragments 76.801 B and 78.70; TR2 tr1 (3a): fragment 78.76; TR3 tr2 (3) B14: fragment 78.1299.

Lower City - TR1 S (4): 78.704.

¹²⁶ Other examples: Isthmus - TR1 tr2 (4a): 78.277; TR3 tr1 (2) Feature 1 B7: 78.912. Gate Area - TR4 Ext 2 (4): 76.371.

18.64, but the lightness of the metal in this case too, would make the use of lining likely, wood again or possibly leather as in other contemporary knife-sheaths from the Balkans.¹²⁷ Three of the much larger knife-blades from the Isthmus¹²⁸ have traces of a wooden sheath-lining on their blades.

The use of diagonal lines at the edges of **18.64** is paralleled in a general way by the decoration at the edges of a bone knife-handle from Corinth¹²⁹ of the Byzantine period. We should probably imagine the handle and the knife-sheath decorated to match each other. The decoration might have suggested an earlier date for **18.64** but the context of both knife sheaths is Post-Byzantine (**18.64** is from Structure A, **18.65** from Structure E of the Isthmus).

18.64 (76.484) Fig. 173
Isthmus TR1 tr2 (2).

Fragment of gilded bronze sheath.

L. 0.051; W. 0.007 - 0.019.

Part near point preserved. One side has four small holes near handle end; other side decorated with (a) intersecting diagonal and vertical incised lines and (b) opposed diagonal lines not meeting.

18.65 (78.834) Fig. 173
Isthmus TR2 tr2 (1a).

Two fragments made of very thin bronze.

(a) L. 0.058; W. 0.007 - 0.015; Th. 0.0007.

(b) L. 0.065; W. 0.008; Th. 0.003.

Fragment (a) has one straight and one curved edge, tapering towards point; cavity approximately circular in section; one side undecorated, other side has stamped pattern of three joining lozenges formed by small curved zig-zags; two pieces of wood preserved inside; (b) is similarly decorated; more worn and accidentally flattened; upper end of sheath preserved in small band of criss-cross decoration, W. 0.006.

B. IRON KNIFE (**18.66**)¹³⁰

18.66¹³¹ (76.738) Fig. 173; Pl. 97
Gate Area TR6 tr2 N (3).

Flat tapering blade, broken at both ends.

L. 0.103; W. 0.032; Th. 0.002, (with handle) 0.014.

Remains of bone handle attached either side with at least four pins passing right through; two projections on one side, along edge, perhaps stops for handle.

¹²⁷ See for example the more elaborate knife and sheath of the eighteenth century in the London Cutlers' Company Collection, *Masterpieces of Cutlery and the Art of Eating, Exhibition Catalogue, Victoria and Albert Museum* (London 1979) p. 47, no. 184 (not illustrated). A contemporary Greek case for a knife of similar scimitar-blade shape and a fork is no. 182 in the same exhibition (p.47, illustration 26).

¹²⁸ See n.131 below.

¹²⁹ *Corinth* XII, p. 191, no. 1413, pl. 85.

¹³⁰ Other examples: Isthmus - TR1 tr2 (2): 76.344; TR1 tr2 (3): 76.2125; TR2 tr2 (2): 78.866; TR3 tr1 Ext (1): 78.79; TR3 tr2 Ext 2 (2) : 78.885; TR3 tr2 (3) B14: 78.891. The most recent of these are from Structures A and B of the Isthmus and date from the Post-Byzantine period.

¹³¹ Of the items mentioned in n. 130, 76.344 is a well preserved blade with a small part of the handle; 78.79 is a well preserved handle with a small part of the blade and the beginning of a suspension ring. 78.866 and 78.885 are both Post-Byzantine or possibly Late Roman; the first is blade-shaped like an old-fashioned pen-knife with some of the wooden lining of the sheath preserved along the cutting edge. The second is a fragment of a blade with traces of a wooden sheath. The fragment 78.891 is from a predominantly Late Classical context and likewise has traced of wood along the thin side.

The context of **18.66** dates it to the Classical period. Along with several others, it preserves part of the handle and short pins for fixing the bone or wooden scales to the metal tang.

C. BRONZE FORK (18.67)

18.67 (78.705)

Fig. 173; Pl. 97

Lower City TR1 S (3).

L. 0.1243. Shaft: Th. 0.0039 x 0.0050. Tines: L. 0.0412; Th. 0.0032 x 0.0028 - 0.0020 x 0.0015, 0.0031 x 0.0034 - 0.0023 x 0.0016. Tine points 0.0150 apart.

Points preserved; shaft broken.

Long slender shaft of roughly uniform thickness, circular in section, flattened towards division into two tines; tines rectangular in section, becoming more circular as they taper toward points.

The closest parallel for this bronze item we know of was found at Glaphyrai in Magnesia and dated to the Roman period.¹³² The context at Torone likewise suggests a Late Roman date, although a Classical one cannot be absolutely excluded.¹³³

Our object is not a probe¹³⁴ or tenaculum¹³⁵ since it has not the hooks or sharply pointed ends required. Nor can it be a netting needle¹³⁶ such as **18.25**, since the space between the

prongs is too wide and netting needles should have tines at both ends.¹³⁷

Such a fork will have been used in the preparation and serving of food rather than for eating.¹³⁸

D. BRONZE MEDICAL INSTRUMENT(?) (18.68)

18.68 (78.481)

Fig. 173

Isthmus TR3 tr1 (3) B8.

L. 0.1166. Shaft: Th. 0.0026 - 0.0020. Bowl: L. 0.0255; W. 0.0098; Depth 0.0038.

Long thin handle, circular in section, with slight knob at one end; bowl leaf-shaped, with V-section, broken at end. Two parallel lines incised around handle near bowl.

The closest parallel found is not decisive in determining the use of this object. In an Early Christian burial of the sixth century A.C. at Nemea¹³⁹ were found what were called two curious bronze "spatulas" (BR830, BR835). They appear to have a leaf-shaped blade with a central depression, a bulb at the junction with the stem, and a knob at the end. They were found with "ear spoons", bronze pins, rings and a coin. The "spatulas" might be medical instruments like the "ear spoons", or they might be merely prized possessions with a quite different

¹³² AD 23 (1968) *Chron.*, p. 265, pl. 204a.

¹³³ An iron fork datable approximately to the eleventh century A.C., found at Corinth (*Corinth* XII, p.194, no. 1461, pl. 388) is not a true parallel in shape, since it originally had three tines.

¹³⁴ Cf. *Olynthus* X, p. 349, no. 1668, pl. 110.

¹³⁵ Cf. H.B. Walters, *Catalogue of Greek, Roman & Etruscan Bronzes in the British Museum* (London 1899) pp. 313-314, nos. 2322-2326.

¹³⁶ Cf. *Olynthus* X, pp. 364-365, nos. 1763-1787, pl. 116.

¹³⁷ Cf. Deonna's doubts about the identification of such objects as netting needles, *Délos* XVIII, p. 202.

¹³⁸ The earliest illustration clearly showing forks used in eating is of the eleventh century A.C. where the fork is both narrower and longer than **18.67**. See the MS of Hrabanus Maurus *Glossaria* of A.D. 1023 at Montecassino illustrated in *Masterpieces of Cutlery and the Art of Eating* (*supra* n. 127), p. xi.

¹³⁹ *Hesperia* 50 (1981) p. 50, pl. 12d.

use. The type of object from Nemea called "spatula" has been classified as "Spatelsoende" by Künzl in his comprehensive article on medical instruments of the Roman period. The "Spatelsoende" is one of a range of probes mentioned in the ancient sources, used for both pharmaceutical and cosmetic purposes.¹⁴⁰

The context of **18.68** is late fourth century B.C., but some intrusive Late Roman material was encountered in the interface between Unit 2 and Unit 3 and is seen to be Late Roman contamination. The close resemblance to the Nemea examples suggests that **18.68** should also be dated in the Late Roman period.

E. BRONZE SKEWER (18.69)

18.69 (78.1314)

Fig. 173; Pl. 97

Lekythos TR2 (6).

L. 0.3093; Th. 0.0032 x 0.0030 - 0.0012. Loop: D. 0.0145 - 0.0155.

Long thin shaft, roughly circular in section, of fairly uniform thickness; one end pointed; other end turned back on itself to form loop.

This simply-constructed bronze skewer is assumed to have been designed for the preparation or serving of food. It was found in an ashy pit containing a mixture of black-glazed pottery, lead-glazed pottery, glass and Chinese porcelain. A Post-Byzantine date is suggested.

F. LEAD PESTLE, POUNDER OR WEIGHT (?) (8.70)

18.70 (78.730)

Fig. 173

Isthmus TR1 tr2 (4a).

L. 0.028; W. (top) 0.020, (bottom) 0.026. Central spike *ca.* 0.005 x 0.005 at end. Central tapering spike with taller outer cylinder, both attached to circular base which is flat beneath and projecting all around.

18.70 comes from a Phase III Late Classical deposit with some Late Roman contamination. Parallels for such a lead object may be found in the lead pestles at Olynthos¹⁴¹ from the fourth century B.C.; these have provision for a wooden handle fitting over a central spike. The pestles from Olynthos, however, are larger than **18.70**, have rounded bases similar to the bronze examples from Byzantine contexts at Corinth,¹⁴² and are not enclosed at the sides.

The use of the Torone object is not certain. As it does not appear to have been used for grinding against a curved surface, its identification as a pounder is perhaps more likely. It is also possible that the object was a weight in the base of an object.

G. BRONZE VESSEL RIM (18.71)

The fragments of a bronze vessel rim **18.71** and their fellow Inv. No. 78.319 (n. 144) are too small and indeterminate to allow any useful reconstruction of the type of vessel represented. **18.71** bears a general resemblance to the examples published in *Corinth* XII, which range in date from the Geometric period up to the eleventh century A.C. and later.¹⁴³

18.71 comes from a Post-Byzantine context which also yielded much earlier material; it is

¹⁴⁰ See E. Künzl, "Medizinische Instrumente aus Sepulkralfunden der römischen Kaiserzeit," *BjB* 182 (1982) pp. 27-28, 43.

¹⁴¹ *Olynthos* X, pp. 486-487, nos. 2547-2553, pl. 161.

¹⁴² *Corinth* XII, pp. 189-190, 193, nos. 1440-1442, pl. 87.

¹⁴³ *Corinth* XII, pp. 68-72, nos. 517, 527-531, 542, figs. 1-2, especially no. 529 which is possibly of the Roman period; the principal difference is that the upper surface of the rim of no. 529 is not flat like that of **18.71**.

best seen as Post-Byzantine. Inv. No. 78.319 comes from a Late Classical context.

18.71¹⁴⁴ (78.1659) Pl. 97
Lekythos TR2 (3).
H. 0.0371; W. 0.04255; Th. 0.0006 - 0.001.
Rim: Th. 0.0024; D. *ca.* 0.120; Depth 0.005.
Rim and part of wall of bowl or cup with thickened rim. Upper surface of rim flat; two incised parallel lines on side of rim.

H. BRONZE SPINDLE HOOK (18.72)

18.72 (78.1457) Fig. 173
Lower City TR1 S (3).
L 0.0389; D. (bottom) *ca.* 0.005; Th. (bottom) 0.0005.
Hollow hook formed from single tapering piece of bronze sheet, folded, and bent at top.
The spindle hook comes from a Late Roman context.

Close parallels are found at Lindos, from before 525 B.C.¹⁴⁵ and at Olynthos of the Classical period;¹⁴⁶ other close parallels occur at Abdera and Corinth.¹⁴⁷ All these examples are of the simplest construction, and illustrate the difficulty in dating such objects in common use over a very long period.

At Olynthos, each of the recorded examples either had, or was estimated to have had, a hole through the metal just above the lower end; at Corinth some (nos. 1223, 1224) had no hole,

and some (nos. 1225-1228) had a hole, sometimes quite high in the shaft (no. 1226). Some of the Corinth examples (nos. 1223, 1226-1228) were decorated; none of the Olynthos ones was. Neither the hole nor the decoration seem to help in dating.

At Corinth one uncatalogued spindle hook still preserved remains of wood inside, clearly indicating (if this were needed) that Furtwängler's identification of these items as pendants was wrong.¹⁴⁸

The Classical term for the spindle hook seems to have been ἄγκιστρον¹⁴⁹ (as for fish-hook), with ἄτρακτος for the spindle.¹⁵⁰ Clear illustrations of the spindle in use are found on a lekythos by the Amasis Painter and an oinochoe by the Foundry Painter.¹⁵¹

I. BRONZE NEEDLE (18.73)

18.73 (78.1063) Fig. 173
Lower City TR1 S (3).
L. 0.0571. Shaft: Th. 0.0037 x 0.0028 - 0.0040 x 0.0037. Eye: Th. 0.0046 x 0.0019. D. (hole) *ca.* 0.0015.
Long shaft, roughly circular in section; one end flattened and pierced for eye; beyond eye, twisted at right angles; other end broken.
This large bronze needle comes from a context that is predominantly Roman, though the possibility of a Late Classical date for it cannot be absolutely excluded.

¹⁴⁴ Other example: Isthmus - TR2 tr1 (4): fragment 78.319.

¹⁴⁵ *Lindos* I, no. 343, which is almost identical in size and has no hole.

¹⁴⁶ *Olynthus* X, pp. 374-377, nos. 1884-1892, pl. 119.

¹⁴⁷ AD 22 (1967) *Chron.*, p. 430, pl. 316 δ, from a "Late Roman" tomb, T2; *Corinth* XII, pp. 173, 176, nos. 1223-1228, pl. 78.

¹⁴⁸ Furtwängler, *Olympia* IV, p. 61, no. 422, pl. 23.

¹⁴⁹ Plato, *Republic* 616c.

¹⁵⁰ Aristophanes, *Frogs* 1348.

¹⁵¹ New York 31.11.10, *ABV*, p. 154, no. 57 and London D13, *ARV*² p. 403, no. 38.

Similar examples are found as early as the Mycenaean period (e.g. at Nichoria),¹⁵² Olynthos produced examples from the fourth century B.C.¹⁵³ Early examples, however, are rarely found (for example, at Corinth the earliest metal example is Late Roman).¹⁵⁴

The rarity of early metal needles is probably due to two factors. Firstly, in the earlier period, fine needles would have been required only for attaching buttons, other fasteners or appliqué, since garments were made from folded single pieces of cloth and the use of the needle for embroidery is unlikely;¹⁵⁵ secondly, fine metal needles are especially subject to decay and therefore few have survived the ravages of time. Large metal needles are found widely (especially those with long bent shafts and sometimes two eyes);¹⁵⁶ this suggests industrial use such as with heavy cloth or sacking or with leather. Bodkins, with flattened shafts, are also found.

Needles could be made in three ways, all illustrated in the finds from Corinth: (a) by flattening the head and punching a round hole (e.g. nos. 1235-1240); (b) by splitting the head, producing a long, narrow eye (e.g. nos. 1241-1245); (c) by flattening the head, then splitting it (e.g. nos. 1246-1247). The technique of manu-

facture does not appear to be helpful in dating. **18.73** was made by method (a).

J. HANDLES (18.74 - 18.79)

IRON

18.74¹⁵⁷ (78.1493) Fig. 173; Pl. 97
Isthmus TR4 tr2 (2) bothros.
L. 0.135; W. 0.065 - 0.016; Th. 0.005. Hook: L. 0.012; Wt. 21.11 gms.

Almost circular in plan. The ends have been bent inwards and backwards to form hooks on the reverse side, on which there is a projection at the centre. The width of the handle is greatest at this point. This and the almost identical iron handle mentioned in n. 157 are from the same context and seem to be a pair. They probably belong to Structure B and date from the Post-Byzantine period. Though the handles themselves are heavy, and might suggest use on a heavy item, the hooks at the back seem almost too light by comparison. The central projection would make the handle hang parallel to the backing and would facilitate its lifting.

18.75 (76.381) Fig. 173
Isthmus TR1 tr2 (2) FC I.
H. 0.083; W. 0.079; Th. 0.008 x 0.005.

¹⁵² AD 29 (1973-74) *Chron.*, p. 323, pl. 204 c.

¹⁵³ *Olynthus* X, pp. 362-363, nos. 1750-1754, pl. 115.

¹⁵⁴ *Corinth* XII, pp. 173, 176, nos. 1235-1247, pl. 78. Note, however, the group of iron needles in a wooden needle-case from Chesterholm, Northumberland ca. A.D. 100, *Britannia* 19 (1988) p. 434, pl. 22 B.

¹⁵⁵ Wace casts doubt on the frequency of embroidery in Classical times (A.J.B. Wace, "Weaving or Embroidery?" *AJA* 52 [1948] pp. 51-55). That the use of needles was not, in the Classical period at least, exclusively a female preserve is indicated by finds such as those in Rhitsona Grave 139 (440-424 B.C.), where the single body was accompanied by four bronze and two iron strigils (nos. 46-49, 54-55) and a bronze needle (no. 53), P. N. Ure (ed.), *Sixth and Fifth Century Pottery* (London 1927) pp. 6-7, 101; cf. also Ure, *Black Glaze Pottery from Rhitsona in Boeotia* (Oxford 1913) p. 23, n. 1. Though Robinson, in *Olynthus* X, p. 172, mentions that strigils are found with both male and female skeletons, (see **18.38** n. 93 above) this does not alter the point made above, since the number of strigils suggests a male burial.

¹⁵⁶ E.g. *Délos* XVIII, p. 265, under item 134, "Aiguilles," pl. 82, no. 702.

¹⁵⁷ Other example: Isthmus- TR4 tr2 (2): 78.884.

Semicircular plan, with ends bent out to form the attachment hooks; section rectangular; thickened at bottom of curve.

This iron handle also comes from a Post-Byzantine context, in Structure A. Its shape is a simple arc, hooked at the back at each end. It would have been held in place by a ring or cotter-pin. Parallels were found at Corinth.¹⁵⁸

18.76 (78.1492) Fig. 173

Isthmus TR4 tr2 (2) bothros

L. 0.079; Th. 0.004 x 0.003, (at centre) 0.002 x 0.006, (where joined) 0.004 x 0.006.

Apparently a slightly serpentine back and a more markedly serpentine front, each with three peaks; joined at troughs. Central space created roughly circular, lateral spaces tear-shaped. Centre flattened. Projections towards ends suggest handle held in place by ring at end of stalk or by pierced ball. Approximately half of handle preserved.

This elaborate complex bow-shaped iron handle is from the same context as **18.74** and must be of the same Post-Byzantine date. The handle seems to have been held in place immediately before the ball at the end; the depth of the bow shape suggests that a ring at the end of a stalk was used, or perhaps an arrangement like that which secured the ring handle at Corinth.¹⁵⁹

BRONZE

18.77 (76.489) Pl. 97

Isthmus TR2 tr1 (3).

H. 0.051; W. 0.053; Th. 0.005. H. of short side 0.031.

Serpentine plan, with ends bent out to form attachment hooks.

Not all fragments joining or necessarily belong-

ing to the same object; heavily corroded.

This fragmentary serpentine bronze handle comes from a deposit at the Isthmus assigned to Phase II which is Late Roman, though the lower levels of this deposit cut into the Late Classical unit 3a.

18.78¹⁶⁰ (78.21) Fig. 173
Isthmus TR1 tr2 (4).

L. 0.028; Th. 0.002 - 0.005; W. 0.0055 - 0.007. Handle: L. 0.021; Th. 0.003; D. 0.012.

Base in two parts: body, holding moving handle, and projecting tongue. Tongue narrow, widening towards point; body rises from tongue in steps; near top, moving handle attached. Handle consists of almost complete ring attached to arms fastened to body by pin or rivet. Part of backing preserved, suggesting handle attached by three small pins; backing consists of bronze strip folded double, containing remains of corroded lead or tin. Tongue has bevelled edge.

Two very similar small bronze pull-handles **18.78** and Inv. No. 78.887 (n. 160) come from Late Roman or Post-Byzantine contexts. Inv. No. 78.887 comes from the levelling fill beneath the floor deposit of Structure B, which is late, whereas **18.78** is from a Late Roman deposit, but may be intrusive. **18.78** retains some of the backing, indicating that a vessel of another material was covered with a thin layer of bronze. The small size of the ring and the lightness of construction suggest that the handle may have been attached to a small drawer in a simple metal-covered box. Because of their different dimensions, these handles are not likely to be from the same box.

18.79 (78.1292) Fig. 173; Pl. 97
Hill 2 TR3 (3).

¹⁵⁸ E.g. *Corinth* XII, p. 132, no. 899, pl. 66, in bronze, attributed to the Byzantine period..

¹⁵⁹ *Corinth* XII, p. 132, no. 903, pl. 67, of the Byzantine period. See also *Corinth* XII, p. 132, nos. 897, 899-902, pl. 66.

¹⁶⁰ Other example: Isthmus - TR4 tr2 (2): 78.887.

L. (top) 0.0415; H. 0.024; W. 0.008, (top) 0.0185; Th. 0.005, (top) 0.003; Wt. 13.1 gms.

Bronze strip, rectangular in section, bent twice at right angles and ends split in opposite directions to hold handle in place. Top thinned and widened. Bent ends follow long axis.

Shaft bent. Other end broken.

If this is a handle (and not a clamp like **18.93**), it is a stationary one.

Context Classical.

K. BRONZE HANDLE REINFORCEMENT (18.80)

18.80¹⁶¹ (75.164) Pl. 97

Structure 1 Tr1 tr2 (3).

D. 0.0232; Th. 0.0009. Holes: D. 0.0030. Wt. 1.36 gms.

Slightly convex bronze disc with central circular depression (probably from a compass), two holes along diameter, and down-turned edges.

The bronze disks represented by **18.80** are of Olynthus Type 1, which were perhaps used to reinforce the mounting for handles.¹⁶² The contexts indicate a Late Classical date.

L. BOX-COVERINGS (18.81 - 18.82)

The fragments of bronze sheet **18.81** and lead

sheet **18.82** are separated from the other sheet metal (see **18.112-18.113**) because they are thinner and bear signs of having been attached to a wooden backing by means of nails.

BRONZE

18.81¹⁶³ (78.42 B) Pl. 98

Isthmus TR2 tr1 (3a).

0.0786 x 0.0760; Th. ca. 0.0005.

Sheet of thin bronze of fairly uniform thickness; roughly rectangular fragment probably preserving parts of three original edges; two small rectangular nail holes, one almost in one corner, one (with small bronze nail, **18.52**) close to diagonally opposite edge. Associated with two bone fragments.

The size of the bronze nail and the thickness of the bronze suggest that the object covered was on a very small scale, perhaps a small box.

Although some of the bronze sheet comes from later contexts, including Post-Byzantine, the context of **18.81** is Late Classical.¹⁶⁴

LEAD

18.82¹⁶⁵ (78.126) Pl. 98

Isthmus TR2 tr1 (4a).

H. 0.057; W. 0.098; Th. 0.001.

Irregularly shaped fragment of lead sheet with nail holes and nail impressions near preserved

¹⁶¹ Other examples: Gate Area - TR2 tr2 (6): 75.306; TR3 (2): 75.113 (one hole only).

¹⁶² *Olynthus* X, p. 279, nos. 1206-1208, pl. 77. Robinson suggests "reinforcement" or "washer" as found with handles, nos. 824-825 (*Olynthus* X, pp. 230-231, pls. 61 and 64).

¹⁶³ Other examples: *with nail holes*: Isthmus - TR1 tr2 (3): 76.515; TR3 tr1 (2) Feature 1 B7: 78.594. *without nail holes*: Gate Area - TR6 tr1 N (3): 76.728. Lower City - TR1 (2) NW Ext: 78.1340. Lekythos - TR2 (2): 78.747.

¹⁶⁴ Similar sheet of pre-Byzantine date is found elsewhere, e.g. that from Wakerley in the Roman period, classed as "copper alloy": see D. A. Jackson and T. M. Ambrose, "Excavations at Wakerley, Northants, 1972-73," *Britannia* 9 (1978) pp. 115-242.

¹⁶⁵ Other examples: Isthmus - TR1 tr2 (4): 78.32 A; TR1 tr2 (5): 78.838; TR2 tr1 (2): 76.186; TR2 tr1 (3): 76.507, 78.72, 78.73, 78.109, 78.217; TR2 tr1 (3a): 76.521A, 76.794, 78.235; TR2 tr1 (4): 78.448, 78.449. Very similar, but with a nail approximately half the size of **18.60**, is Isthmus TR2 tr1 (3): 78.218. Similar, but thicker lead sheet was found as follows (the variation in thickness may be purely accidental, in view of the close associations of these with the thinner ones): Isthmus - TR1 tr2 (4): 78.32 B & C; TR2 tr1 (3a): 76.518; TR3 tr2 (3): 78.144. Some

straight edge; nail holes rectangular or rounded rectangular (D. of hole 0.004); nail impressions have clearly marked edges (D. of head 0.018), spaced at *e.g.* 0.035 and 0.038. After the lead had been torn from its backing, it was folded with other fragments and attempts were made to force a large nail or spike through in the opposite direction to that of the original nails, only one attempt being successful.

The scale of the object covered is much larger than in the case of **18.81**. The nail-heads, whose dimensions are preserved in the markings on the lead sheet, were larger than modern decorative upholstery nails. A bronze nail, such as **18.60**, found in the same unit would suit these indications of a round-headed nail with down-turned edges, suggesting that the lead-covered object was a chest or coffer, or perhaps even a door.

In cases where impressions of large nail-heads are not preserved, the lead sheets may have been used for lining cisterns or wooden constructions for holding water.¹⁶⁶

The lead sheet comes from contexts that appear to be principally Late Classical. The lead sheeting had clearly been roughly removed from its original location. The larger pieces were later folded and nailed together, indicating that the lead had been treated as scrap metal awaiting re-use. Some of the lead comes from the same contexts as the cast lead plaque **18.42** (*i.e.* Late Roman Phase II on the Isthmus) and most is connected with the "Amphora Deposit" of Phase IV. A number of the lead sheet fragments listed in n. 165 were preserved because they

were protected by the large heads of the nails, the holes of whose shafts they still retain (*e.g.* Inv. Nos. 78.72, 78.109, 78.448). All the fragments from Isthmus TR2 tr1 (3), (3a), (4) and (4a) were probably originally from the same object.

M. BRONZE STOPPER (18.83)

18.83 (78.862)

Fig. 173

Isthmus TR1 tr3 (3) SW.

H. 0.0133. Cylinder: H. 0.0112; D. 0.0084; Th. 0.0010. Disc: D. 0.0125; Th. 0.0023. Ring: D. 0.0095; Th. 0.002. Pin: Th. 0.0022.

Cylinder open at bottom, closed at top by slightly overlapping disc, at centre of which is small ring held in place by a cotter pin.

Part of disc and side of cylinder broken.

This simple object resembles those called 'stoppers' at Olynthos¹⁶⁷ although it was suggested that the latter being filled with lead or plaster might have been used as weights. **18.83** shows no sign of ever having been filled, and bears no trace of engraved letters as *Olynthus* X nos. 2506 and 2510 do.

Its context indicates a Late Classical date.

N. BRONZE COTTER PIN (18.84)

18.84 (78.1168)

Fig. 173

Structure 3 TR16 (3).

H. 0.0115. Washer: D. *ca.* 0.0189. Th. 0.0005. Hole: 0.0045 x 0.0014. Pin: W. 0.0026; Th. 0.0005. Wt. 1.22 gms.

Slightly domed circular washer with one cen-

of this lead sheeting is similar in appearance to the inscribed lead sheet **19.1**. Many of the fragments are only partially folded and do not seem to bear any inscriptions. It is worth noting, however, that the inscribed sheet **19.1** comes from the disturbed unit Isthmus TR2 tr1 (3), stratigraphically two units above **18.82** and is of the same thickness. For two other fragments of lead sheet which are not mentioned here but were recovered from a late Classical deposit in Room II of Structure 3 on the Isthmus (Deposit type 4), see Chapter 2, pp. 160-161.

¹⁶⁶ See, for example, G. Brodribb and H. Clere, "The Classis Britannica Bath-house at Beauport Park, East Sussex," *Britannia* 19 (1988) pp. 236-238 for a "tank" formed of wood and lined with lead; this construction suffered the same fate as the Torone ones, since the lead was ripped out when the structure fell out of use.

¹⁶⁷ *Olynthus* X, pp. 476-477, nos. 2505-2509, pl. 155.

tral rectangular hole. Pin of narrow flat strip, doubled; fold flattened to hold pin in place; ends bent back.

One pointed end missing; washer damaged.

The projection of the pin beyond the washer suggests that it was used to attach some object other than the washer itself. This was perhaps some light ornament, for the pin could not have borne the weight of something as heavy or constantly in motion as a handle. The bending back of the ends of the pin and the lightness of construction suggest its use with a thin material, either metal sheet, leather or very thin wood.

Such pins are found at Olynthos, without washers.¹⁶⁸ Earlier closer parallels come from Lindos.¹⁶⁹

The context indicates a Late Classical date.

O. BRONZE RATTLE (18.85)

18.85 (76.480)

Fig. 174

Isthmus TR1 tr2 (2) FCII.

H. 0.006. D. 0.014 - 0.0152.

Slightly distorted flattened hemisphere; two large holes near edge, joined by slit; edges bent outwards.

This bronze object is half a jester's spherical bell or rattle, which would have contained a small metal sphere or a dried seed to make its noise.

From its context, it should be dated to the Post-Byzantine period.

P. BRONZE CYLINDER (18.86)

18.86 (76.859)

Not illustrated

Gate Area TR4 Ext 1 (4).

H. 0.0203; D. ca. 0.0160; Th. ca. 0.0020.

Bronze cylinder, one end closed and pierced by large round hole, other end open. Two roughly parallel lines incised near bottom.

Approximately half diameter preserved; bent.

The function of this piece is not known. It resembles a ferrule for attachment to the end of a wooden rod or stick.

Context Classical.

Q. RIVETS (18.87 - 18.88)

IRON

18.87¹⁷⁰ (76.490)

Pl. 98

Isthmus TR2 tr1 (3).

L. 0.0585. Shaft: Th. ca. 0.0077 x 0.0077.

Heads: D. 0.034, 0.0231.

Two flat round washers linked by thick shaft (rectangular in section), one end of which is enlarged by flattening while the other is not.

Edges of washers not preserved: all heavily corroded.

Both the iron rivets are of the same type and almost identical dimensions.

18.87 is from a deposit at the Isthmus assigned to Phase II which is Late Roman, though the lower levels of this deposit cut into the Late Classical unit 3a. The other example (n.170) is from a Post-Byzantine context.

BRONZE

18.88 (78.1022)

Fig. 174

Hill 2 TR2 Ext. (3).

L. 0.011. Shaft: Th. 0.0045. Head: Th. 0.001;

D. 0.012. Washer: 0.011 x 0.011; Th. 0.001.

Cylindrical shaft, bent; washer attached to centre of shaft; round head at one end; other end flattened, probably originally beaten over sin-

¹⁶⁸ *Olynthus* X, p. 246, nos. 977-982, pl. 65. One similar example from Corinth, again without washer, is described as a "brad": *Corinth* XII, p. 142, no. 1030, pl. 72.

¹⁶⁹ *Lindos* I, p. 203, nos. 638-639, pl. 26.

¹⁷⁰ Other example: Isthmus - TR2 tr1 (2): 76.343.

gle badly preserved rectangular washer.

The present position of the rectangular washer probably indicates that it was originally placed between two sheets of the material that was being joined; the thickness of the sheets and the absence of adherent corrosion suggests that the sheets were of perishable material, possibly leather.

This bronze rivet appears to belong to the Classical period.¹⁷¹

R. BRONZE HOOK AND CHAIN (18.89)

18.89¹⁷² (78.854) Fig. 174
Isthmus TR2 tr2 (2).

Hook: H. 0.0351; W. 0.0236; Th. 0.0022 x 0.0022. Ring: D. 0.0082; Th. 0.0020. Chain: L. 0.0143; Th. 0.0022.

Hook rectangular in section; end flattened and bent out; opposite side straight, with small ring at top. One link of figure-of-eight chain, rectangular in section, upper part twisted at right angles to lower; small piece of thick bronze sheet attached.

Two of the bronze examples from the Isthmus TR2 tr2 (**18.89** and 78.856)¹⁷³ are very similar. While **18.89** comes from the Post-Byzantine levelling fill or debris associated with Structures A, B and E, Inv. No. 78.856 comes from

the Late Roman Phase II below. Similar chains and hooks are known from the Late Roman or Byzantine period.¹⁷⁴ The examples cited suggest that the Torone hooks may have been part of a polycandelon or hanging multiple lamp; but use as part of a steelyard or balance is perhaps more likely.¹⁷⁵ The small piece of bronze sheet attached to **18.89** must then be explained as some kind of attachment.

The fragmentary hooks 76.472 and 78.276 mentioned above¹⁷⁶ both seem to be Late Roman also and may have been used for the same purpose. Inv. No. 78.276 is pointed and has a notch at the back; a similarly notched undated piece at Corinth is described as a fish-hook,¹⁷⁷ but the Torone example is unlikely to be a fish-hook because of its thickness and different shape from identified fish-hooks.

S. IRON KEYS (18.90 - 18.91)

The first iron key, **18.90**, is securely identified and may date from as late as the twentieth century.

The second iron example, **18.91**, is less well preserved but generally resembles **18.90**. Although the context of **18.91** indicates a late Classical date, keys of this period found at Olynthos¹⁷⁸ do not resemble it. A general paral-

¹⁷¹ For parallels see *Olynthus* X, pp. 309-310, nos. 1354-1359, pl. 89.

¹⁷² Other examples: Isthmus - TR1 tr1 (3): fragment 76.472; TR1 tr2 (4a): fragment 78.276; TR2 tr2 (3): fragment 78.856.

¹⁷³ See n.172.

¹⁷⁴ E.g. Comstock and Vermeule (*supra* n. 95) p. 422, no. 609, identified simply as a "hook" Late Roman or Byzantine, and p. 350, no. 492, suspension chain for a Late Roman lamp; *Corinth* XII, p. 128, nos. 858 and 860, pl. 63, chains for lamps or polycandelons of the Byzantine period. The same type of chain is common, e.g. *Corinth* XII, p. 194, no. 1455, pl. 88, bronze chain of the seventh century A.C.

¹⁷⁵ *Corinth* XII, p. 216, nos. 1671-1672, pls. 98-99 and no. 1673, pl. 98 where the chains are not preserved.

¹⁷⁶ See n. 172.

¹⁷⁷ *Corinth* XII, p. 193, no. 1447, pl. 88.

¹⁷⁸ *Olynthus* X, pp. 505-509, nos. 2575-2583, pl. 165.

lel in Corinth¹⁷⁹ dated to the Byzantine or Frankish period, which differs from **18.91** only in having a hollow shaft, suggests a date much later than the Classical period.

18.90 (78.580) Pl. 97

Isthmus TR4 tr1 (1).

L. 0.0770; Th. 0.0065 x 0.0065 - 0.0036 x 0.0051. Ring: D. 0.0160 - 0.0185; Th. ca. 0.002. Projection: L. ca. 0.011; H. ca. 0.009.

Tapering rectangular shaft flattened at thicker end and pierced to form roughly circular ring; towards opposite end, projection bent to one side at bottom; thinned shaft continues beyond projection.

18.91 (78.445 A) Pl. 97

Isthmus TR2 tr1 (4).

L. 0.065; Th. 0.005 x 0.010 - 0.005 x 0.008. Ring: D. 0.016; (hole) 0.003; Th. 0.0035.

Tapering rectangular shaft flattened at thicker end and pierced to form roughly circular ring. Other end broken.

T. IRON DOOR-BOLT (**18.92**)

18.92¹⁸⁰ (78.445 B) Fig. 174; Pl. 98

Isthmus TR2 tr1 (4).

L. 0.0573; Th. 0.015 x 0.0068 - 0.0100 x 0.0100 - 0.0090 x 0.0079. Head: 0.0175 x 0.0198; Th. 0.0061.

Shaft flattened at one end and bent at right angles to form an almost round catch, tapering slightly towards other end. Broken, heavily corroded.

The identification of this damaged iron piece as a door-bolt is suggested by its form and also by its association with the possible key **18.91**. Door-bolts are not listed from either Olynthos or Corinth.

The context indicates a Classical date.

U. BRONZE CLAMP (**18.93**)

18.93 (78.1293) Fig. 174
Hill 2 TR3 (3).

L. 0.0419, (top) 0.0225; H. 0.0113; Th. 0.0032 - 0.0029; Wt. 2.19 gms.

Shaft rectangular in section, bent at right angles towards one end, flattened and split at that end into two pointed projections bent again at right angles, all in one plane.

Similar simple bronze clamps are found at Olynthos¹⁸¹ and were presumably for use with wood.

The context indicates a date in the Classical period.

V. LEAD REINFORCEMENT (**18.94**)

18.94¹⁸² (78.71) Pl. 98

Isthmus TR2 tr1 (3).

L. 0.050; W. 0.010; Th. 0.002 - 0.003.

Cast lead strip, slightly curved, with one surface flat and other ridged at outer edges.

Broken at both ends.

Both the lead fragments closely resemble the items designated as "reinforcements" in *Olynthus* X;¹⁸³ **18.94** lacks the nail-hole preserved

¹⁷⁹ *Corinth* XII, p. 139, no. 1002, pl. 71. Locks and keys of the Roman period are discussed by W. H. Manning, "The Iron Objects," in S. Frere *et al.*, *Verulamium Excavations* vol. 1 (London 1972) pp. 181-184, nos. 66-81, figs. 67-68. Neither these nor those described by D. A. Jackson and T. M. Ambrose, "Excavations at Wakerley, Northants, 1972-73," *Britannia* 9 (1978) pp. 115-242, nos. 36 and 42, are useful for the Torone objects.

¹⁸⁰ Other example: Isthmus - TR2 tr1 (4a): 78.392.

¹⁸¹ *Olynthus* X, p. 329, nos. 1544-1546, pl. 96.

¹⁸² Other example: Isthmus - TR3 tr1 (3) B6: fragment 78.1071 B.

¹⁸³ *Olynthus* X, pp. 307-309, nos. 1343-1351, pl. 90, especially no. 1345.

in the break in the other example. The softness of the metal appears to preclude independent use, hence the term "reinforcement" is retained. **18.94** comes from the lower levels of TR2 tr1 unit 3 and has been assigned to the Late Classical Phase IV. This date should be regarded with some caution as the upper part of this unit consisted of Late Roman wash levels. The context of 78.1071 B is Late Classical.

W. LEAD RING (18.95)

18.95 (78.1291) Pl. 98
Hill 2 TR3 (3).

D. (max.) 0.027; W. 0.005 - 0.006; Th. 0.005; Wt. 15.32 gms.

Cast lead ring forming slightly irregular circle; interior stepped on one side.

The function is unknown: as with **18.94** independent use seems unlikely. There is, however, no indication that it was formerly attached to any other object as a reinforcement. It does not parallel the bronze rings at Olynthos¹⁸⁴ which are interpreted as key-hole reinforcements, since all of these have prongs at the back; nor the lead ones, especially no. 1351¹⁸⁵ which has a hole for attachment; or the lead key-hole reinforcements nos. 1257-1258.¹⁸⁶ It is possible that this is merely a casual casting and not deliberately manufactured.

The context suggests a Classical date.

X. BRONZE ATTACHMENT (18.96)

18.96 (76.2124) Fig. 174
Isthmus TR1 tr2 (3).

L. 0.021; W. (max.) 0.0186, (ends) 0.0118, 0.0086; Th. ca. 0.001.

Bronze sheet of fairly uniform thickness; curved sides, tapering from centre, broken at both

ends. Bent around wooden shaft, to which it was probably fastened by iron nail, part of which may remain embedded in bronze; remains of wood.

This undecorated bronze item was probably merely a decorative attachment to another object.

Found in the levelling fill immediately beneath the well-preserved floor surface of Structure A, dated to the Post-Byzantine period.

Y. LEAD UNIDENTIFIED OBJECT (18.97)

18.97 (78.1071 A) Pl. 98
Isthmus TR3 tr1 (3) B6.

L. 0.059; H. 0.045; Th. 0.005. Holes: ca. 0.0025 x 0.0025.

Object shaped like a right-angled triangle; one hole towards each end of one side. Surface flat on one side, convex on other.

Its function is not known. The shape and size of the holes suggest that it was attached to another object by nails.

This lead object resembles **18.94** and comes from the same context as the other example mentioned in n. 182.

Its date is Classical.

Z. BRONZE BUCKLE (?) (18.98)

18.98 (78.02) Pl. 98
Isthmus Surface, SW Beach.
H. 0.046; W. 0.038.

Bar, round in section, joined by a decorated arch to a cast ring at right angles to arch; arch has straight sides, scalloped upper edge, and spurred lower edge made by cutting three circles from metal plate forming top of arch.

The decoration on this bronze is common enough to suggest a Byzantine or later date. Similarly

¹⁸⁴ *Olynthus* X, pp. 253-260, nos. 991-1036, pl. 69.

¹⁸⁵ *Ibid.*, pp. 308-309, pl. 90.

¹⁸⁶ *Ibid.*, pp. 290-291, pl. 83.

cast bronze items include a hinge,¹⁸⁷ a key-hole,¹⁸⁸ and possibly a lamp suspension piece.¹⁸⁹ Because of the bar at the bottom, **18.98** reminds one of decorative buckles;¹⁹⁰ yet such an identification is excluded by the ring at the top, which is large, pierced and at right angles to the plane of the piece. Parallels from Corinth suggest that it might be a steelyard loop¹⁹¹ and such an explanation would suit well the strength of the piece. The bar, however, seems designed to suit a leather strap and the three circular holes suggest a guiding function for strings or thongs. If the piece's function has determined its form, it may well have been part of a harness.

A.A. LEAD DISKS (**18.99**)

All three small lead disks come from Structure A on the Isthmus: **18.99** is from above the Post-Byzantine floor, the other two examples from the levelling fill below it. All are undecorated. If they are completely finished items, they may have been counters of some kind. However, there are no parallels among the many counters found

at Corinth¹⁹² which are of various materials and usually decorated; the only lead counter there¹⁹³ is larger and decorated with five indentations on each side.

18.99¹⁹⁴ (76.792) Not illustrated
Isthmus TR1 tr2 (2).
D. 0.012; Th. 0.001 - 0.002; Wt. 1.11 gms.
Flat, almost circular disk of variable thickness.

BB. BRONZE SPIKE (**18.100**)

18.100¹⁹⁵ (75.303) Pl. 98
Gate Area TR1 tr2 (2).
L. 0.0654, (overall) 0.0864; Th. 0.0031 x 0.0024 - 0.0010.
Bronze rod, rectangular in section, tapering towards point; bent at right angles 0.0214 from point.
Point preserved; other end broken.
These items are barely thick enough to have been used as clamps; they may have been staples. Both examples were found in Classical deposits.

7. TOOLS AND HEAVIER EQUIPMENT

A. IRON AXE-HEAD (**18.101**)

18.101¹⁹⁶ (78.864) Fig. 174; Pl. 98

Lower City TR3 (3) N upper.
L. 0.175; H. (ends) 0.0825, 0.0710, (middle) 0.053; Th. (ends) *ca.* 0.005, *ca.* 0.021, (middle)

¹⁸⁷ *E.g. Corinth XII*, p. 133, no. 921, pl. 67.

¹⁸⁸ *E.g. ibid.*, p. 134, no. 927, pl. 68.

¹⁸⁹ *E.g. ibid.*, p. 194, no. 1454, pl. 88.

¹⁹⁰ *Cf. ibid.*, pp. 271-272, nos. 2192-2194, pl. 114; *Hesperia* 43 (1974) p. 515, no. 2, pl. 110 e; and *Hesperia* 45 (1976) p. 222, pl. 57 a. In *Délos XVIII*, p. 296, fig. 367 (B 5977) Deonna lists as a buckle an object of similar size with similar cut-out decoration, but no bar or upper ring. He is certain about the late date, but comments on the difficulty of determining its use.

¹⁹¹ *Corinth XII*, p. 216, no. 1668, pl. 98.

¹⁹² *Corinth XII*, pp. 217-221, nos. 1679-1736, pls. 99-100.

¹⁹³ *Ibid.*, p. 220, no. 1715, pl. 99.

¹⁹⁴ Other examples: Isthmus - TR1 tr2 (3): 76.499, 76.500.

¹⁹⁵ Other example: Isthmus - TR2 tr1 (5): fragment 78.957.

¹⁹⁶ Other example: Lower City - TR1 S (3): fragment 78.749.

ca. 0.035. Socket: 0.021 - 0.0275, 0.021 - 0.032.

Axe-head with one cutting and one striking end; oval socket in middle, preserving traces of wood.

Surface corroded.

The iron axe-head **18.101** is a single-edged or carpenter's axe, as opposed to the double-edged axe with one sharp edge for cutting (normally used for felling trees) and a blunter edge for splitting wood.¹⁹⁷

The context represents Late Roman disturbance of Classical or Archaic levels; thus the dating cannot be precise. The Olynthos excavations produced Late Classical parallels.¹⁹⁸

B. LEAD WEIGHTS (18.102 - 18.104)

RECTANGULAR

The problems of determining the weight standards used in an ancient city are notorious, especially where only a small number of examples of weights are found. See the useful bibliography and discussion in *Corinth XII*.¹⁹⁹ The problem is compounded when two separate standards are used in a city at one time for different purposes.

The two weights **18.102** and **18.103** are of similar dimensions, and are marked alike with the letter H.²⁰⁰

The lighter one, **18.103** appears to be half a *mina* of ca. 412 gms., of the Euboean standard, as represented by the two-*minae* weight of 825

gms. from Corinth of the fifth or fourth century B.C.²⁰¹ and the one-*mina* weight from Olynthos,²⁰² where the weights range from 412.5 to 419.5 gms. The other weight **18.102** probably reflects a different standard with a *mina* of ca. 430-440 gms., which appears to be the usual Solonian type. **18.102** is different from **18.103** in that it is marked on two faces.

The date of **18.102** is provided by its Classical context; the context of **18.103** is mixed, but a Classical date is suggested by its similarity to **18.102**.

No greater precision in dating is possible from the contexts. Both might have been in use contemporaneously, despite the different standards represented, and this would account for the difference in marking. The use of more than one standard at once is noted in the coins of Abdera,²⁰³ for example, and may also have occurred at Torone itself in the Classical period, if the unsigned silver coins on a different standard from that of the signed Euboic-standard coins are correctly attributed to Torone.²⁰⁴

18.102 (78.332) Fig. 174
Isthmus TR2 tr1 (4-5).

L. 0.0482; W. 0.0392; Th. 0.0116 - 0.0143; Wt. 216.90 gms.

Rectangular block of lead of variable thickness. Deeply incised on one face and lightly scratched on other face: H.

18.103 (76.328) Fig. 174
Isthmus TR2 tr1 (1).

¹⁹⁷ See A.T. Hedge, *AJA* 89 (1985) pp. 307-308, pl. 39.

¹⁹⁸ *Olynthus X*, pp. 341-342, nos. 1628-1630, pl. 105.

¹⁹⁹ Bibliography: *Corinth XII*, p. 203 n. 97. Discussion of examples found there: *ibid.*, pp. 203-208; see especially nos. 1580-1582.

²⁰⁰ Cf. *Olynthus X*, pp. 453-454, no. 2391 (212 gms.) and no. 2392 (209 gms.) pl. 141.

²⁰¹ *Corinth XII*, p. 208, no. 1580, pl. 94.

²⁰² *Olynthus X*, p. 451, no. 2384, pl. 140.

²⁰³ See J. M. F. May, *The Coinage of Abdera* (London 1966) p. 8 n. 4.

²⁰⁴ See C. M. Kraay, *Archaic and Classical Greek Coins* (London 1976) p. 135.

L. 0.0533; W. 0.0415; Th. 0.0105 - 0.0115; Wt. 205.95 gms.

Rectangular block of lead of fairly uniform thickness; slight constriction in centre of long sides, perhaps through handling with tongs.

Inscribed on one face: H.

CONICAL

The conical weight **18.104** was found in what must have been the foundation trench at the inner face of the City Wall in the Gate Area, in association with limestone chips from the wall's construction, making its use contemporary with the building of the wall.

It might be expected to be a plumb-bob used in construction work; it is not, however, the standard version which would normally have a point beneath.²⁰⁵ Since the point would be necessary principally if the plumb-bob were used in a triangular framework intended to obtain horizontal levels, there appears to be no reason why a plumb-bob shaped like **18.104** could not have been used to give a vertical line.

Alternatively, the piece might possibly be simply a weight; in this case its presence in the foundation trench of the City Wall would be difficult to explain. General parallels like the example found at Corinth,²⁰⁶ a Byzantine peri-

od bronze suspension weight with the interior filled with lead, are interesting for the combination of two metals, but do not suggest a later date for **18.104**.

18.104 (76.133)

Fig. 174

Gate Area TR6 tr1 S (2).

H. 0.050; D. 0.055 - 0.058; Wt. 554.40 gms.

Roughly conical lead weight with slightly curved profile; rim thickened; bottom slightly concave, with off-centre depression. Iron ring, circular in section, set into top.

C. IRON HORSE-SHOE SHAPED OBJECT (18.105)

18.105²⁰⁷ (78.989)

Pl. 98

Lekythos TR2 (3).

L. 0.0683; W. *ca.* 0.012 - 0.014; Th. *ca.* 0.005.

Horse-shoe shaped object with one face flat, the other slightly convex; two small projections at inner edge of flat face. No trace of nails or nail-holes.

Heavily corroded.

The iron objects considered under this heading all come from the upper levels on the Isthmus or the Lekythos, and must be dated to the Post-Byzantine period, probably in the seventeenth

²⁰⁵ The example illustrated by A. Orlandos, *Les matériaux de construction et la technique architecturale des anciens Grecs*, Part II (Paris 1968) pp. 68-69, fig. 62, formerly in the Athens National Museum, is like modern ones, pointed at the bottom. He refers to illustrations in C. Blümel, *Greek Sculptors at Work* (London 1955) p. 49, figs. 33 and 35. Roman bronze plumb-bobs are mentioned by W. M. F. Petrie in his *Tools and Weapons*, (London 1917) on p. 43 and illustrated on pl. 47 (nos. 91, 92, 93) and there is another in the Naples Museum, no. 76661, from Pompeii (illustrated in the exhibition catalogue, J. B. Ward-Perkins and A. Claridge, *Pompeii A.D. 79, Treasures from the National Archaeological Museum, Naples and the Pompeii Antiquarium, Italy*, Australian Gallery Directors Council [Sydney 1980] no. 261). The ones assumed by Petrie to be Greek (*op. cit.* nos. 82-84, p. 42, pl. xlviii) are of lead and shaped like loom-weights. These are the only ones found which are wider at the bottom than at the top. We know of no exact parallels from the Classical period.

²⁰⁶ *Corinth* XII, p. 213, no. 1640, pl. 96.

²⁰⁷ Other examples: *with small projection on inner edge*: Isthmus- TR3 tr1 (2): 78.59; TR3 tr2 (1): 78.616.

Lekythos- TR2 (4): 78.1047; TR2 (5): 78.1657; TR2 (6): 78.1342. *without projection on inner edge*: Isthmus- TR1 tr2 (2) FCI: 76.390. Lekythos- TR2 (2): 78.986, 78.987, 78.1051; TR2 (3): 78.990.

or eighteenth century A.C. All are heavily corroded, and it is not possible to be sure of their details. Although the form of **18.105** suggests a horse-shoe, the possibility remains that some of the smaller examples are heel-reinforcements for human shoes.

D. IRON SCISSORS (**18.106**)

18.106 (76.383)

Pl. 98

Isthmus TR1 tr2 (2) FCI.

L. (arms) 0.105, 0.078; W. 0.013 - 0.018; D. (loop) 0.031 - 0.038.

Two scissors-blades held together by a rivet, preserved in open position.

Blades broken off a little below rivet and lost. Thumb-loop preserved, finger-loop broken and missing.

The partly-preserved iron scissors **18.106** are of dimensions almost identical to those of standard modern examples. They represent a more developed, heavier, form than the light Roman type from South Italy listed by Petrie in *Tools and Weapons* (p. 48, 135, no. 37, pl. 58). Whether **18.106** represent domestic or industrial weight is impossible to tell.

The scissors date to the seventeenth century (see comment after **18.111**).

E. IRON SCRAPER (**18.107**)

18.107²⁰⁸ (76.384)

Fig. 174; Pl. 98

Isthmus TR1 tr2 (2) FCI.

L. 0.185; W. (max.) 0.053; D. (ring) 0.020; Th. 0.010 x 0.008 - 0.006 x 0.006.

Triangular scraper blade, decreasing in thickness from *ca.* 0.007 to 0.003 to a slightly curved edge. Shaft rectangular and spiral-twisted towards top, where it is thinned and bent to form a loop to hold a small ring.

Three almost identical complete scrapers were found, with part of the shaft of a fourth. **18.107** is the best-preserved example.

It is assumed that these objects are scrapers, though the possibility exists that their slightly curved edge may originally have been sharp enough to permit its use for cutting leather. These date to the seventeenth century (see comment after **18.111**).

F. FRAGMENTARY IRON RING WITH COTTER PIN (**18.108**)

18.108 (76.387)

Pl. 98

Isthmus TR1 tr2 (2) FCI.

Ring: D. 0.052; Th. 0.005 - 0.007; W. 0.007 - 0.009. Pin: L. 0.065; Th. 0.005 x 0.008; D. (loop) 0.024.

Thick ring mounted on thick cotter-pin with straight shaft *ca.* 0.030 long.

One bent-back end of pin broken at end; other end broken (not illustrated).

The thick iron ring, **18.108**, with its cotter pin, could have served as a heavy-duty handle or as a ring for a rope or leather strap.

Dates to the seventeenth century (see comment after **18.111**).

G. IRON BUCKLE (**18.109**)

18.109 (76.389)

Pl. 98

Isthmus TR1 tr2 (2) FCI.

H. 0.048; W. 0.029; Th. 0.007. Ring: 0.006 x 0.004.

Rectangular buckle with rounded corners; ring attached in middle of one long side, prong missing.

This object too is heavy and it may have been for industrial rather than personal use.

²⁰⁸ Other examples: Isthmus - TR1 tr2 (2) FCI: 76.385, 76.386 and fragment 76.388.

Parallels are found at Corinth.²⁰⁹

Dates to the seventeenth century (see comment after **18.111**).

H. IRON WEDGE (?) (**18.110**)

18.110 (76.380) Pl. 99

Isthmus TR1 tr2 (2) FCI.

L. 0.099; W. 0.013 - 0.021; Th. 0.007 - 0.012.

Fragment of iron shaft, rectangular in section, tapering towards one end; other end broken.

The function of this fragmentary iron object is not known. It is not part of a nail, because its shaft is only half as thick as its width. If it is a complete object, it may have been used as a wedge. It must be admitted, however, that it bears only a general resemblance to the slightly earlier pierced bronze wedge from Corinth.²¹⁰

This dates to the seventeenth century (see comment after **18.111**).

I. IRON "NAILS" (**18.111**)

18.111²¹¹ (76.377) Pl. 99

Isthmus TR1 tr2 (2) FCI.

L. 0.098; Th. 0.014 x 0.015. Head: D. 0.033.

Shaft rectangular in section, tapering slightly towards point which is not preserved; head circular, thick, slightly convex.

End of shaft bent.

17th century A.C.

Three iron "nails" of very similar dimensions were found with fragments of the shafts of two others. The shape is a bigger version of **18.48** with large, thick, slightly convex round head and thick shaft of rectangular section tapering towards the point, which is not preserved.

Heavy corrosion prevents the recovery of original dimensions.

If any of the other objects in this group (see the comment below) were used in leather-working, these nails may really have been punches intended to produce holes of different sizes. The bending of the shafts certainly indicates that the "nails" had been struck. Since no point is preserved in any instance, the question of their identification may perhaps remain open.

COMMENT ON THE IRON OBJECTS D-I

The iron objects **18.106-18.111** were found as a group in Structure A on the Isthmus, on a floor whose use is roughly dated by coins to the seventeenth century (two Ragusa coins, **20.38** [A. D. 1649] and **20.39** [A. D. 1650] and two Nürnberg coins, **20.40** and **20.41** [A. D. 1618-1660]). All are badly corroded. The scrapers, ring, buckle, and perhaps the scissors and "nails" suggest leather-working as one of the operations carried out in this building; otherwise the objects might be the stock of a manufacturer. The presence of scrapers of only one size and shape and so many "nails" of only one size and shape, suggests that these objects are not part of a tool-box of general use.

J. FOLDED LEAD SHEETS (**18.112-18.113**)

18.112²¹² (75.93) Pl. 99

Structure 1 TR1 tr1 (6).

L. 0.040 - 0.043; W. (folded) 0.019, (unfolded) 0.036; Th. 0.001.

Narrow strip of lead folded over upon itself twice along long axis.

²⁰⁹ *Corinth* XII, pp. 270-271, nos. 2179-2184, pls. 113-114, of the fourth century A.C. or later. Note especially the rectangular one, no. 2184, dated to the Byzantine period or later.

²¹⁰ *Corinth* XII, p. 195, no. 1469, pl. 88, Byzantine period.

²¹¹ Other examples: Isthmus - TR1 tr2 (2) FCI: 76.378, 76.379 and fragments 76.376 and 76.382.

²¹² Other example: Isthmus - TR2 tr1 (1): 76.316.

18.113 (76.300) Pl. 99
Isthmus TR1 tr1 (2).
L. 0.070; W. (folded) 0.042; Th. 0.0024.
Thicker lead sheet folded roughly in half along long axis.

None of these items is clearly a specific manufactured object. They are merely lead sheet folded over on itself. The heavier pieces are certainly not net-weights of the type represented by

18.24. They are either thinner (Inv. No. 76.316), thicker (**18.113**), or folded twice (**18.112**). They do not seem to be letters or curse tablets, since none bears any trace of writing.

18.112 comes from the Late Classical debris associated with the latest occupation of Structure 1. **18.113** and Inv. No. 76.316 (n. 212) both come from Post-Byzantine levels on the Isthmus.

8. WORKING METAL AND MISCELLANEOUS

The following metal pieces, as far as can be ascertained, have not been manufactured into specific objects but rather have been worked into a form ready for later manufacture. Their importance lies in the evidence they provide that manufacture of metal was carried out in Torone itself.

A. IRON AND LEAD RODS (**18.114** - **18.117**)

18.114²¹³ (78.1338) Pl. 99
Lower City TR1 S (4).
L. 0.050; Th. 0.015 x 0.0137-0.0138 x 0.0119.
Iron rod, rectangular in section.
Context Classical.

18.115 (76.453) Not illustrated
Structure 3 TR13 (4).
L. 0.063; D. 0.006 - 0.007; Wt. 22.195 gms.
Part of longer cast lead rod, round in section; tapers slightly towards one end. Broken at both ends.
Context Classical.

18.116 (75.352) Pl. 99
Structure 1 TR1 tr4 "Below B" (3).
L. 0.054; H. 0.006; W. 0.008.
Part of longer cast lead rod, semicircular in section.

Broken at both ends.
Context Late Classical.

18.117 (78.63) Pl. 99
Isthmus TR3 tr1 (2).
L. 0.098; W. 0.005 - 0.007 Th. 0.002 - 0.004;
Wt. 24.69 gms.
Part of longer cast lead rod, rectangular in section.

B. LEAD PLATE

18.118²¹⁴ (78.31) Pl. 99
Isthmus TR1 tr2 (4).
L. 0.066; W. 0.046; Th. 0.001 - 0.002; Wt. 41.35 gms.
Rectangular plate; pierced by hole, off-centre.
Preserved except for one corner.
Context Late Roman.

²¹³ Other examples: Isthmus - TR1 tr3 (2): 78.757; TR2 tr1 (3): 76.802; TR2 tr1 (3a): 78.75 B.

²¹⁴ Other example: Isthmus - TR3 tr1 (1): 78.83.

C. LEAD SLAB

18.119 (78.748) Pl. 99
 Lower City TR3 (2) SE.
 L. 0.044; W. 0.075; Th. (max.) 0.013.
 Slab cast in roughly rectangular depression of
 varying depth; overflow on two sides. Pierced
 near centre by nail-hole *ca.* 0.005 x 0.005.
 Context Late Roman.

D. LEAD BLOCK

18.120 (78.361) Pl. 99
 Isthmus TR2 tr1 (3).
 L. 0.046; H. 0.018; W. (max.) 0.032; Wt.
 161.51 gms.
 Block cut on two sides, from larger piece;
 tapers towards one end.
18.120 comes from the lower level of TR2 tr1

unit 3 and has been assigned to the Late Clas-
 sical Phase IV. This date should be regarded
 with some caution as the upper part of this unit
 consisted of Late Roman wash levels.

E. SCOOP (?)

18.121 (75.02) Pl. 99
 Hill 1 Surface.
 L. handle 0.075; Th. (max.) 0.003; Scoop: D.
 0.055 x 0.065.
 Single piece of lead, with edges of one end
 slightly upturned to form scoop, other end
 twisted spirally to form handle.
 Two flat lead "shovels" of different form but
 similar construction to **18.21** have been found
 in a Hellenistic well at Corinth, dated to the
 end of the 2nd century B.C.²¹⁵

²¹⁵ *Corinth* XII, p. 195, nos. 1478-1479, pl. 89.

19. A LEAD LETTER

Alan Henry

Very few examples of private Greek letters written on lead sheets have been recovered from antiquity.* In 1974 Bravo knew of only six items.¹ By 1980 David Jordan had extended the list to nine,² although he later reclassified one fragment as a *tabella defixionis*.³ Now we have eleven, including the Torone lead published here below.⁴

It may be useful, as a preliminary to the publication of the Torone letter, to set out the details of the other examples now known from the ancient Greek world, so that our text can be properly appreciated against the background of these *comparanda*.

For convenience I group these documents by geographical area:

A. ATTICA.

1. *IG* iii 3 Appendix, pp. ii-iii, found at Chaïdari near Daphni; beginning of the fourth century B.C. (perhaps end of fifth). Address on outside. Contents of a domestic nature.

A. Wilhelm, *ÖJh* 7 (1904) 94-105; W. Crönert, *RhM* 65 (1910) 157-158; G. Pfohl, *Griechische Inschriften als Zeugnisse des privaten und öffentlichen Lebens* (1966) 166-167 (no. 159) and 224; cf. W. Dittenberger, *SIG*³ 1259.

2. Athens, Pnyx M46; found in filling of the period 425-325 B.C. Extremely fragmentary, but possibly of a commercial nature.

A. E. Raubitschek in G.R. Davidson and D. B. Thompson, *Hesperia Suppl.* 7 (1943) 10-11; cf. J. and L. Robert, *BE* (1944) no. 90.

3. Athens, Agora, fourth century B. C. Of a domestic, family nature.⁵

D. Jordan, *Hesperia* 69 (2000) 91-103.

* In addition to the standard abbreviations, the following are used in this chapter: *BE*, *DGE*, *GDI* (see Abbreviations).

¹ B. Bravo, *Dialogues d'histoire ancienne* 1 (1974) 113-116.

² D. Jordan, *AM* 95 (1980) 226-227 note 9. On pp. 226-228 of the same paper Jordan also provides a useful summary of the various types of ancient Greek inscriptions on lead tablets. Religion and magic (especially *defixiones*) have, of course, provided the great majority of such documents.

³ See *GRBS* 26 (1985) 183-184 no. 134. This is the item from Emporion, originally published by M. Almagro, *Las inscripciones ampuritanas griegas, ibéricas y latinas (Monografías Ampuritanas 2, [1952])* no. 21, which J. and L. Robert had identified as a private or public letter (see *BE* [1955] no. 282).

⁴ Of the other ten, however, four remain unpublished.

⁵ I am greatly indebted to Dr. Jordan for allowing me to see it in the Agora workrooms.

4. Athens (?), but provenance and present location unknown. Unpublished; fourth century B.C. Commercial (?).⁶

B. BLACK SEA

1. Island of Berezan; c. 550-500 B.C. Completely preserved; address on the reverse. Precise interpretation disputed, but the letter is written by a father to his son on the matter of a dispute over property.

Y. G. Vinogradov, *VDI* 118 (1971) 74-100; J. Chadwick, *PCPS* n.s. 19 (1973) 35-37; V. P. Yaïlenko, *VDI* 127 (1974) 133-152 and 133 (1975) 133-150; B. Bravo, *DHA* 1 (1974) 110-187 and 3 (1977) 52-53 note 6; D. M. Pippidi, *St. Clas.* 16 (1974) 253-255; A. P. Miller, *ZPE* 17 (1975) 157-160; R. Merkelbach, *ibid.*, 161-162; H. Kupiszewski in A. Biscardi (ed.) *SYMPOSION 1974. Vorträge zur griechischen und hellenistischen Rechtsgeschichte* (1979) 189-199; B. Bravo, *AnnPisa* 10,3 (1980) 880-885; C. Gallavotti, *Boll. Class.* 8 (1987) 4-9.

2. Berezan or Olbia; probably fourth century B.C. Text on both inside and outside surfaces, but no address. Domestic and commercial.

B. Latyshev, *Izvestija imperatorskoj archeologiceskoj Kommissii* (*Bull. Comm. Imp. Archéol.*) 10 (1904) 10; A. Wilhelm, *ÖJh* 12 (1909) 118-126; W. Crönert, *RhM.* 65 (1910) 158-160; E. H. Minns, *Scythians and Greeks* (1913) 466; cf. H. Collitz, *GDI* IV, 864-865 no. 39; W. Dittenberger, *SIG*³. 1260; E. Schwyzer, *DGE* 359, no. 736; Y. G. Vinogradov, *VDI* 118 (1971) 78.

3. Olbia, unpublished; fourth century B.C. (?). Private letter on a family failure at law.

Y. G. Vinogradov, *VDI* 118 (1971) 79; cf. B. Bravo, *DHA* 1 (1974) 115.⁷

C. LANGUEDOC

Agde (ancient Agathe), unpublished; fourth century B.C.(?) Text on both sides, but extremely fragmentary and incomplete. Perhaps of a commercial nature.

A. Grenier, *REA* 44 (1942) 288; J. and L. Robert, *BE* (1944) no. 90; cf. *BE* (1956) no. 357; M. Lejeune, *REA* 62 (1960) 62.

D. CATALONIA

The following letters were both discovered during the excavations at Ampurias (ancient Emporion).

⁶ Dr. Jordan kindly informs me that this is a letter apparently written by the banker Pasion.

⁷ Bravo considers that this is not a simple private letter at all, but a magical text linked to a legal matter. (The *lamella* was found in a tomb in the necropolis of Olbia.)

1. *Ca.* 530-500 B.C. Commercial.

E. Sanmarti and Rosa A. Santiago, *ZPE* 68 (1987) 119-127 (*cf.* L. Dubois *BE* (1988) no. 1029); R.A. Santiago and E. Sanmarti, *ZPE* 72 (1988) 100-102; E. Sanmarti and R.A. Santiago, *Revue Archéologique de Narbonnaise* 21 (1988) 3-17; R. A. Santiago, *ZPE* 80 (1990) 79-80 and 84 (1990) 14.

2. Small fragment, 425-400 B.C. (?). Text on both sides. Probably commercial.

R.A. Santiago and E. Sanmarti, *ZPE* 77 (1989) 36-38; R.A. Santiago, *ZPE* 82 (1990) 176. *Cf.* L. Dubois, *BE* (1990) no. 848.

The Torone document is thus a very important addition to this particular genre of inscriptions on lead, being an example from an area not previously represented. Given the nature of the contents of several of the above, it will occasion no surprise to find that it too is clearly concerned with a business transaction.

TORONE 19.1 (76.798)

Plate 100, a: photograph.

Plate 100, b, c: drawings (D.90.37).

DESCRIPTION

Rectangular sheet of thin lead found on 17 August 1976 on the Lekythos neck (Isthmus TR 2 tr 1 [3]) in a mixed deposit which was predominantly late Classical but included many fragments of late Roman fine and coarse ware and occasional pieces of Turkish date. Of the Classical material nothing could be dated later than the end of the fourth century and very little after *ca.* 325 B.C.

Dimensions: H. *ca.* 0.052 m.; W. 0.127 m. (top), 0.151 m. (bottom); Th. *ca.* 0.001 m.

The top and bottom preserve the original edges, but both left and right sides are broken away. The inscribed surface is badly pitted and corroded, and had to be treated several times to remove encrustations. The sheet was probably originally folded once across its width, along the line of the substantial vertical depression evident on the photograph. Interpretation is further hindered by other creasing as well as by many small cracks, which, when adjacent to letters, are often virtually indistinguishable from letter strokes.

The letters, which would sit well with a date *ca.* 350-325 B.C., are inscribed in a confident hand on one side of the sheet only. There is no sign on the exterior of the name of the addressee, although occasional traces of letters obtruded from the interi-

or can be detected. The most distinctive letter form is omicron, which is noticeably smaller than the other letters and almost square in shape, being inscribed in two strokes, a left-hand bottom 'corner' and a right-hand top 'corner' (see, *e.g.*, the second letter in line 1, and contrast the full-size circle of theta, the third letter in line 2).

The letters reproduced on Pl. 100, b, c are to be regarded with a certain amount of caution and reserve. They depict simply what the artist thought he could see, and were partly conditioned by an earlier drawing produced by Mr. Christopher Pfaff in August 1979. Some of these letters are rejected in the discussion below.

Further cleaning of the surface in 1990 clarified and corrected some of the original readings, as did the application of a powerful microscope, without which it would have been impossible to decipher the fainter letter traces particularly at the bottom and at the edges of the sheet. The tablet was examined many times and in many different lights, both natural and artificial.

TRANSCRIPTION

A preliminary transcription of the text was made by Dr. David Jordan (letter to Professor A. Cambitoglou, 22 October 1981), which I had the privilege to use before my own visit to Torone.

The text may now be transcribed as follows:

- 1]τος Τεγέαι χαίρειν. [. .]λα οὐκ ἔχω ΕΜΜ[
- 2]ισθαί. σὺ δὴ ἀπόστειλον ἡμῖν ΕΥ[.^{c.4.}] εἰ πλο[
- 3]α πριάμενος εἰ ἐν δυνατῶι ἐστὶν τάλαντα [
- 4]δὴ ἐλάσ<σ>ω μηδὲν ΣΟ[.^{c.4.}]Ε[.]ΕΤΩ μάλιστα μὲν [
- 5]αντῶν, εἰ δὲ μ[. . .^{c.9.}]. καὶ ταῦτα ποιῶν χαρι[
- 6]ΡΑΝΟΝΔΩΝ[.]Μ[.^{c.4.}]ΠΤΑ[.^{c.5-6.}..] ἥ κατακωλ[.]σω *vac.*
- 7]ω?[

Line 1: of the final mu only the left half of the letter is preserved.

Line 2: after ἡμῖν E is clear, but the next letter is probably upsilon rather than tau. From here to εἰ, where there is space for some four letters, the surface is extremely rough. The traces indicated on the drawings may be mere cracks or creases in the metal.

Line 3: only the apex of alpha remains.

Line 4: the first trace appears to preserve the base of the delta. Of the nu only the apex and the top of the right hasta can be seen. Of the omicron there is a curving trace at the bottom.

Line 5: the fourth letter is unlike all the other omicrons on this lead, and may well be read as omega. Of the mu only the left half of the letter can be seen.

Line 6: the surviving letter traces are so faint and uncertain that some letters must be dotted; there is also considerable difficulty in differentiating in this line between mus and nus. The only part of the rho which is visible is the right edge of the loop, but an opening sequence]P̄ANONΔΩN may be defended. The next letter, which appears as Ω on the drawing, may be an illusion created by cracks in the lead which have been read as the 'feet' of that letter. It is, in fact, impossible to be sure which letter was originally inscribed there. The following letter may be mu. After ΠΤ there is a faint alpha.

Line 7: the rounded trace below A in line 6 may well be illusory.

RECONSTRUCTION AND INTERPRETATION.

Two assumptions may be safely made: (i) that not a great many letters are missing at either side of the text, and (ii) that as is the case in other extant lead letters - and indeed is naturally to be expected - each line ends in a complete word.

Line 2 demands an infinitive in -εῖσθαι, and, given the overall context, [ὦνε]ῖσθαι is virtually irresistible. Thus the writer, whose name will contain probably seven letters ending in -τος, sends greetings to Tegeas, and informs him that he is unable to buy some commodity, probably wood, [ξύ]λα. The traces at the end of line 1 may then either indicate the location where the wood is in short supply, e.g. ἐμ Μ[ένδηι], or perhaps qualify the product in some way, e.g. ἔμμ[ετρα], 'suitable'.

Tegeas is therefore instructed to dispatch (sc. some wood) 'to us' (ἡμῖν - note the plural, implying that we are dealing not with an individual but with some group or partnership - and the means of supply would seem to be by sea: for the end of the line may reasonably be completed with εἰ πλο[ῖον ἔχεις]. More problematical is the reading in the space between ἡμῖν and εἰ : if, however, EY is correctly deciphered, then an obvious supplement would be εὐ[θέως].

Line 3 presents no difficulties of reading, but much depends on the punctuation we adopt and on the sense of τάλαντα (weight or value). An important clue is perhaps δὲ in line 4, which is more than likely connective (as in line 2), and thus in second position in a sentence presumably beginning with [μή]. If that be accepted, then line 3 will end with a period, and we might try [ἐπτ]ὰ πριάμενος, εἰ ἐν δυνάτῳ ἔστιν, τάλαντα [.], 'buying seven talents (weight), if it is possible, [from X].' The wood will then be firewood, which, unlike building timber, was sold by weight.

Lines 4-5 may then logically be expected to deal with the supply of this wood, and a likely supplement is the imperative [παρ]ε[χ]έτω, preceded by σο[ι]; the subject of the verb will be the person named in the *lacuna* at the end of line 3 as the recommended supplier. There can be no doubt that the ἐλάσω of the text is the neuter plural of the comparative, though the form is peculiar in a document whose dialect is manifestly Attic (Τεγέαι [1], ποιῶν [5]). One would have expected ἐλάττω.

The *lacunae* at the end of line 4 and in the middle of line 5 may have expressed the preferred type of wood and the less desirable alternative respectively. The fourth letter of line 5 is unlike all other omicrons on the lead, and omega is probably the preferable reading: so perhaps [ἀπ]άντων. The end of the line clearly requires something like χαρι[εῖ μοι or ἡμῖν].

Although the traces in line 6 are faint the secure letters ON before Δ suggest that we have here another aorist imperative addressed to Tegeas, who is probably being instructed to finalise the arrangement within a specified period. The obvious supplement is [πέ]ραγον δ'. The remainder of the line may perhaps be restored as ὦν[ή]μ[ατα ἐ]πτὰ [ἡμερῶν] ἢ καταλύ[σ]ω. *vac.*

Apart from the trace in line 7 interpreted as omega nothing more can now be read, and indeed nothing may ever have been recorded there. However, since the writing in line 6 is so faint, it is not entirely out of the question that something stood here. If omega is correct, then the obvious supplement is [ἔρρ]ω[σο].

The message may then have read as follows:

- 1 [. . .]τος Τεγέαι χαίρειν. [ξύ]λα οὐκ ἔχω ἐμ Μ[ένδῃ ?]
- 2 [ὥνε]ῖσθαι. σὺ δὲ ἀπόστειλον ἡμῖν εὐ[θέως] εἰ πλο[ῖον ἔχεις],
- 3 [ἐπτ]ὰ. πριάμενος εἰ ἐν δυνάτῳι ἐστὶν τάλαντα [. . .^{c.8} . . .].
- 4 [μή] δὲ ἐλάσ<σ>ω μηδὲν σο[ι παρ]ε[χ]έτω μάλιστα μὲν [. . .^{c.8} . . .]
- 5 [ἀπ?]άντων, εἰ δὲ μ[ή . . .^{c.8} . . .]. καὶ ταῦτα ποιῶν χαρι[εῖ ἡμῖν].
- 6 [πέ]ραγον δ' ὦν[ή]μ[ατα ἐ]πτὰ [ἡμερῶν] ἢ κατακωλ[ύ]σω. *vac.*
- 7 [ἔρρ]ω[σο].

Translation:

[....]tos sends greetings to Tegeas. I am unable to buy wood in M[ende?]. So you dispatch some to us immediately, if you have a boat, buying seven talents if it is possible [from X]. Let him not provide you with any fewer at all, preferably [of], but if not, [of.....]. And if you do this, you will be doing us a favour. Complete some purchases within seven days or I shall put a stop (*sc.* to the arrangement). Farewell(?).

POSTSCRIPT.⁸

Since this Chapter was originally submitted, another version, giving due acknowledgements and more background information, has been published to allow earlier access to scholars to this important document: see Alan Henry, "A Lead Letter from Torone," *AE* 130 (1991) [1993] 65-70 (*cf.* *SEG* 43.488).

⁸ Extra bibliography: for the letters from Ampurias (Emporion) see S. R. Slings, "Notes on the Lead Letters from Emporion," *ZPE* 104 (1994) 111-117. For commercial letters inscribed on lead, see the list in P. Millett, *Lending and Borrowing in Ancient Athens* (Cambridge 1991) 259-260, n. 27; *cf.* also 267, n. 9 for the alleged letter of Pasion (my A.4 above). (The Pech-Maho document is an account of a commercial transaction rather than a letter proper: see also *SEG* 41.891).

20. THE COINS

by Nicholas Hardwick

INTRODUCTION¹

During the excavations of the first three seasons, 69 coins were discovered, of which 49 could be identified. The coins range in date from the first half of the 4th century B.C. until 1912. Most of the coins are concentrated in three periods. There are 21 bronze coins from North Greece, including one from the mint at Torone, dating from the first half of the 4th century to *ca.* 310 B.C. (20.1-20.21). There are 13 bronze coins of the later Roman period dating from the end of the 3rd century to the mid-6th century A.C. (20.24-20.36). There are 7 coins dating from the 17th and early 18th centuries from Ragusa in Dalmatia, Nuremberg and the Ottoman empire (20.38-20.44). The significant exceptions from these chronological groups are the two Roman provincial coins of uncertain mints and dates, which were issued during the first three centuries A.C. (20.22-20.23), and the Byzantine coin of the first half of the 13th century (20.37).

These concentrations of coins can be linked with what we know about the occupation of the site, both from literary sources and from the other archaeological evidence obtained in the first three seasons.

Literary sources refer to occupation of the site from the Archaic to the Hellenistic period, and Torone minted its own coins from late Archaic times.² However, there are two reasons why we do not as yet have coins dated earlier than the 4th century B.C. Firstly, no extensive pre-4th century levels were excavated during the first three seasons. Secondly, the coinage of Torone and other cities in the area before *ca.* 400 was silver. Bronze coinage was not introduced before the 4th century, and chance finds of silver coins in excavations are much rarer than bronze. Of the other archaeological objects, Greek lamps have been found dating from the late Archaic period to the end of the 4th century B.C., and therefore reflect a period of occupation corresponding to that indicated by the coins.

¹ I would like to thank the following for their assistance: the late M. J. Price, who checked the catalogue, G. Joyner and the late P. Connor for the initial identification of many of the coins; H. M. Brown (Ashmolean Museum, Oxford) who identified the Ottoman coins; D. M. Metcalf for advice on the Byzantine coins and A. M. Burnett and C. E. King for advice on the Roman coins.

² *PAE* 1975, pp.104-5.

One of the posthumous coins of Alexander III (the Great) (**20.19**) is significant for dating the Early Hellenistic fortification Wall, since it was found in Gate Area TR1 tr1 (3) outside Wall K3 in the layer of earth below the layer of limestone chips from the final finishing of the Wall. The dating of the coin to 323-310 B.C. is confirmed by a hoard which contains a similar coin and was buried *ca.* 310 B.C.³ The coin is in very fresh condition and had probably not been circulating long before it was lost. Thus it suggests that the fortification Wall was constructed after, possibly soon after, 315 B.C. A coin of Amyntas III (**20.9**) was found in the adjoining trench, Gate Area TR3 (2), in the filling between the outside and inside faces of K3. But despite its well stratified context, it is of no further assistance for dating the Wall, since it is earlier than the posthumous Alexander coin.

Another posthumous coin of Alexander III (the Great) (**20.20**) was found in Structure 3 TR16 (4) on the floor, and can therefore be used to date the building. The coin is of the same date as **20.19** and suggests that Structure 3 was built before *ca.* 315 B.C.

Olynthos is the other major site in the area with a substantial number of 4th century bronze coins, mostly dating before the destruction of the city in 348 B.C. At present, too few coins have been found at Torone for us to make any comparison between the finds of the two sites. However, significant numbers of coins from Torone's mint have been found at Olynthos,⁴ including bronze coins similar to **20.1**. The coins of the Chalkidian League and the Bottiaioi (**20.2-20.8**) were minted at Olynthos and were found there in great numbers.⁵ Coins of the Macedonian kings, similar to those from Torone (**20.9-20.21**), were also found at Olynthos.⁶ These similarities suggest that the same bronze coinage was in circulation in both cities during the 4th century.

There are very few literary references for the occupation of Torone during the Roman period.⁷ We noted that there are two Roman provincial coins from the first three centuries A.C., but the bulk of the Roman coins belong to the later Roman period. The Roman lamps dating from the 4th to the 7th centuries (see chapter 15), and the late Roman pottery dating from *ca.* A. D. 200 to the mid-6th century (see chapter

³ *IGCH* 413 Thessalonike environs, Macedonia, *ca.* 1918; M.J.Price, "Greek Coin Hoards in the British Museum," *NC* 9 (1969) pp. 8-9.

⁴ *Olynthus* IX, pp. 314-316.

⁵ *Ibid.*, p. 298 ff.

⁶ *Ibid.*, p. 324 ff.

⁷ *PAE* 1975, p.106 and chapters 1 and 14 of this volume.

14) correspond to the dates of the late Roman coins, the last one being a coin of Justinian I (20.36).

Torone is not referred to again until the references in the Mt. Athos texts of the 14th and 15th centuries A.C.⁸ Significantly, one Byzantine coin (20.37) is dated to the first half of the 13th century, and was dropped no later than 1260.⁹ This is evidence of some human presence on the site in a period not documented in the literary record.

The coins of Ragusa in Dalmatia, Nuremberg and the Ottoman empire were all found in the Isthmus region, and mostly around Structure A. The coins of Ragusa and Nuremberg all come from the same context, Isthmus TR1 tr2 (2). Post-Byzantine pottery was also found in the Isthmus region, suggesting occupation corresponding to the period of the coins. Notably, the only silver coins discovered during the first three seasons, from Ragusa and the Ottoman empire, were found in this area.¹⁰

The latest coin from the site is the modern Greek 5 lepta coin of 1912, the year before the incorporation of the Chalkidike into the Greek state in 1913.

At present, too few coins have been found to draw any significant political or economic conclusions.

POSTSCRIPT

More recent information and bibliography relevant to this chapter are the following:

For 20.1: N. Hardwick, "The Coinage of Terone from the Fifth to the Fourth Centuries B.C.," in R. Ashton and S. Hurter (eds.), *Studies in Greek Numismatics in Memory of Martin Jessop Price* (London 1998) 119-134, pl. 29.

For 20.33, 20.35: J. P. C. Kent, *The Roman Imperial Coinage: Vol. X. The Divided Empire and the Fall of the Western Parts A.D. 395-491* (London 1994).

For 20.40: The obverse legend GLORIO IN EX[CELSI]S D[E]O (sic) on this coin is not noted by Barnard for the tokens of this period.

⁸ *Ibid.*

⁹ I owe this point to D. M. Metcalf. A second Byzantine coin (86.89) from Torone, discovered in a later season, is a bronze trachy (small module) of the imitative coinage of the period of the Latin emperors of Constantinople and the kings of Thessalonike 1204-1261 (cf. Hendy, pp. 198-199, pl. 29.1-15), so is contemporary with 20.37.

¹⁰ There is another silver coin of Ragusa (81.545), as well as other silver Ottoman coins, from later seasons.

For **20.42-20.48**: J. Sultan, *Coins of the Ottoman Empire and the Turkish Republic: a detailed catalogue of the Jem Sultan Collection*, 2 vols. (Thousand Oaks, California 1977).

CATALOGUE

All coins are bronze unless otherwise noted. The description, of the obverse followed by that of the reverse, specifies only what is visible. The legends are restored, but when there is no trace of the legend, none is noted. When one side of the coin is illegible, the die axis is omitted. For the Roman coins the mint is noted where possible. Ottoman legends are transliterated. Diameters are given for all identifiable coins. Weights are given for silver coins, but for other coins, only if they are well preserved. The coins were weighed after cleaning and varnishing.

GREEK

NORTH GREEK

TERONE *ca.* 400-348 B.C. (Pl. 101)

- | | | | | |
|-------------|------------------|--|--------------------------------|--|
| 20.1 | (75.471)
11mm | Structure 1 TR 1 tr 4b (6)
✓ Apollo laureate r. | Oinochoe r.,
in field r., E | <i>Olynthus IX</i> , pp. 228-9,
no. 4, pl. XXX. 37. |
|-------------|------------------|--|--------------------------------|--|

CHALKIDIAN LEAGUE *ca.* 398-348 B.C. (Pl. 101)

- | | | | | |
|-------------|------------------|--|----------------------------|---|
| 20.2 | (75.502)
16mm | Unstratified
↘ Apollo r. | Kithara
[X]A[Λ]KI[ΔE]ΩN | <i>SNG Cop. Macedonia</i> ,
no. 246. |
| 20.3 | (78.140)
13mm | Isthmus TR3 tr1 (2)
✓ Apollo r. | Kithara
XA[ΛKIΔE]ΩN | <i>SNG Cop. Macedonia</i> ,
no. 246. |
| 20.4 | (78.477)
13mm | Isthmus TR3 tr1
Feature 1 B7
↘ Apollo r. | Kithara | <i>SNG Cop. Macedonia</i> ,
no. 246. |
| 20.5 | (76.373)
12mm | Gate Area TR7 tr1 (3)
↖ Apollo laureate r. | Tripod | <i>PAE</i> 1977, p. 92,
pl. 73δ-ε.
<i>SNG Cop. Macedonia</i> ,
nos. 247-9. |
| 20.6 | (78.01)
15mm | Isthmus Surface
✓ Apollo r. | Tripod | <i>SNG Cop. Macedonia</i> ,
nos. 247-9. |

- 20.7** (78.3760) Isthmus TR1 tr3 (1)
14mm ↘ Apollo r. Tripod *SNG Cop. Macedonia*,
nos. 247-9.

BOTTIAIOI *ca.* 400-348 B.C. (Pl. 101)

- 20.8** (78.973) Isthmus TR4 tr2 (3) B5
15mm ↙ Apollo laureate r. Kithara
[BO]TTIAION *SNG Cop. Macedonia*,
nos. 140-4.

MACEDONIA

AMYNTAS III, PERIOD II, 381-369 B.C. (Pl. 101)

- 20.9** (75.501) Gate Area TR3 (2)
17mm ← Beardless Herakles r. Eagle devouring
snake [AM]YN[TA] *PAE* 1975, p. 120.
SNG Cop. Macedonia,
nos. 517-8.

PHILIP II 359-336 B.C. (Pl. 101)

- 20.10** (75.473) Gate Area TR4 (3)
19mm ↘ Apollo laureate r. Horse and rider r. *SNG Cop. Macedonia*,
nos. 581 f.

- 20.11** (76.01) Structure 3 Topsoil
17mm ↑ Apollo laureate r. Horse and rider r. *SNG Cop. Macedonia*,
nos. 581 f.

- 20.12** (76.236) Gate Area TR4 Ext 1 (2)
19mm ↑ Apollo with taenia r. Horse and rider r,
ΦΙΛ[ΙΠΠ]ΟΥ; below, E *PAE* 1977, p. 95,
pl. 74 α-β.
SNG Cop. Macedonia,
no. 585.

Cf. A. R. Bellinger, *ANSMN* 11 (1964) p. 42, no. 59, for an example in *IGCH* 404, Drama, Macedonia, 1931, buried *ca.* 325-310.

- 20.13** (78.129) Isthmus TR3 tr2 (2)
18mm ↑ Apollo r. Horse and rider r.
[ΦΙ]ΛΙΠΠΟΥ *SNG Cop. Macedonia*,
nos. 581 ff.

- 20.14** (78.1034) Hill 2 TR3 (3)
18mm ↓ Apollo r. Horse and rider r. *SNG Cop. Macedonia*,
nos. 581 ff.

- 20.15** (78.1073) Isthmus TR4 tr1 (3) B8
15mm → Apollo laureate r. Horse and rider r. *SNG Cop. Macedonia*,
nos. 581 ff.

- 20.16** (78.1429) Unstratified, Structure 3
15mm ↗ Apollo l. Horse and rider l.
[ΦΙΛ]ΙΠΠ[ΟΥ] *ANSMN* 11 (1964)
p. 41, no. 36.

- 20.17** (78.1455) Unstratified, Structure 3
19mm ↙ Apollo r. Horse and rider r. *SNG Cop. Macedonia*,
nos. 581 ff.

ALEXANDER (THE GREAT) III 336-323 B.C. (Pl. 101)

- 20.18** (78.728) Isthmus TR1 tr2 (4b) *SNG Cop. Macedonia,*
 Broken ✓ Herakles r. Club, bow in case and no. 1034 ff.
 quiver; in centre
 [AA]EEANΔ[POY]

POSTHUMOUS ALEXANDER III (THE GREAT) *ca.* 323-310 B.C. (Pl. 101)

- 20.19** (75.97) Gate Area TR1 tr1 (3) *PAE* 1975, p. 119,
 19mm ↘ Beardless Bow in case and quiver, pl. 108 α-β.
 5.64g Herakles r. club; in centre B A, *NC* 9 (1969) p. 9,
 below trident no. 11, pl. II.

For dating, see M.J.Price, *NC* 9 (1969) p.8-9 (*IGCH* 413 Thessalonike environs, Macedonia, *ca.* 1918).

- 20.20** (78.530) Structure 3 TR16 (4) *NC* 9 (1969) p. 9,
 19mm ✓ Beardless Herakles r. Club, bow in case and no. 6, pl. II.
 quiver; in centre,
 B A, thunderbolt

- 20.21** (78.836) Isthmus TR1 tr2 (5) *NC* 9 (1969) p. 9,
 19mm ↖ Beardless Herakles r. Bow in case and quiver, no. 12, pl. II.
 club; in centre B A;
 symbol below, thunderbolt

ROMAN PROVINCIAL

MARCUS AURELIUS OR COMMODUS A.D. 161-192 (Pl. 101)

- 20.22** (75.304) Gate Area TR5 N Surface
 24mm ↑ Bearded bust r. Standing female figure
Cf. SNG Cop., Thessaly-Illyricum, no.345, for a similar, but not identical, coin.

UNCERTAIN A.D. *ca.* 50-250 (Pl. 101)

- 20.23** (78.927) Lower City TR2 NW Corner
 23mm Head with wreath ties r. Effaced

ROMAN

AURELIAN (Pl. 101)

- 20.24** (78.522) Lower City TR1 (1) *RIC* V, 1, p. 288,
 Siscia, post reform, A.D. 274-275 no. 216, pl. VII. 98.
 24mm ↘ Radiate, draped and
 cuirassed, bust r. Emperor standing r.,
 clasping hand of Concordia

IMP AVREL[IA]NVS
AVG

CONCORDIA MILITVM

CONSTANS (Pl. 102)

- 20.25** (76.514) Isthmus TR1 tr2 (3)
Thessalonike A.D. 336-337
17 mm ↑ Laureate bust r.
CONSTANS NOB
CAES

Two soldiers, one
standard
GLORI-A EXER-
CITVS

PAE 1977, p. 132,
pl.76 β.
RIC VII, p. 529,
no. 225.

—
SMTSA

CONSTANTIUS II (Pl. 102)

- 20.26** (76.791) Isthmus TR1 tr2 (2)
Uncertain mint A.D. 350-361
17mm ↘ Bust r., pearl diadem
[DN CON]STAN-TIVS
PF AVG

Soldier spearing
falling horseman
[FEL TEMP-
REPAR]ATIO

PAE 1977, p.132,
pl.76 γ.
RIC VIII, p.419,
no. 192.

VALENTINIAN I (Pl. 102)

- 20.27** (76.100) Lekythos Surface
Thessalonike A.D. 364-367
18mm ↓ Bust r., pearl diadem
DN VALENTINI-ANVS
PF AVG

Emperor with labarum
dragging captive r.
GLORIA RO-
MANORVM

RIC IX, p.176,
no. 16 a.

—
TEST

THEODOSIUS I (Pl. 102)

- 20.28** (76.338) Isthmus TR1 tr 1 (2)
Heraclea A.D. 378-383
14mm ↑ Bust r., pearl diadem
DN THEODO-SIVS
PF AVG

VOT | X |
MVLTVLT | XX
in wreath

RIC IX, p.196, no.19c
pl. XVI.16.

—
SMHA

- 20.29** (78.1337) Lower City TR1 NW ext. (3)
Uncertain mint A.D. 378-388

RIC IX, p. 184,
no.49 b.

- 14mm ↘ Bust r., pearl diadem
DN THEODO-[SI]VS
PF AVG
- VOT | X |
MVLT | [X]X
in wreath
- 20.30** (76.190) Isthmus TR2 tr1 (1)
Uncertain mint A.D. 388-395
13mm ↑ Bust r., pearl diadem
DN THEO[DO]-S[IV]S
PF AVG
- PAE 1977, p. 133,
pl. 768
RIC IX, p. 188,
no. 65 b.
- Victory dragging
captive l.; in field l.
chi-rho
[SALVS REI-PVB]LICAE
- ARCADIUS (Pl. 102)
- 20.31** (78.489) Isthmus TR3 tr2 (2)
Thessalonike A.D. 383-388
13mm ↘ Bust r., pearl diadem
[DN ARCAD-IV]S
PF A[VG]
- Gate of camp
[GLORIA REI-]
PVBLICE
- TES
- 20.32** (78.889) Isthmus TR4 tr2 (2)
Heraclea or Nicomedia A.D. 388-392
15mm ↑ Bust r., pearl diadem
DN ARCADIVS PF
AVG
- RIC IX, p. 198,
no. 26 c.
or p. 262, no. 45 c.
- Victory dragging
captive l.
SALVS REI-
PVBLICAE
- 20.33** (76.337) Isthmus TR1 tr1 (2)
Constantinople A.D. 402-408
20mm ↑ Bust facing in helmet
DN ARCAD-[VS PF
AVG]
- PAE 1977, p. 131,
pl. 75 γ-δ.
LRBC II, no. 2210.
- Constantinople seated
facing [CONCORDI-A]
AVGG
- [CO]NSA
- UNCERTAIN EMPEROR (Pl. 102)
- 20.34** (78.281) Isthmus TR1 tr3 (1)
Uncertain mint, 4th century A.C.
14mm Bust r.
- Effaced
- MARCIAN (Pl. 102)
- 20.35** (76.872) Isthmus Surface
Thessalonike A.D. 450-457
11mm ↘ Bust r., pearl diadem
[DN MARC]IANVS
PF AVG
- LRBC II, no. 1879;
Marcian monogram
no. 6, p. 110.
- Monogram in wreath
- [TH]E[S]

BYZANTINE

JUSTINIAN I (Pl. 102)

- 20.36** (78.478) Isthmus TR3 tr1 (3) B8
Thessalonike A.D. 527-562
25mm ✓ Bust r.
DNIVSTINI-[ANV]SPPAVI

Large IS, with A
to l., P to r.; above I,
chi-rho

DOC I, pp. 105-6,
nos. 98d.1-6.

TES

UNCERTAIN EMPEROR (Pl. 102)

- 20.37** (78.274) Isthmus TR2 tr2 (1)
Trachy (small module), uncertain mint,
1st half 13th century A.C.
22mm Nimbate head of
Christ facing

Effaced

Hendy, pp. 282-3,
pl. 40, nos. 12-15,
pl. 41, nos. 1-9.

ITALIAN

RAGUSA, DALMATIA (Pl. 102)

- 20.38** (76.478) Isthmus TR1 tr2 (2) FC II
Grosseto 0.52g AR ✓ 17mm A.D. 1649;
perforated.

St. Blasius facing,
blessing with r.
hand, holding crook
in l.; in field 16 49
S BLA-SIVS-[RA]GVSII

Christ facing, blessing
with r. hand, holding
orb with l.; 9 stars on
each side • TV VTA • S[ALVS]

PAE 1977, p. 132
CNI VI, p. 485,
no. 54

- 20.39** (76.479) Isthmus TR1 tr2 (2) FC II
Grosseto 0.59g AR ↗ 18mm A.D. 1650;
perforated.

As above, but in
field 16[5]0
S BLASIVS-RAGVSII

As above, but with 6
or 7 stars on each side
TVTA • [S]ALVS

PAE 1977, p. 132
CNI VI, p. 485,
no. 56.

GERMAN

NUREMBERG (Pl. 102)

- 20.40** (76.324) Isthmus TR1 tr2 (2) FC I
Jetton 19mm ↑ A.D. 1618-60;
perforated.

Barnard, p. 223,
no. 93, pl. XXXIV.

- | | | | |
|-----------------------|---|--|--|
| | Head of Mercury l.
wearing winged
helmet and toga
++GLORIO+IN
+EX[]S+D[]O | Reichsapfel in border
of 3 curves and 3
angles
+WVLF+LAVFER
+IN+NVRNBERG | |
| 20.41 (76.477) | Isthmus TR1 tr2 (2) FC II
Jetton 21mm ↑ A.D. 1618-60;
perforated | | <i>PAE</i> 1977, p.132,
pl. 76 α.
Barnard, p. 222, nos.
pl. XXXIII. |
| | Reichsapfel in border of
3 curves and 3 angles
+ WVLF[LAVF]ER
[REC]HEN.PF.MA[| 3 crowns and 3 lys
around a flower
GOTTES.SEGEN
MAC[HT] REICH | |
- Both jettons were made by Wulf Laufer (see Barnard, p.70, for dating).

OTTOMAN SULTANS¹¹

MURAD IV b. AHMAD, A.D.1623-1640/ A.H. 1032-1049 (Pl. 102)

- | | | | |
|-----------------------|--|---------------------------------------|---|
| 20.42 (76.330) | Isthmus TR2 tr1 (1)
0.27g AR 11mm A.D. 1623
[Sul]ta[n] Mur[ad]
ibn Ahma[d Khan] | Azza[nasruhu
duriba...(mint)] 1032 | <i>PAE</i> 1977, p. 133,
pl. 76 ε.
Pere, no. 423. |
|-----------------------|--|---------------------------------------|---|

AHMAD III b. MUHAMMAD, A.D. 1703-30/ A.H. 1115-43 (Pl. 102)

- | | | | |
|-----------------------|--|---|--|
| 20.43 (76.102) | Isthmus TR1 tr1 (1)
0.16g AR 14mm
Tughra (imperial
monogram) of Ahmad III | Same tughra,
reversed and
in incuse | <i>PAE</i> 1977, p. 130.
Pere, no. 524. |
| 20.44 (78.920) | Isthmus TR4 tr1 (1)
0.18g AR 11mm, 2 fragments
Sult[an Ahmad ib]n
Muhammad [Khan] | Mint not read | Pere, no. 526. |

UNCERTAIN SULTANS (Pl. 102)

- | | | | |
|-----------------------|---|---|-------------------------------------|
| 20.45 (76.485) | Isthmus TR1 tr2 (2)
0.17g AR 11mm, perforated
Effaced | Azza nasruhu duriba...
(mint name missing) | <i>PAE</i> 1977, p.132,
pl. 75ε. |
|-----------------------|---|---|-------------------------------------|

¹¹ Ottoman Sultans by Helen Mitchell Brown (Ashmolean Museum, Oxford).

- 20.46** (76.108) Isthmus TR1 tr1 (1) PAE 1977, p. 130.
 0.09g AR 13mm, 18th or 19th century A.C., Duriba fi Qustantiniyati
 perforated (date missing)
 Effaced minted at Constantinople

ILLEGIBLE, PROBABLY OTTOMAN

- 20.47** (76.482) Isthmus TR1 tr1 (3) PAE 1977, p. 131.
 0.17g AR 11mm, 2 fragments
- 20.48** (78.273) Isthmus TR2 tr2 (1)
 0.22g AR 11mm

MODERN GREEK

GEORGE I, A.D. 1863-1913 (Pl. 102)

- 20.49** (76.286) Gate Area TR4 Ext 2 (3) PAE 1977, p. 102
 3.00 g Nickel, ↓ 20 mm, central hole Owl on amphora,
 ΒΑΣΙΛΕΙΟΝ ΤΗΣ ΕΛΛΑΔΟΣ 1912; olive branch;
 to r., crown 5 ΛΕΙΤΑ J.-P. Divo, *Modern*
 below CH PILLET *Greek Coins 1828-*
1968 (1969) p. 56,
no. 66.

UNCERTAIN COINS (Not illustrated)

- 20.50** (76.192) Surface
- 20.51** (78.07) Isthmus TR2 tr1 (3a)
- 20.52** (78.09) Isthmus TR2 tr1 (3a)
- 20.53** (78.27) Isthmus TR1 tr2 (4)
- 20.54** (78.131) Isthmus TR3 tr2 (2)
- 20.55** (78.404) Isthmus TR2 tr1 (5a)
- 20.56** (78.476) Isthmus TR3 tr1 Feature 1 B7
- 20.57** (78.488) Isthmus TR3 tr1 (3) B11
- 20.58** (78.669) Isthmus TR1 tr2 (5)
- 20.59** (78.683) Isthmus TR2 tr2 (2)
- 20.60** (78.689) Hill 2 TR 3 (1)
- 20.61** (78.727) Isthmus TR1 tr2 (4b)
- 20.62** (78.732) Isthmus TR2 tr2 (2)
- 20.63** (78.734) Isthmus TR1 tr3 (3)
- 20.64** (78.842) Isthmus TR2 tr2 (3)
- 20.65** (78.958) Isthmus TR2 tr1 (5)
- 20.66** (78.1069) Isthmus TR3 tr1 (3) B6
- 20.67** (78.1075) Isthmus TR4 tr1 (3) B8
- 20.68** (78.1349) Hill 2 TR3 (4)
- 20.69** (78.1513) Isthmus TR3 tr2 ext.2 (3) B6

CONCORDANCE 1. FINDSPOTS - CATALOGUE NUMBERS

UNSTRATIFIED		18.40
.....	20.2	TR2 tr2 (6b) 7.2
		..... 9.102
		..... 17.87
SURFACE FINDS		TR2 tr2 Pot Burial Tomb 2 17.92
Surface.....	16.38	TR2 tr4 (1) 8.148
.....	20.50	..... 8.152
Hill One Surface	18.121	..... 8.194
		TR2 tr4 (2)..... 8.197
		..... 10.53
		..... 15.7
TERRACE IV, Amphora Burials		TR2 tr4 Tomb 1..... 18.12
TR3 Pot Burial 1.....	14.420	..... 18.38
TR3 Amphora Burial 2.....	14.435	
TR10 (1).....	14.379	TR3 (2)..... 7.26
TR38 W Ext. (26) *468		..... 8.86
Tomb II.....	14.421	..... 9.11
TR39 (23) *507.....	14.378	..... 10.108
		..... 20.9
		TR3 S (2)..... 4.9
		..... 8.70
		..... 9.16
GATE AREA		TR3 S (5)..... 7.12
TR1 tr1.....	8.155	TR3 E (3)..... 4.3
.....	9.4	..... 4.6
TR1 tr1 (3).....	20.19	TR3 Baulk (1)..... 5.36
TR1 tr1 (4).....	7.33	TR3 Baulk (4)..... 15.54
.....	8.135	TR4 (2)..... 8.151
TR1 tr2 Wall Fill.....	17.90	..... 10.24
TR1 tr2 (2).....	4.1	TR4 (2a)..... 8.42
.....	5.25	..... 8.165
.....	6.6	..... 10.12
.....	7.6	TR4 (3)..... 20.10
.....	7.19	TR4 (4)..... 9.13
.....	7.21	..... 9.186
.....	8.73	..... 10.19
.....	9.24	TR4 (5)..... 15.5
.....	10.11	TR4 Ext. 1 (2)..... 20.12
.....	16.15	TR4 Ext. 1 (3)..... 16.42
.....	16.32	..... 18.46
.....	18.100	TR4 Ext. 1 (4)..... 5.19
TR2 tr1	8.196	..... 9.200
TR2 tr2 (3)	10.9	..... 10.4
TR2 tr2 (5)	9.60	..... 12.23
TR2 tr2 (6)	7.11	
.....	8.46	

.....	13.9	TR1 tr1 (5).....	5.26
.....	18.86	.....	8.2
TR4 Ext. 2 (3).....	20.49	.....	8.31
TR4 Ext. 2 (4).....	9.68	.....	8.98
.....	15.57	.....	8.124
TR5 N Surface.....	20.22	.....	9.12
TR5 tr1 S (2).....	9.86	.....	10.1
TR6 tr1 Robbery Dump.....	8.114	.....	10.86
TR6 tr1 (1) Wall Fill.....	16.37	.....	15.63
TR6 tr1 N (1).....	15.45	.....	15.74
TR6 tr1 N (3).....	9.82	TR1 tr1 (6).....	4.7
.....	9.176	.....	4.8
.....	18.14	.....	6.15
TR6 tr1 S (2).....	9.133	.....	7.31
.....	10.46	.....	8.4
.....	16.14	.....	8.139
.....	18.104	.....	8.144
TR6 tr2 (1).....	9.136	.....	9.1
TR6 tr2 (3).....	9.69	.....	9.74
.....	18.45	.....	9.108
TR6 tr2 N (3).....	18.66	.....	13.13
TR6 tr2 W (3).....	8.72	.....	18.112
.....	8.186	TR1 tr1 (7)	4.8
.....	10.39	.....	5.21
TR6 tr3 (4).....	4.2	.....	5.22
TR7 tr1.....	20.5	.....	8.5
TR7 tr2 (1).....	15.42	.....	8.6
		.....	8.48
		.....	9.33
		.....	9.40
		.....	9.94
		.....	10.18
		.....	10.133
		.....	10.134
		.....	12.6
		.....	12.8
		.....	12.29
		.....	12.53
		.....	15.1
		.....	15.6
		.....	15.51
		.....	15.75
		.....	18.44
		TR1 tr1 (8).....	4.8
		.....	5.5

STRUCTURE 1

.....	6.4	TR1 tr2 "Below B" (4)	10.85
.....	7.9	.....	13.10
.....	8.56	.....	13.12
.....	8.57	.....	15.67
.....	8.82	.....	15.77
.....	9.79	TR1 tr2 "Below B" (5)	15.10
.....	9.87	TR1 tr2 "Below B" (6)	8.59
.....	9.88	TR1 tr3 (2)	8.154
.....	9.190	.....	9.18
.....	10.131	.....	9.113
.....	12.11	TR1 tr3 (4)	9.2
.....	12.22	.....	9.14
.....	12.26	.....	9.15
.....	12.34	.....	9.83
.....	15.51	TR1 tr3 (5)	6.7
.....	17.94	TR1 tr3 (6)	4.10
TR1 tr1 (9)	10.22	.....	4.11
.....	12.30	TR1 tr3 (7)	9.70
.....	18.24	.....	9.104
TR1 tr1 (10)	8.158	.....	10.20
TR1 tr1/3 Baulk (4)	5.23	TR1 tr4 "Below B" (2)	8.136
.....	5.29	TR1 tr4 "Below B" (3)	8.74
.....	9.31	.....	16.16
.....	9.100	.....	18.116
TR1 tr1/3 Baulk (5)	9.187	TR1 tr4 "Below B" (4)	16.5
.....	10.21	TR1 tr4 "Below B" (5)	12.43
.....	12.4	TR1 tr4 "Below B" (6)	8.84
.....	12.32	.....	9.138
TR1 tr1/3 Baulk (6)	5.31	.....	12.52
.....	10.2	.....	20.1
.....	10.17	TR1 tr5 (4)	7.30
.....	12.21		
.....	16.6		
TR1 tr1/3 Baulk (7)	6.10	STRUCTURE 3	
.....	8.127	Unstratified	20.16
.....	15.12	.....	20.17
TR1 tr1/3 Baulk (8)	8.44		
.....	10.23	Topsoil.....	20.11
TR1 tr1/3 Baulk (9)	7.27	TR2 (2).....	9.20
TR1 tr1/3 Baulk (10)	9.77	TR2 (3).....	9.5
TR1 tr2 (2)	8.150	TR2 (3).....	9.36
TR1 tr2 (3)	18.80	TR2 (3).....	9.209
TR1 tr2 "Below B" (3)	12.20	TR2 (3).....	13.53
.....	13.11	TR4 (2).....	6.3
.....	16.1		

.....	9.71	Surface, SW Beach	18.98
TR5 (2).....	11.4	TR1 tr1 (1).....	8.32
TR5 (4).....	13.28	.....	14.10
TR6 (6).....	9.35	.....	14.139
TR7 (1).....	9.198	.....	14.156
TR7 (4).....	10.78	.....	14.157
TR8 (6)-(7).....	12.65	.....	14.171
TR8 (7).....	9.164	.....	14.180
TR8/16 Baulk (4).....	13.42	.....	14.207
TR10 (2).....	18.51	.....	14.293
TR10 (3).....	9.76	.....	14.334
.....	15.3	.....	14.505
TR11 (3).....	11.4	.....	15.70
TR11 (4).....	13.33	.....	15.88
TR11/7 Baulk (4).....	10.79	.....	17.35
TR11 S Ext. (5).....	9.195	.....	17.70
.....	9.198	.....	20.43
.....	10.78	.....	20.46
TR13 (2).....	7.8	TR1 tr1 (2).....	8.79
TR13 (4).....	7.1	.....	8.108
.....	8.126	.....	9.128
.....	8.141	.....	10.3
.....	9.205	.....	10.92
.....	18.115	.....	10.117
TR14 (4).....	12.63	.....	14.57
TR14 (6).....	13.16	.....	14.60
.....	13.17	.....	14.110
TR15 (2).....	13.5	.....	14.112
TR16 (2).....	13.8	.....	14.129
TR16 (3).....	13.34	.....	14.145
.....	18.84	.....	14.151
TR16 (4).....	13.31	.....	14.214
.....	20.20	.....	14.249
ISTHMUS		.....	14.269
Surface	7.32	.....	14.299
.....	8.55	.....	14.357
.....	9.54	.....	14.364
.....	9.127	.....	14.403
.....	9.151	.....	14.460
.....	10.87	.....	14.492
.....	14.165	.....	17.97
.....	20.6	.....	18.113
.....	20.35	.....	20.28
		.....	20.33

TR1 tr1 (3)	6.11	.....	8.38
.....	9.72	.....	8.65
.....	10.13	TR1 tr1 (5)	8.61
.....	11.17	.....	8.63
.....	14.140	.....	8.78
.....	14.408	.....	8.110
.....	14.412	.....	8.118
.....	17.18	.....	8.146
.....	17.102	.....	9.50
.....	20.47	.....	9.132
TR1 tr1 (4)	5.7	.....	9.166
.....	8.21	.....	16.17
.....	8.22	TR1 tr1 (5a)	7.15
.....	8.49	.....	8.85
.....	8.58	.....	8.97
.....	8.140	.....	8.166
.....	9.34	.....	8.179
.....	9.39	.....	9.61
.....	9.52	.....	9.216
.....	9.196	.....	10.82
.....	9.203	.....	13.22
.....	9.214	TR1 tr2 (1)	8.123
.....	10.101	.....	14.84
.....	10.137	.....	18.33
.....	11.16	TR1 tr2 (2)	5.27
.....	12.3	.....	8.128
.....	12.36	.....	14.48
.....	12.57	.....	14.50
.....	14.164	.....	14.125
.....	14.393	.....	14.126
.....	15.20	.....	14.160
.....	16.41	.....	14.164
TR1 tr1 (4a)	5.2	.....	14.180
.....	8.160	.....	14.198
.....	9.197	.....	14.210
.....	10.49	.....	14.215
.....	10.58	.....	14.246
.....	10.84	.....	14.247
.....	12.40	.....	14.290
.....	12.41	.....	14.369
.....	14.467	.....	14.372
.....	16.23	.....	14.468
.....	16.33	.....	14.470
.....	17.91	.....	17.12
TR1 tr1 (4-5a)	8.15	.....	17.17

.....	17.23	.....	14.304
.....	17.58	.....	14.313
.....	17.77	.....	14.319
.....	17.78	.....	14.324
.....	18.64	.....	14.351
.....	18.99	.....	14.361
.....	20.26	.....	14.374
.....	20.45	.....	14.388
TR1 tr2 (2) Fund complex I.....	18.29	.....	14.428
.....	18.75	.....	14.453
.....	18.106	.....	14.458
.....	18.107	.....	15.94
.....	18.108	.....	17.6
.....	18.109	.....	17.9
.....	18.110	.....	17.22
.....	18.111	.....	17.53
.....	20.40	.....	18.96
TR1 tr2 (2) Fund complex II.....	17.89	.....	20.25
.....	18.36	TR1 tr2 (4).....	8.23
.....	18.85	.....	9.145
.....	20.38	.....	9.149
.....	20.39	.....	9.158
.....	20.41	.....	9.199
TR1 tr2 (3).....	5.3	.....	10.40
.....	7.7	.....	10.43
.....	8.175	.....	10.67
.....	11.5	.....	10.74
.....	14.38	.....	11.2
.....	14.42	.....	12.42
.....	14.54	.....	12.51
.....	14.55	.....	13.3
.....	14.73	.....	13.23
.....	14.104	.....	14.45
.....	14.107	.....	14.56
.....	14.130	.....	14.64
.....	14.147	.....	14.89
.....	14.150	.....	14.92
.....	14.158	.....	14.115
.....	14.159	.....	14.123
.....	14.175	.....	14.128
.....	14.176	.....	14.131
.....	14.191	.....	14.147
.....	14.244	.....	14.158
.....	14.287	.....	14.167
.....	14.292	.....	14.197

.....	14.256	.....	16.24
.....	14.257	.....	17.56
.....	14.265	.....	18.27
.....	14.296	.....	18.70
.....	14.316	TR1 tr2 (4b).....	9.56
.....	14.327	.....	10.26
.....	14.339	.....	10.55
.....	14.341	.....	10.128
.....	14.373	.....	12.64
.....	14.386	.....	20.18
.....	14.395	.....	20.61
.....	14.406	TR1 tr2 (4)-(5).....	14.382
.....	14.410	.....	14.385
.....	14.461	.....	14.418
.....	14.471	.....	16.50
.....	14.507	TR1 tr2 (5).....	8.26
.....	15.34	.....	8.169a
.....	15.43	.....	9.153
.....	15.89	.....	9.201
.....	17.4	.....	9.211
.....	17.10	.....	10.76
.....	17.30	.....	10.99
.....	17.33	.....	14.62
.....	17.55	.....	14.90
.....	17.59	.....	14.155
.....	17.61	.....	14.170
.....	17.64	.....	14.216
.....	17.65	.....	14.248
.....	17.66	.....	14.251
.....	18.42	.....	14.302
.....	18.78	.....	14.314
.....	18.118	.....	14.423
.....	20.53	.....	14.438
TR1 tr2 (4a)	9.41	.....	15.33
.....	9.42	.....	15.93
.....	9.114	.....	15.97
.....	9.120	.....	16.7
.....	9.173	.....	16.40
.....	9.215	.....	17.29
.....	10.127	.....	17.34
.....	14.152	.....	17.52
.....	14.368	.....	18.61
.....	14.402	.....	20.21
.....	15.22	.....	20.58
.....	15.32	TR1 tr2 (6).....	7.4

.....	8.83	.....	12.7
.....	8.121	.....	14.44
.....	9.105	.....	14.74
.....	9.117	.....	14.82
.....	9.124	.....	14.87
.....	9.156	.....	14.111
.....	9.207	.....	14.116
.....	10.32	.....	14.121
.....	10.59	.....	14.136
.....	10.63	.....	14.154
.....	10.65	.....	14.196
.....	12.44	.....	14.197
.....	14.192	.....	14.199
.....	14.219	.....	14.200
.....	15.17	.....	14.215
.....	15.31	.....	14.225
.....	15.37	.....	14.247
.....	16.48	.....	14.274
TR1 tr2 (6a)	8.1	.....	14.275
.....	8.80	.....	14.278
.....	8.107	.....	14.316
.....	8.157	.....	14.325
.....	9.57	.....	14.353
.....	9.106	.....	14.355
.....	10.27	.....	14.358
TR1 tr2 (6b)	8.43	.....	14.363
.....	8.81	.....	14.377
.....	9.89	.....	14.381
.....	10.8	.....	14.405
.....	10.119	.....	14.450
.....	12.24	.....	14.455
.....	15.47	.....	14.463
TR1 tr2 Baulk NE.....	14.188	.....	14.465
.....	14.213	.....	14.469
.....	14.220	.....	14.472
.....	15.91	.....	14.485
.....	17.5	.....	14.486
.....	17.11	.....	14.491
.....	17.57	.....	14.494
TR1 tr3 (1)	5.8	.....	14.506
.....	8.14	.....	15.35
.....	9.22	.....	17.37
.....	9.28	.....	17.60
.....	9.85	.....	17.69
.....	9.122	.....	17.74

.....	17.79	.....	10.16
.....	18.57	.....	10.51
.....	18.59	.....	10.104
.....	20.7	.....	10.107
.....	20.34	.....	10.114
TR1 tr3 (2)	10.113	.....	14.69
.....	12.25	.....	14.209
.....	14.81	.....	15.36
.....	14.116	.....	17.28
.....	14.195	.....	17.76
.....	14.259	.....	20.63
.....	14.270	TR1 tr3 (3) SW	8.113
.....	14.312	.....	8.174
.....	14.352	.....	8.191
.....	14.365	.....	9.43
.....	14.384	.....	9.91
.....	14.416	.....	9.92
.....	14.427	.....	9.116
.....	14.479	.....	9.202
.....	14.493	.....	10.33
.....	14.497	.....	15.9
.....	14.498	.....	15.64
.....	15.50	.....	16.43
.....	17.13	.....	18.83
.....	17.26	TR1 tr3 (3a)	8.50
.....	17.38	TR1 tr3 (4)	8.7
.....	17.54	.....	8.112
.....	17.62	.....	9.63
.....	17.75	.....	9.65
.....	18.43	.....	9.148
TR1 tr3 (2a)	8.104	.....	10.35
.....	9.110	.....	15.23
TR1 tr3 (3)	5.16	TR2 tr1 (1)	5.1
.....	5.32	.....	10.115
.....	6.16	.....	10.116
.....	7.3	.....	14.28
.....	7.18	.....	14.51
.....	8.39	.....	14.83
.....	8.94	.....	14.114
.....	8.120	.....	14.153
.....	8.183	.....	14.161
.....	9.115	.....	14.169
.....	9.126	.....	14.203
.....	9.170	.....	15.96
.....	9.183	.....	17.49

.....	17.81	.....	10.112
.....	18.103	.....	10.125
.....	20.30	.....	12.2
.....	20.42	.....	12.14
TR2 tr1 (2)	5.28	.....	12.17
.....	5.33	.....	12.18
.....	8.169	.....	12.59
.....	10.25	.....	12.60
.....	14.88	.....	13.14
.....	14.138	.....	13.18
.....	14.178	.....	13.21
.....	14.221	.....	13.51
.....	14.426	.....	14.179
.....	14.495	.....	14.218
.....	14.502	.....	14.295
.....	17.2	.....	14.307
.....	17.93	.....	14.311
TR2 tr1 (3)	7.22	.....	14.462
.....	8.36	.....	15.29
.....	8.37	.....	15.38
.....	8.51	.....	15.40
.....	8.161	.....	15.65
.....	8.164	.....	15.68
.....	9.30	.....	15.81
.....	9.47	.....	16.2
.....	9.58	.....	16.3
.....	9.96	.....	16.13
.....	9.129	.....	16.19
.....	9.134	.....	16.20
.....	9.139	.....	16.36
.....	9.157	.....	16.44
.....	9.169	.....	17.1
.....	9.192	.....	17.48
.....	9.213	.....	17.98
.....	10.7	.....	17.103
.....	10.42	.....	18.25
.....	10.44	.....	18.28
.....	10.47	.....	18.63
.....	10.77	.....	18.77
.....	10.81	.....	18.87
.....	10.89	.....	18.94
.....	10.90	.....	18.120
.....	10.93	.....	19.1
.....	10.94	TR2 tr1 (3a)	5.12
.....	10.95	.....	8.13

.....	8.27	.....	13.40
.....	8.28	.....	13.41
.....	8.29	.....	13.45
.....	8.52	.....	13.49
.....	8.138	.....	13.50
.....	8.156	.....	13.52
.....	8.169	.....	13.55
.....	8.173	.....	13.56
.....	8.182	.....	14.94
.....	8.184	.....	15.14
.....	9.98	.....	15.25
.....	9.99	.....	15.39
.....	9.137	.....	15.55
.....	9.143	.....	15.79
.....	9.155	.....	16.8
.....	9.162	.....	16.12
.....	9.163	.....	17.15
.....	9.168	.....	17.40
.....	9.177	.....	17.100
.....	9.181	.....	18.41
.....	9.182	.....	18.52
.....	9.189	.....	18.53
.....	9.193	.....	18.58
.....	9.194	.....	18.81
.....	10.14	.....	20.51
.....	10.37	.....	20.52
.....	10.50	TR2 tr1 (3-4).....	8.40
.....	10.71	.....	8.77
.....	10.100	.....	9.59
.....	10.122	.....	9.130
.....	10.124	.....	10.98
.....	12.9	.....	12.16
.....	12.12	TR2 tr1 (3a-4a).....	8.41
.....	12.19	.....	8.71
.....	12.38	.....	12.46
.....	12.54	TR2 tr1 (4).....	8.95
.....	12.55	.....	8.105
.....	13.7	.....	8.137
.....	13.24	.....	8.170
.....	13.29	.....	8.180
.....	13.32	.....	9.161
.....	13.35	.....	10.64
.....	13.36	.....	10.70
.....	13.38	.....	10.129
.....	13.39	.....	16.27

.....	16.31	.....	9.141
.....	17.32	.....	9.142
.....	17.36	.....	10.41
.....	18.91	.....	10.61
.....	18.92	.....	10.68
TR2 tr1 (4a)	8.103	.....	10.109
.....	8.117	.....	12.1
.....	8.119	.....	12.15
.....	9.121	.....	12.48
.....	9.123	.....	12.56
.....	9.152	.....	13.6
.....	10.54	.....	13.25
.....	10.96	.....	13.26
.....	10.135	.....	13.27
.....	11.13	.....	13.30
.....	12.33	.....	15.24
.....	12.50	.....	16.25
.....	15.49	.....	16.26
.....	15.61	.....	16.29
.....	18.60	.....	16.34
.....	18.82	.....	18.26
TR2 tr1 (4-5).....	8.53	.....	18.54
.....	8.64	.....	20.55
.....	8.145	TR2 tr2 (1)	5.30
.....	18.55	.....	5.37
.....	18.102	.....	8.16
TR2 tr1 (5)	8.185	.....	8.25
.....	15.28	.....	14.63
.....	15.62	.....	14.75
.....	15.92	.....	14.86
.....	16.10	.....	14.95
.....	20.65	.....	14.137
TR2 tr1 (5a)	8.66	.....	14.141
.....	8.116	.....	14.142
.....	8.147	.....	14.168
.....	8.149	.....	14.180
.....	8.189	.....	14.190
.....	9.7	.....	14.193
.....	9.21	.....	14.211
.....	9.23	.....	14.243
.....	9.49	.....	14.281
.....	9.84	.....	14.331
.....	9.93	.....	14.333
.....	9.125	.....	14.343
.....	9.135	.....	14.345

.....	14.380	.....	17.68
.....	14.383	.....	18.117
.....	14.397	.....	20.3
.....	14.425	TR3 tr1 Feature 1 B7	8.60
.....	14.442	.....	10.111
.....	14.446	.....	15.48
.....	14.447	.....	20.4
.....	14.499	.....	20.56
.....	15.30	TR3 tr1 (3) B4	12.47
.....	15.90	TR3 tr1 (3) B5	8.30
.....	16.18	.....	8.122
.....	18.23	.....	8.172
.....	20.37	.....	9.179
.....	20.48	.....	9.180
TR2 tr2 (1a)	14.332	.....	15.21
.....	17.3	.....	16.30
.....	18.65	TR3 tr1 (3) B6	8.176
TR2 tr2 (2)	10.72	.....	9.29
.....	14.65	.....	9.154
.....	14.143	.....	15.80
.....	14.267	.....	16.49
.....	14.322	.....	18.56
.....	14.436	.....	18.97
.....	17.80	.....	20.66
.....	18.35	TR3 tr1 (3) B7	9.44
.....	18.89	.....	10.34
.....	20.59	.....	10.83
.....	20.62	.....	12.5
TR2 tr2 (3)	8.99	TR3 tr1 (3) B8	8.68
.....	9.171	.....	8.90
.....	14.164	.....	8.91
.....	14.399	.....	8.92
.....	16.4	.....	8.122
.....	20.64	.....	8.133
TR2 tr2 (4), (5) Well	13.37	.....	8.134
TR3 tr1 (1)	14.489	.....	8.171
.....	16.9	.....	9.51
TR3 tr1 (2)	8.62	.....	9.160
.....	9.159	.....	9.174
.....	10.52	.....	10.57
.....	13.19	.....	10.62
.....	14.52	.....	10.69
.....	14.391	.....	12.62
.....	15.87	.....	13.44
.....	17.43	.....	13.46

.....	13.47	.....	10.106
.....	13.48	.....	10.130
.....	13.54	.....	14.230
.....	16.22	.....	14.242
.....	16.28	.....	14.272
.....	18.20	.....	14.289
.....	18.21	.....	14.454
.....	18.31	.....	14.490
.....	18.34	.....	17.31
.....	18.68	.....	17.46
.....	20.36	.....	17.63
TR3 tr1 (3) B11	20.57	.....	17.73
TR3 tr1 (3) B17	8.76	.....	17.88
.....	8.129	.....	18.62
.....	9.46	.....	20.13
.....	9.62	.....	20.31
.....	9.64	.....	20.54
.....	9.67	TR3 tr2 (3) B13	8.17
.....	9.112	.....	10.5
.....	10.102	TR3 tr2 (3) B14	8.3
.....	10.103	.....	8.67
.....	14.285	.....	8.142
.....	15.21	.....	8.143
TR3 tr1 (3) Road Surface B8	8.35	.....	9.38
.....	8.45	.....	9.144
.....	8.75	.....	9.146
.....	8.162	.....	10.56
.....	8.177	.....	10.97
.....	10.105	.....	14.77
.....	12.58	.....	14.133
.....	15.13	.....	15.82
.....	15.18	TR3 tr2 (3) B18	8.24
.....	18.32	.....	8.34
TR3 tr1 Ext. 3 (3) B3.....	8.96	.....	8.167
.....	9.95	.....	8.192
.....	9.188	.....	8.193
.....	12.61	.....	9.109
.....	15.27	.....	10.75
TR3 tr2 (1)	14.11	.....	13.2
TR3 tr2 (2)	8.102	.....	17.99
.....	8.130	TR3 tr2 (3) B19	7.10
.....	9.48	.....	8.93
.....	9.167	.....	15.58
.....	9.204	.....	15.71
.....	10.88	TR3 tr2 (3) B21	8.33

.....	12.27	TR4 tr1 (3) B6	8.168
TR3 tr2 (3) B23	5.10	TR4 tr1 (3) B7	9.26
.....	5.34	.....	9.119
TR3 tr2 (3) B24	10.136	.....	10.62
.....	16.21	.....	15.2
TR3 tr2 (3) B25	6.1	.....	16.47
TR3 tr2 Ext. 1 (2)	18.48	TR4 tr1 (3) B8	7.25
TR3 tr2 Ext. 2 (2)	5.11	.....	8.18
.....	9.6	.....	8.190
.....	9.118	.....	10.28
.....	14.286	.....	10.38
.....	15.76	.....	15.66
TR3 tr2 Ext. 2 (3) B4.....	15.72	.....	16.39
TR3 tr2 Ext. 2 (3) B6.....	8.111	.....	20.15
.....	8.181	.....	20.67
.....	9.111	TR4 tr2 (1)	8.131
.....	10.73	.....	14.135
.....	20.69	.....	14.237
TR3 tr2 Ext. 2 (3) B7.....	9.45	.....	14.280
.....	9.101	.....	14.291
.....	9.178	TR4 tr2 (2)	9.53
.....	12.45	.....	14.12
.....	15.53	.....	15.52
.....	15.72	.....	15.60
TR4 tr1 (1)	14.3	.....	17.27
.....	14.41	.....	20.32
.....	14.202	TR4 tr2 (2) bothros	18.74
.....	14.228	.....	18.76
.....	14.253	TR4 tr2 (3) B5	8.69
.....	14.264	.....	8.153
.....	14.481	.....	9.97
.....	15.83	.....	10.121
.....	15.85	.....	15.15
.....	18.90	.....	20.8
.....	20.44	TR4 tr2 (3) B7	14.109
TR4 tr1 (2)	14.97		
.....	14.228	HILL 2	
.....	14.266	TR1 (2).....	7.14
.....	14.301	.....	7.24
.....	14.400	.....	18.1
.....	14.424	.....	18.2
.....	14.449	.....	18.4
.....	15.26	TR1 (3).....	8.159
.....	15.46	.....	8.188
.....	17.25		

.....	9.75	TR3 (2).....	15.41
.....	10.123	.....	18.3
.....	18.5	TR3 (3).....	7.17
TR2 (3).....	9.3	.....	10.132
.....	9.27	.....	12.13
TR2 Ext. (1).....	9.19	.....	12.49
.....	12.31	.....	16.35
TR2 Ext. (2).....	8.19	.....	18.79
.....	9.206	.....	18.93
.....	10.10	.....	18.95
.....	12.39	.....	20.14
TR2 Ext. (3).....	7.28	TR3 (4).....	8.100
.....	7.29	.....	9.140
.....	8.20	.....	9.150
.....	8.125	.....	9.191
.....	9.9	.....	10.48
.....	9.73	.....	10.60
.....	9.107	.....	11.15
.....	10.29	.....	13.43
.....	10.118	.....	14.15
.....	15.11	.....	18.10
.....	15.78	.....	18.13
.....	18.7	.....	18.37
.....	18.15	.....	20.68
.....	18.18		
.....	18.88		
TR2 Area 3 (1).....	7.5	LOWER CITY	
.....	8.163	TR1 Surface	14.226
.....	9.17	TR1 (1).....	14.5
.....	9.103	.....	14.9
.....	9.185	.....	14.22
.....	10.15	.....	14.93
.....	10.120	.....	14.120
.....	10.126	.....	14.134
.....	12.28	.....	14.173
.....	18.6	.....	14.183
.....	18.8	.....	14.205
.....	18.9	.....	14.232
.....	18.11	.....	14.255
.....	18.16	.....	14.303
.....	18.17	.....	15.4
TR2 Area 3 (2).....	7.16	.....	15.59
.....	11.1	.....	20.24
.....	12.35	TR1 (2).....	8.132
TR3 (1).....	20.60	.....	14.1

.....	14.2	.....	14.360
.....	14.4	.....	14.387
.....	14.13	.....	14.390
.....	14.33	.....	14.398
.....	14.53	.....	14.401
.....	14.58	.....	14.411
.....	14.67	.....	14.452
.....	14.68	.....	14.459
.....	14.76	.....	14.473
.....	14.79	.....	14.478
.....	14.91	.....	14.487
.....	14.96	.....	14.503
.....	14.99	.....	17.24
.....	14.113	TR1 Baulk (3).....	5.15
.....	14.122	.....	9.25
.....	14.148	.....	14.98
.....	14.172	.....	14.186
.....	14.181	.....	14.223
.....	14.184	.....	14.318
.....	14.194	.....	14.328
.....	14.201	.....	14.336
.....	14.208	.....	14.394
.....	14.222	.....	14.451
.....	14.224	.....	14.475
.....	14.231	TR1 Centre (1)	14.204
.....	14.234	TR1 Centre E Ext. (1).....	14.329
.....	14.245	.....	14.375
.....	14.260	.....	14.376
.....	14.261	.....	14.504
.....	14.268	TR1 N (1).....	14.323
.....	14.277	.....	16.46
.....	14.282	.....	17.41
.....	14.283	TR1 N (3).....	5.13
.....	14.284	.....	6.9
.....	14.298	.....	6.12
.....	14.300	.....	8.87
.....	14.305	.....	14.26
.....	14.310	.....	14.35
.....	14.326	.....	14.66
.....	14.335	.....	14.163
.....	14.337	.....	14.229
.....	14.340	.....	14.276
.....	14.342	.....	14.308
.....	14.346	.....	14.444
.....	14.354	.....	17.39

TR1 NE Ext. (1).....	16.45	.....	14.328
TR1 NE Ext. (2).....	14.34	.....	14.338
.....	14.241	.....	14.356
.....	14.417	.....	14.362
TR1 NW Ext. (2).....	9.147	.....	14.366
.....	14.21	.....	14.367
.....	14.29	.....	14.370
.....	14.30	.....	14.392
.....	14.61	.....	14.443
.....	14.78	.....	14.477
.....	14.85	.....	14.480
.....	14.103	.....	14.482
.....	14.330	.....	14.501
.....	14.350	.....	15.8
TR1 NW Ext. (3).....	20.29	.....	15.84
TR1 S (3)	9.80	.....	17.71
.....	10.31	.....	18.22
.....	10.36	.....	18.67
.....	14.4	.....	18.72
.....	14.6	.....	18.73
.....	14.7	TR1 S (4)	8.9
.....	14.16	.....	8.10
.....	14.17	.....	8.109
.....	14.24	.....	10.30
.....	14.25	.....	10.66
.....	14.31	.....	18.114
.....	14.32	TR2 (1).....	8.8
.....	14.37	.....	8.106
.....	14.40	.....	9.165
.....	14.46	.....	9.208
.....	14.47	.....	14.8
.....	14.49	.....	14.14
.....	14.59	.....	14.19
.....	14.80	.....	14.20
.....	14.100	.....	14.23
.....	14.101	.....	14.27
.....	14.102	.....	14.36
.....	14.185	.....	14.39
.....	14.252	.....	14.43
.....	14.254	.....	14.71
.....	14.262	.....	14.72
.....	14.273	.....	14.108
.....	14.288	.....	14.127
.....	14.297	.....	14.182
.....	14.309	.....	14.189

.....	14.227	.....	20.23
.....	14.233	TR3 Surface	8.187
.....	14.235	TR3 (1) N	8.12
.....	14.239	.....	9.32
.....	14.258	.....	9.66
.....	14.263	.....	9.184
.....	14.279	.....	12.37
.....	14.294	.....	14.105
.....	14.317	.....	14.118
.....	14.320	.....	14.132
.....	14.321	.....	14.144
.....	14.347	.....	14.149
.....	14.348	.....	14.162
.....	14.349	.....	14.166
.....	14.371	.....	14.187
.....	14.389	.....	14.206
.....	14.404	.....	14.212
.....	14.407	.....	14.217
.....	14.433	.....	14.414
.....	14.437	.....	14.445
.....	14.440	.....	14.474
.....	14.441	.....	14.484
.....	14.448	.....	14.508
.....	14.456	.....	17.14
.....	14.457	.....	17.16
.....	14.464	.....	18.30
.....	14.466	TR3 (2) N.....	14.117
.....	14.476	.....	14.177
.....	14.488	.....	14.396
.....	14.496	.....	14.432
.....	15.86	TR3 (3) N upper	7.13
.....	15.95	.....	14.106
.....	17.7	.....	14.119
.....	17.8	.....	14.124
.....	17.19	.....	14.174
.....	17.42	.....	14.236
.....	17.44	.....	14.238
.....	17.47	.....	14.359
.....	17.67	.....	14.415
.....	17.72	.....	14.419
.....	18.47	.....	14.429
.....	18.49	.....	14.430
.....	18.50	.....	14.431
TR2 NW Corner	9.131	.....	14.434
.....	17.20	.....	14.500

	17.45		14.483
	18.101	TR1 (2).....	9.55
TR3 (3) N lower.....	5.24		17.21
	5.35	TR1 (3).....	8.101
	7.20		14.315
TR3 (1) S	8.11	TR1 (4).....	6.8
	9.8	TR2 (1).....	3.10
	9.10		8.88
	10.91		10.110
	16.11		11.10
TR3 (3) S	9.78		13.1
TR3 SE.....	5.6		14.240
	5.17		14.250
	5.18	TR2 (2).....	3.5
	6.5		3.6
	9.81		3.9
	14.271		9.210
	14.306		11.3
	14.409		11.11
	15.44		14.344
TR3 (2) SE.....	18.119		17.51
TR3 (3) SW.....	4.4		17.82
	5.14		17.96
	6.13	TR2 (3).....	3.4
	7.23		3.11
	15.73		3.14
TR3 E Baulk (2)	17.50		3.15
(1981)			3.16
TR4 (12).....	14.439		3.21
TR5 N (3).....	14.413		3.28
TR5 S (3)	14.422		3.31
			6.14
			9.172
LEKYTHOS			18.19
			18.39
Surface.....	3.27		18.71
	5.9		18.105
	5.20	TR2 (4).....	3.3
	10.80		3.24
	20.27		3.29
TR1 (1).....	13.15		6.2
	14.18		16.51
	14.70		17.83
	14.146		17.101
	14.478	TR2 (5).....	3.1

.....	3.2	.....	11.6
.....	3.7	.....	11.7
.....	3.8	.....	11.8
.....	3.12	.....	11.9
.....	3.13	.....	11.12
.....	3.17	.....	11.14
.....	3.18	.....	13.4
.....	3.19	.....	13.20
.....	3.20	.....	15.69
.....	3.22	.....	17.84
.....	3.23	.....	17.95
.....	3.25	TR2 (6).....	9.217
.....	3.26	.....	17.85
.....	3.30	.....	17.86
.....	4.5	.....	18.69
.....	5.4	TR2 (7).....	10.45

CONCORDANCE 2. INVENTORY NUMBERS - CATALOGUE NUMBERS

Inv. No.....	Cat. No.		
		75.144	9.11
		75.145	8.86
		75.147	10.108
75.01	10.80	75.150	7.26
75.02	18.121	75.154	9.1
75.03	5.20	75.155	9.108
75.04	9.127	75.162	18.44
75.05	10.87	75.164	18.80
75.07	9.151	75.173	13.13
75.14	8.54	75.187	8.48
75.21	10.6	75.193	9.74
75.22	12.10	75.194	8.144
75.23	8.89	75.195	8.139
75.29	9.212	75.198	15.51
75.37	9.37	75.199	8.5
75.38	8.47	75.202	9.33
75.41	8.115	75.205	6.15
75.47	9.175	75.206	7.31
75.48	9.90	75.208	18.24
75.50	8.178	75.209	10.131
75.52	15.16	75.212	9.40
75.54	8.195	75.216	9.88
75.55	15.56	75.217	9.87
75.56	15.19	75.218	6.4
75.58	9.12	75.220	10.18
75.77	15.63	75.221	16.15
75.78	8.2	75.224	8.46
75.82	8.31	75.238	7.11
75.84	10.86	75.246	9.16
75.86	8.124	75.247	8.70
75.87	8.98	75.248	4.1
75.88	10.1	75.249	5.25
75.89	5.26	75.262	12.8
75.93	18.112	75.267	12.6
75.97	20.19	75.273	12.32
75.98	8.196	75.274	5.21
75.102	10.9	75.275	8.6
75.111	9.60	75.280	8.82
75.115	9.4	75.281	15.75
75.123	8.155	75.282	15.1
75.126	8.135	75.283	5.5
75.129	7.33	75.284	9.94
		75.285	7.9

75.288	15.6	75.470	10.85
75.293	12.29	75.471	20.1
75.300	12.53	75.472	9.138
75.301	5.22	75.473	20.10
75.303	18.100	75.475	10.11
75.304	20.22	75.476	7.19
75.305	18.40	75.477	7.6
75.311	8.56	75.478	15.54
75.313	8.4	75.481	8.136
75.315	12.26	75.482	9.77
75.317	17.94	75.484	7.27
75.318	10.133	75.485	10.22
75.324	4.11	75.488	10.17
75.325	9.190	75.490	10.24
75.326	12.22	75.492	8.151
75.344	15.74	75.493	10.53
75.352	18.116	75.496	10.53
75.355	17.87	75.501	20.9
75.356	4.10	75.502	20.2
75.360	16.1	75.543	9.113
75.361	7.30	75.546	12.30
75.362	8.74	75.552	12.34
75.363	16.5	75.555	8.57
75.364	9.70	75.558	9.79
75.365	7.21	75.566	9.18
75.366	16.16	75.569	9.2
75.368	7.12	75.570	9.14
75.369	5.36	75.572	9.83
75.372	9.24	75.575	8.154
75.373	17.90	75.585	12.20
75.376	16.32	75.586	15.10
75.377	8.73	75.588	13.12
75.379	6.6	75.589	13.10
75.381	4.6	75.597	8.59
75.385	4.3	75.602	15.77
75.419	10.20	75.602	15.77
75.428	12.11	75.609	12.43
75.437	8.158	75.614	12.52
75.439	8.150	75.618	8.84
75.442	9.104	75.626	5.29
75.452	6.7	75.627	5.23
75.454	13.11	75.629	9.31
75.458	9.15	75.630	9.100
75.462	10.134	75.635	12.4
75.469	15.67	75.636	9.187

75.647	10.2	76.106	9.133
75.648	10.21	76.107	10.46
75.649	12.21	76.108	20.46
75.654	5.31	76.113+76.986+76.2097+78.2474	14.180
75.656	16.6	76.114	17.35
75.659	15.12	76.116	17.81
75.660	8.127	76.131	16.14
75.663	6.10	76.133	18.104
75.664	10.23	76.139	15.70
75.666	8.44	76.143	15.96
75.678	10.53	76.147	17.2
75.681	8.194	76.150	8.79
75.682	10.53	76.151	15.88
75.684	8.148	76.153	14.293
75.687	8.152	76.154	14.139
75.700	8.197	76.159	14.171
75.701 A&B	10.24	76.174	8.32
75.705	15.7	76.179	17.70
75.716	9.102	76.180	14.114
75.731	8.42	76.181	14.203
75.733	8.165	76.183	10.115
75.736	7.2	76.188	8.169
75.740	10.12	76.189	8.114
75.741	7.32	76.190	20.30
75.743	5.9	76.191	18.33
75.746	3.27	76.192	20.50
75.768	17.92	76.205	10.19
75.775	18.12	76.210	9.186
75.778	18.38	76.211	9.13
75.789	4.9	76.223	15.5
75.790	4.8	76.236	20.12
75.794	4.7	76.238	16.42
75.797	9.86	76.247	8.123
		76.252	14.492
76.01	20.11	76.255	14.214
76.05	9.36	76.257	14.495
76.06	13.53	76.258	14.112
76.08	9.20	76.259	14.110
76.10	11.4	76.268	10.92
76.16	18.51	76.269	9.128
76.87	9.76	76.279	14.138
76.91	15.3	76.286	20.49
76.100	20.27	76.287	15.57
76.102	20.43	76.294	14.153
76.104 + 76.550	9.198	76.296	5.1

76.299	8.108	76.470	14.290
76.300	18.113	76.476	17.89
76.302	10.3	76.477	20.41
76.308+76.877	14.60	76.478	20.38
76.315	10.116	76.479	20.39
76.317	17.49	76.480	18.85
76.320	9.54	76.481	18.36
76.324	20.40	76.482	20.47
76.325	17.93	76.484	18.64
76.328	18.103	76.485	20.45
76.330	20.42	76.488	17.12
76.332	17.97	76.489	18.77
76.337	20.33	76.490	18.87
76.338	20.28	76.493	17.100
76.340	17.17	76.497	17.18
76.341	17.23	76.514	20.25
76.342	15.25	76.517	17.6
76.351	10.25	76.532	10.117
76.353	5.28	76.537	14.198
76.354	14.502	76.538	14.246
76.356	12.23	76.539	5.27
76.359	9.68	76.541	14.470
76.369	9.200	76.543 (=76.880)	10.78
76.373	20.5	76.544	13.28
76.375	18.29	76.547	7.8
76.377	18.111	76.549	9.195
76.380	18.110	76.550	9.198
76.381	18.75	76.558	5.33
76.383	18.106	76.561	14.88
76.384	18.107	76.564	8.128
76.387	18.108	76.566	14.468
76.389	18.109	76.571	8.14
76.391	18.41	76.572	10.47
76.393 (=76.880)	10.78	76.577	8.175
76.394	8.141	76.578	11.5
76.415	9.164	76.580	14.175
76.420	6.3	76.581	14.38
76.421	9.71	76.582	14.191
76.431	9.35	76.583	5.3
76.434	10.79	76.594	14.408
76.437	13.33	76.600	7.7
76.453	18.115	76.601	14.73
76.455	9.205	76.603	14.313
76.466	13.14	76.609	9.72
76.469	10.50	76.610	11.17

76.616.....	8.126	76.749.....	8.72
76.617.....	7.1	76.764.....	4.2
76.619.....	9.99	76.771.....	9.189
76.625.....	12.9	76.780.....	17.1
76.629.....	10.13	76.781.....	14.307
76.630.....	6.11	76.784.....	14.179
76.633.....	14.140	76.789.....	14.311
76.637.....	9.181	76.791.....	20.26
76.638.....	12.38	76.792.....	18.99
76.640.....	9.155	76.798.....	19.1
76.641.....	10.124	76.800.....	17.98
76.645.....	8.184	76.801A.....	18.25
76.648.....	10.71	76.816.....	12.18
76.654.....	12.54	76.832.....	5.19
76.655.....	12.55	76.836.....	13.9
76.657.....	12.19	76.854.....	10.4
76.660.....	9.177	76.859.....	18.86
76.661.....	9.182	76.870B.....	18.46
76.662.....	9.163	76.872.....	20.35
76.664.....	5.12	76.875.....	14.388
76.669.....	8.156	76.877+76.308.....	14.60
76.674.....	13.39	76.880 +76.393+76.543.....	10.78
76.675.....	14.218	76.882.....	13.35
76.678.....	9.134	76.883.....	13.32
76.683.....	10.44	76.884.....	13.36
76.688.....	12.14	76.885.....	13.41
76.690.....	10.47	76.886.....	13.38
76.694.....	12.60	76.887.....	13.49
76.695.....	16.44	76.888.....	13.55
76.696.....	12.17	76.889.....	13.56
76.701.....	10.77	76.891.....	13.45
76.706.....	9.169	76.893.....	13.52
76.707.....	8.36	76.895.....	13.7
76.710.....	16.2	76.896.....	13.24
76.712.....	10.125	76.897.....	13.29
76.714.....	9.47	76.898.....	13.40
76.724.....	9.176	76.899.....	13.50
76.726.....	9.136	76.900.....	12.12
76.727.....	18.14	76.906.....	13.51
76.731.....	9.82	76.921.....	14.287
76.735.....	18.45	76.922.....	14.292
76.738.....	18.66	76.926.....	14.458
76.740.....	10.39	76.927.....	14.104
76.741.....	9.69	76.932.....	14.130
76.747.....	8.186	76.934.....	14.150

76.936	14.159	76.2029	14.462
76.937	14.55	76.2030	14.295
76.938	14.54	76.2033	17.102
76.939	14.107	76.2054	14.357
76.943	14.244	76.2068	14.403
76.951	14.319	76.2071	14.57
76.952	14.351	76.2073	14.269
76.953	14.374	76.2076	14.151
76.969	14.178	76.2078	14.299
76.979	14.10	76.2080	14.249
76.980	14.156	76.2083	14.364
76.981	14.157	76.2089	14.460
76.985	14.207	76.2094	15.40
76.986 +76.113+76.2097+78.2474	14.180	76.2095	14.126
76.992	14.505	76.2096	14.160
76.995	14.334	76.2097+76.113+76.986+78.2474	14.180
76.1000	17.22	76.2098+78.2000	14.247
76.1002	17.53	76.2101	14.372
76.1004	17.9	76.2105	14.50
76.1008	14.453	76.2107+78.3267+78.3310	14.164
76.1009	14.176	76.2111	14.210
76.1010+78.2200	14.147	76.2112	17.58
76.1012+78.2204	14.158	76.2113	17.77
76.1015	14.42	76.2114	17.78
76.1017	14.304	76.2120	14.165
76.1023	14.361	76.2124	18.96
76.1025	14.324	76.2165	14.145
76.1029	14.428	76.2169	14.129
76.1032	14.83	76.2170	14.84
76.1033	14.28	78.01	20.6
76.1037	14.125	78.02	18.98
76.1040	14.48	78.03	16.23
76.1046+78.1980	14.215	78.04	16.8
76.1051	14.369	78.06	18.53
76.1060	16.36	78.07	20.51
76.1070	15.79	78.08	17.15
76.1077	14.426	78.09	20.52
76.1088	14.412	78.10	17.91
76.1094	14.169	78.14	15.94
76.2001	15.45	78.15	9.157
76.2003	16.37	78.16	18.63
76.2015	15.42	78.19	18.58
76.2017	14.161	78.20	10.58
76.2018	14.51	78.21	18.78
76.2023	9.194	78.23	8.27

78.24	10.67	78.126	18.82
78.26	10.74	78.129	20.13
78.27	20.53	78.131	20.54
78.31	18.118	78.140	20.3
78.37	12.40	78.142	17.43
78.40	16.19	78.151	10.52
78.41	16.20	78.153	18.42
78.42A	18.81	78.157	5.2
78.42B	18.52	78.162	10.100
78.43	14.386	78.163	8.52
78.46	14.131	78.164	8.138
78.52	12.41	78.166	9.143
78.55	16.9	78.167	9.137
78.62	15.87	78.180	8.62
78.63	18.117	78.181	8.102
78.64	17.68	78.186	8.130
78.66	5.7	78.188	14.272
78.71	18.94	78.189	17.63
78.74	16.13	78.190	17.73
78.78	16.12	78.195	8.58
78.82	17.88	78.198	9.196
78.85	8.173	78.202	13.18
78.87	10.14	78.203	16.3
78.88	10.37	78.205	10.94
78.96	10.93	78.210	8.22
78.97	15.29	78.213	14.395
78.98	15.65	78.214	17.65
78.99	9.58	78.215	13.3
78.100	10.42	78.220	7.22
78.101	8.51	78.222	10.95
78.102	8.161	78.227	9.139
78.105	10.89	78.228	15.68
78.106	9.192	78.233	8.28
78.107	12.59	78.236	9.168
78.110	8.37	78.240	16.33
78.111	8.21	78.241	9.197
78.113+78.541	10.40	78.244	18.4
78.114	11.2	78.246	12.63
78.115	9.145	78.250	9.159
78.116	8.140	78.257	18.62
78.117	8.49	78.258	9.167
78.118	9.34	78.261	10.130
78.119	9.203	78.264	9.204
78.120	12.3	78.265	10.88
78.124	18.60	78.268	18.1

78.270	16.18	78.362	10.81
78.271	16.24	78.363	10.112
78.272	18.23	78.364	10.90
78.273	20.48	78.365	9.30
78.274	20.37	78.367	8.29
78.275	17.64	78.371	13.22
78.279	18.27	78.373	8.164
78.280	18.57	78.378	9.123
78.281	20.34	78.379	9.121
78.284	18.59	78.383	9.152
78.288	9.193	78.385	11.13
78.290	16.31	78.388	12.33
78.295	8.78	78.389	12.50
78.297	8.170	78.393	15.55
78.298	10.70	78.395	10.84
78.299	8.95	78.396	10.49
78.300	16.27	78.404	20.55
78.304	10.96	78.408	10.101
78.305	8.119	78.409	9.52
78.307	10.54	78.411	15.89
78.308	8.103	78.413	17.66
78.309	18.17	78.417	8.179
78.314	9.166	78.422	8.117
78.315	8.146	78.424	10.135
78.316	8.118	78.425+78.1978	14.316
78.318	9.132	78.428	16.41
78.322	8.105	78.430	8.160
78.323	8.137	78.435	9.149
78.330	18.55	78.436	14.115
78.332	18.102	78.437	8.23
78.334	8.182	78.438	8.180
78.336	17.4	78.442	10.64
78.338+78.581	14.197	78.444	10.129
78.339	14.406	78.445A	18.91
78.343	9.216	78.445B	18.92
78.346	15.14	78.454	15.20
78.347	9.162	78.456	11.16
78.348	10.122	78.457	8.166
78.350	8.13	78.460	10.82
78.352	15.81	78.462	18.2
78.353	12.2	78.463	18.11
78.354	9.129	78.468	18.20
78.357	10.7	78.475	15.82
78.359A	18.28	78.476	20.56
78.361	18.120	78.477	20.4

78.478	20.36	78.570	9.122
78.479	16.22	78.571	8.14
78.480	18.34	78.572	5.8
78.481	18.68	78.573	16.50
78.482	18.21	78.579	14.226
78.488	20.57	78.580	18.90
78.489	20.31	78.581+78.338	14.197
78.490	12.1	78.582	17.60
78.491	8.116	78.584	14.405
78.493	9.125	78.585	18.26
78.494	9.23	78.587	8.163
78.495	10.61	78.589	14.199
78.496	15.28	78.590	9.28
78.497	15.92	78.593	12.7
78.498	16.10	78.595	10.106
78.500	14.410	78.596	15.30
78.505	10.137	78.599	14.499
78.507	8.65	78.602	8.90
78.508	8.38	78.604	8.122
78.509	8.15	78.605	9.51
78.513	8.110	78.607	10.62
78.516	16.25	78.608	16.28
78.517	16.29	78.609	12.62
78.522	20.24	78.611	10.69
78.525	18.50	78.619	10.57
78.529	18.31	78.620	9.174
78.530	20.20	78.621	9.160
78.534	9.50	78.623	10.111
78.535	8.61	78.635	18.48
78.536	8.63	78.638	8.171
78.539	13.23	78.640	10.5
78.541+78.113	10.40	78.644	17.99
78.543	8.64	78.648	10.102
78.545	8.145	78.653	9.46
78.546	8.53	78.654	9.62
78.548	12.36	78.655	9.64
78.549	9.199	78.656	9.67
78.550	15.62	78.657	10.103
78.553	8.185	78.658	9.112
78.556	12.56	78.659	8.76
78.557	9.135	78.660	8.24
78.558	10.68	78.661	9.109
78.561	9.7	78.662	10.75
78.563	14.278	78.667	8.26
78.565	18.6	78.668	15.97

78.669	20.58	78.761	8.8
78.672	9.84	78.766	12.28
78.673	16.26	78.769	9.185
78.674	8.147	78.770	7.14
78.676	9.21	78.771	7.5
78.677	8.66	78.772	9.3
78.678	12.48	78.773	9.27
78.680	18.54	78.783	15.90
78.683	20.59	78.785	8.25
78.684	17.13	78.786	8.16
78.685	18.43	78.791	5.30
78.688	18.5	78.792	5.37
78.689	20.60	78.801+78.872	14.195
78.691	14.239	78.807	8.34
78.692	14.279	78.809	13.2
78.693	14.120	78.818	8.134
78.697	12.49	78.822	8.17
78.700	9.17	78.827	10.97
78.701	10.15	78.828	9.144
78.703	16.46	78.829	10.56
78.705	18.67	78.830	9.146
78.706	18.30	78.833	8.3
78.707	18.49	78.834	18.65
78.712	16.34	78.835	18.61
78.713	9.49	78.836	20.21
78.714	9.142	78.837	9.201
78.715	8.149	78.842	20.64
78.716	10.41	78.846	9.158
78.717	10.109	78.847	15.34
78.719	8.189	78.848	12.42
78.720	9.93	78.849	12.51
78.727	20.61	78.850	9.141
78.728	20.18	78.852	15.24
78.730	18.70	78.854	18.89
78.732	20.62	78.857	8.113
78.733	18.35	78.860	16.43
78.734	20.63	78.862	18.83
78.738	7.24	78.864	18.101
78.745	9.103	78.865	18.22
78.748	18.119	78.870	10.113
78.750	16.07	78.871	12.25
78.754	7.18	78.872+78.801	14.195
78.755	6.16	78.875+78.3127	14.300
78.758	8.132	78.876	14.282
78.760	14.407	78.878	18.3

78.879	18.15	78.988	11.10
78.881	18.18	78.989	18.105
78.889	20.32	78.996	13.31
78.900	8.143	78.998	11.10
78.902	8.91	78.999	14.250
78.913	8.60	78.1006	10.126
78.914	12.47	78.1008	10.123
78.920	20.44	78.1009	12.35
78.927	20.23	78.1010	7.16
78.928	18.47	78.1014	11.1
78.930	10.91	78.1021	8.188
78.931	9.8	78.1022	18.88
78.932	14.508	78.1024	18.7
78.933	8.12	78.1028	18.8
78.936	9.10	78.1029	18.9
78.939	15.91	78.1031	18.16
78.940	14.213	78.1034	20.14
78.942	8.41	78.1035	15.22
78.943	8.71	78.1038	10.127
78.944	12.46	78.1040	9.39
78.946	14.270	78.1041	16.17
78.948	12.16	78.1043	13.21
78.949	10.98	78.1048	17.101
78.950	8.77	78.1049	17.83
78.958	20.65	78.1053	17.82
78.960	15.86	78.1055	9.59
78.961	14.496	78.1056	9.130
78.962	15.95	78.1059	8.40
78.963	8.106	78.1063	18.73
78.965	17.7	78.1069	20.66
78.966	17.72	78.1070	16.49
78.967	14.208	78.1071A	18.97
78.968	7.13	78.1072	16.21
78.969+78.3432	14.174	78.1073	20.15
78.971	14.411	78.1075	20.67
78.972	16.47	78.1079	14.209
78.973	20.8	78.1080	8.120
78.974	5.34	78.1081	7.3
78.976	13.8	78.1083	8.94
78.977	13.16	78.1085	10.107
78.977A	13.17	78.1086	9.32
78.978	13.5	78.1088	14.212
78.980	13.1	78.1089	14.337
78.982	13.34	78.1090	12.37
78.983	17.21	78.1091	10.36

78.1092	7.23	78.1171	15.64
78.1095	12.64	78.1173	9.116
78.1096	10.55	78.1176	8.113
78.1097	10.128	78.1182	10.8
78.1098	9.56	78.1183	8.43
78.1099	10.26	78.1184	10.119
78.1100	9.215	78.1185	8.81
78.1101	9.211	78.1186	12.24
78.1102	9.120	78.1189	10.65
78.1103	9.114	78.1192	9.207
78.1106	15.32	78.1193	9.124
78.1111	10.72	78.1203	9.183
78.1113	10.51	78.1204	8.104
78.1115	9.115	78.1206	9.110
78.1117	9.153	78.1209	8.121
78.1118	10.76	78.1210	12.44
78.1119	15.93	78.1212	10.59
78.1120	15.33	78.1218	9.19
78.1122	8.169a	78.1219	15.84
78.1123	10.99	78.1221	12.31
78.1124	16.40	78.1223	14.277
78.1127	8.99	78.1224	15.23
78.1129	10.114	78.1225	9.65
78.1130	8.39	78.1226	8.7
78.1131	10.104	78.1229	9.61
78.1134	9.126	78.1230	8.97
78.1135	8.183	78.1233	8.83
78.1136	5.32	78.1238	8.50
78.1138	13.37	78.1241	8.112
78.1141	8.174	78.1243	9.148
78.1142	8.191	78.1245	10.35
78.1143	9.92	78.1246	9.63
78.1144	10.33	78.1248	16.48
78.1145	9.202	78.1249	10.32
78.1146	7.4	78.1250	9.117
78.1147	9.156	78.1253	15.31
78.1148	10.63	78.1259	8.157
78.1154	16.04	78.1260	8.1
78.1160	9.170	78.1261	8.107
78.1162	10.16	78.1262	10.27
78.1163	18.39	78.1263	9.106
78.1164	8.85	78.1268	9.57
78.1166	7.15	78.1269	8.80
78.1167	6.14	78.1275	18.32
78.1168	18.84	78.1279	12.39

78.1280	8.159	78.1391	8.129
78.1282	9.206	78.1392	14.285
78.1283	8.19	78.1394	17.85
78.1286	10.10	78.1395	9.217
78.1291	18.95	78.1405	8.33
78.1292	18.93	78.1409	8.176
78.1293	18.79	78.1410	8.193
78.1305	10.38	78.1413	9.26
78.1311	13.19	78.1417	7.10
78.1314	18.69	78.1418	8.93
78.1315	3.26	78.1424	8.167
78.1316	5.4	78.1425	15.85
78.1317	3.8	78.1426	15.83
78.1318	3.1	78.1427	18.56
78.1319	3.2	78.1428	12.65
78.1320	3.23	78.1429	20.16
78.1321	11.14	78.1431	10.45
78.1322	11.6	78.1434	17.86
78.1323	11.7	78.1435	9.9
78.1324	11.8	78.1438	7.29
78.1325	11.9	78.1439	10.118
78.1326	13.42	78.1440	10.29
78.1334	10.66	78.1441	8.20
78.1337	20.29	78.1443	7.28
78.1338	18.114	78.1444	8.125
78.1345	13.43	78.1445	10.120
78.1349	20.68	78.1450	8.35
78.1350B	18.13	78.1452	8.75
78.1351	18.10	78.1453	15.66
78.1355	8.131	78.1454	14.301
78.1359	12.27	78.1455	20.17
78.1360	8.190	78.1457	18.72
78.1361	8.67	78.1459	3.11
78.1362	8.68	78.1460	9.172
78.1363	8.90	78.1461	3.28
78.1365	14.133	78.1467	15.41
78.1368	9.154	78.1469	7.17
78.1370	7.25	78.1470	12.13
78.1371	10.28	78.1471	10.132
78.1372	8.18	78.1473	9.140
78.1376	8.142	78.1480	9.6
78.1378	8.162	78.1492	18.76
78.1383	10.83	78.1493	18.74
78.1384	9.44	78.1495	9.29
78.1390	14.202	78.1496	10.136

78.1497	8.153	78.1649	9.55
78.1501	5.11	78.1653	3.16
78.1502	15.27	78.1654	3.31
78.1503	10.34	78.1658	17.84
78.1508	16.39	78.1659	18.71
78.1509	8.133	78.1660	17.95
78.1511	8.111	78.1661	6.8
78.1513	20.69	78.1667	3.24
78.1514	8.181	78.1668	3.29
78.1516	12.58	78.1670	3.21
78.1517	8.177	78.1671	3.4
78.1518	10.105	78.1673	17.96
78.1519	8.192	78.1676	18.19
78.1522	8.69	78.1683	3.10
78.1523	15.18	78.1684	8.88
78.1524	8.45	78.1685	10.110
78.1525	8.168	78.1691	17.51
78.1526	12.45	78.1696	3.13
78.1528	15.13	78.1697	3.12
78.1534	10.73	78.1698	3.30
78.1536	10.121	78.1699	3.20
78.1537	12.5	78.1700	3.17
78.1539	6.1	78.1701	3.19
78.1542	5.10	78.1702	3.18
78.1570	11.3	78.1704	8.122
78.1573	3.6	78.1706	16.30
78.1576	3.5	78.1707	8.30
78.1577	3.9	78.1708	8.172
78.1581	14.315	78.1711	16.11
78.1582	8.101	78.1712	8.10
78.1597	13.4	78.1713	8.9
78.1600	4.5	78.1714	8.9
78.1601	11.12	78.1715	6.13
78.1604	15.69	78.1716	8.11
78.1608	3.7	78.1718	8.187
78.1614	9.191	78.1719	10.31
78.1616	11.15	78.1722	7.20
78.1618	9.150	78.1723	16.45
78.1619	10.48	78.1727	14.217
78.1620	8.100	78.1728	9.66
78.1625	10.60	78.1731	5.35
78.1628	13.20	78.1733	5.24
78.1632	13.15	78.1734	8.109
78.1642	16.51	78.1737	10.30
78.1646	6.2		

78.1739	6.12	78.1850	14.489
78.1740	5.13	78.1851	14.15
78.1741	6.9	78.1853	14.59
78.1742	8.87	78.1857	14.482
78.1746	10.43	78.1858	14.7
78.1747	16.38	78.1864	14.229
78.1750	18.37	78.1867	14.26
78.1751	8.92	78.1868	14.308
78.1752	12.61	78.1870	17.39
78.1753	8.96	78.1879	14.102
78.1756	15.21	78.1880+78.1881	14.47
78.1757	13.30	78.1881+78.1880	14.47
78.1759	13.6	78.1882	14.273
78.1760	12.15	78.1886	14.367
78.1761	13.26	78.1888	14.338
78.1762	13.27	78.1892	14.443
78.1764	13.25	78.1894	14.37
78.1765	13.48	78.1904	14.253
78.1766	13.44	78.1905	14.264
78.1767	13.46	78.1906	14.3
78.1768	13.47	78.1909+78.2956	14.228
78.1769	13.54	78.1911	17.29
78.1788	17.37	78.1912	17.52
78.1789	14.275	78.1914	14.155
78.1791	14.111	78.1915	14.248
78.1798	14.355	78.1916	14.170
78.1799	14.381	78.1918	14.438
78.1802	14.87	78.1919	14.216
78.1803	17.62	78.1920	14.302
78.1804	17.54	78.1922A	14.423
78.1805	17.75	78.1925	14.350
78.1817	14.497	78.1927	14.2
78.1818	14.352	78.1938	14.163
78.1820	14.427	78.1939	14.66
78.1821	14.498	78.1949	14.5
78.1822	17.45	78.1950	14.93
78.1823	14.124	78.1953	14.323
78.1826	14.12	78.1957	14.205
78.1833	14.17	78.1958	15.4
78.1838	14.370	78.1961	17.69
78.1842	14.109	78.1962	14.358
78.1843	14.136	78.1965	14.353
78.1844	14.280	78.1966	14.74
78.1845	14.237	78.1967	14.82
78.1846	14.135	78.1974	14.154

78.1975	14.274	78.2100	14.92
78.1976	14.491	78.2101	14.507
78.1977	14.494	78.2107	14.256
78.1978.+78.425	14.316	78.2111	15.43
78.1980+76.1046	14.215	78.2112+78.2115	14.373
78.1981	14.485	78.2115+78.2112	14.373
78.1984	14.455	78.2135	15.80
78.1992+78.3469	14.116	78.2142	14.90
78.1993	14.225	78.2172	14.322
78.2000+76.2098	14.247	78.2177	15.76
78.2002	14.465	78.2183	17.55
78.2003	14.472	78.2184	17.61
78.2004	14.469	78.2192	14.257
78.2009	14.486	78.2195	14.128
78.2010	9.85	78.2198	14.89
78.2013	15.35	78.2200+76.1010	14.147
78.2016	17.79	78.2201	14.265
78.2022	14.1	78.2204+76.1012	14.158
78.2023	14.99	78.2210	14.471
78.2024	14.261	78.2224	14.341
78.2025	14.260	78.2227	14.327
78.2027	14.96	78.2233	14.479
78.2029	14.122	78.2239	17.74
78.2031+78.2294	14.478	78.2240	9.22
78.2037+78.3134	14.340	78.2249	14.463
78.2038	14.335	78.2252	14.121
78.2040	14.326	78.2253+78.3245	14.196
78.2046	14.487	78.2255	14.200
78.2054	14.76	78.2263	14.44
78.2057	14.354	78.2278	14.506
78.2058	14.346	78.2281	14.363
78.2059	14.342	78.2282	14.325
78.2064	14.141	78.2284	14.377
78.2065	14.447	78.2285	14.450
78.2066	14.331	78.2292	14.483
78.2068	14.65	78.2294+78.2031	14.478.
78.2069	14.267	78.2295	14.146
78.2070	14.143	78.2296	14.18
78.2081	14.436	78.2300	14.70
78.2083	17.80	78.2308	9.214
78.2085	17.30	78.2319+78.2320	14.288
78.2086	17.33	78.2320+78.2319	14.288
78.2088A	17.59	78.2321	14.25
78.2094	14.296	78.2325	14.101
78.2099	14.123	78.2326	14.16

78.2327+78.3493	14.100	78.2507	9.101
78.2328	14.6	78.2508	15.53
78.2329	14.297	78.2525	15.15
78.2331	14.185	78.2537	9.97
78.2332	14.362	78.2541	17.56
78.2335	14.477	78.2542	14.402
78.2336	14.501	78.2545	14.152
78.2338	14.40	78.2554	15.47
78.2339	14.31	78.2557	9.89
78.2341	14.392	78.2562	14.368
78.2350	15.36	78.2568	17.41
78.2358	14.69	78.2577	17.27
78.2362	15.37	78.2578	15.52
78.2364	15.17	78.2580	17.28
78.2390	14.144	78.2581	17.76
78.2391	14.162	78.2582	5.16
78.2392	14.187	78.2586	9.43
78.2400	9.78.	78.2587	9.91
78.2414	9.48	78.2598	15.9
78.2423	6.5	78.2649	14.68
78.2427	4.4	78.2650	14.234
78.2428	5.14	78.2651	14.224
78.2434	14.380	78.2687A	14.95
78.2435	15.71	78.2689	14.193
78.2436	15.58	78.2690	14.281
78.2437	17.46	78.2693	14.446
78.2438	14.414	78.2694	14.343
78.2441	14.230	78.2703	9.179
78.2443	14.490	78.2704	9.180
78.2447	14.276	78.2756	9.96
78.2458A	14.142	78.2769	15.73
78.2461	14.137	78.2774	16.35
78.2462	14.86	78.2777	15.39
78.2463	14.168	78.2780	9.173
78.2470	14.75	78.2783	9.42
78.2471	14.190	78.2784	9.41
78.2472	14.243	78.2801	11.11
78.2474+76.113+76.986+76.2097	14.180	78.2802	9.210
78.2477	14.333	78.2804	14.344
78.2482	14.397	78.2824	17.48
78.2483	14.425	78.2833	14.41
78.2488	14.383	78.2837	14.481
78.2489	14.442	78.2850	15.38
78.2491	9.98	78.2860	14.417
78.2505	9.45	78.2863	14.34

78.2881	17.71	78.3046	14.22
78.2882	9.80	78.3047	14.303
78.2883	15.8	78.3058	14.310
78.2884+78.3600	14.4	78.3059	14.222
78.2888	14.49	78.3061	14.360
78.2889	14.80	78.3062	8.55
78.2895+78.3102	14.328	78.3063	17.20
78.2904	9.105	78.3065	14.72
78.2929	14.240	78.3067	14.14
78.2951	17.25	78.3071	9.131
78.2953	14.97	78.3082	9.25
78.2956+78.1909	14.228	78.3087	14.98
78.2958	15.46	78.3091	14.186
78.2959	14.424	78.3095	14.223
78.2962	14.67	78.3096	14.475
78.2963 A&B.....	14.181	78.3098	5.15
78.2964	14.194	78.3099	14.336
78.2965	14.268	78.3102+78.2895	14.328
78.2966	14.401	78.3105	14.318
78.2970	14.79	78.3107	14.451
78.2976	14.172	78.3108	14.394
78.2977	14.283	78.3109	14.91
78.2983	14.294	78.3114	14.220
78.2985	14.189	78.3115	14.188
78.2988	14.488	78.3123	14.204
78.2994	14.347	78.3126	14.305
78.2995	14.348	78.3127+78.875	14.300
78.2996	14.320	78.3130	14.58
78.3007	14.78	78.3131	14.245
78.3008	14.21	78.3134+78.2037	14.340
78.3009	14.103	78.3142	9.38
78.3010	14.85	78.3146	14.77
78.3012	14.61	78.3156	14.20
78.3016	14.30	78.3157	14.66
78.3018	14.29	78.3159	14.456
78.3021	9.147	78.3163	14.457
78.3023	14.330	78.3167	14.371
78.3028	17.10	78.3172	15.2
78.3030	14.167	78.3180	14.291
78.3032	14.45	78.3187	14.262
78.3033	14.56	78.3193	14.183
78.3035	14.64	78.3195	14.134
78.3038	14.461	78.3196	14.9
78.3043	14.232	78.3197	14.173
78.3044	14.255	78.3203	14.35

78.3204	14.444	78.3328	4.177
78.3205	14.242	78.3337	14.396
78.3212	14.148	78.3340	14.432
78.3213	14.113	78.3341	14.182
78.3214	14.184	78.3342	14.36
78.3218	14.252	78.3347	14.404
78.3222	14.32	78.3348	14.441
78.3223	14.480	78.3350	14.251
78.3226	14.356	78.3357	14.62
78.3227	14.266	78.3360	17.24
78.3230	17.42	78.3363	14.418
78.3232	14.39	78.3364	14.382
78.3236	14.19	78.3365	14.105
78.3237	14.476	78.3366	14.166
78.3244 A&B	14.227	78.3367	9.184
78.3245+78.2253	14.196	78.3374	14.433
78.3247	14.391	78.3376	14.263
78.3248	14.306	78.3384	14.43
78.3250	14.409	78.3385	14.27
78.3251	5.18	78.3386	14.349
78.3252	5.17	78.3387	14.321
78.3254	9.81	78.3388	14.317
78.3256	15.44	78.3390	14.464
78.3257	5.6	78.3391	14.385
78.3258	14.271	78.3392	17.103
78.3259	14.52	78.3394	14.339
78.3260	14.473	78.3397	14.221
78.3262A&B	14.24	78.3403	15.50
78.3267+76.2107+78.3310	14.164	78.3404	14.312
78.3269	9.171	78.3405	17.38
78.3272	14.399	78.3407	17.67
78.3275	14.127	78.3408	17.44
78.3278	14.448	78.3409	17.19
78.3279	14.440	78.3411	17.47
78.3284	14.384	78.3412	17.8
78.3289	14.286	78.3413	14.389
78.3297	14.467	78.3415	9.165
78.3303	17.3	78.3419	14.108
78.3304	14.332	78.3420	14.233
78.3310+76.2107+78.3267	14.164	78.3421	14.258
78.3314	15.26	78.3425	14.437
78.3315	14.449	78.3426	17.40
78.3320	14.400	78.3427	14.94
78.3323	15.48	78.3428	14.119
78.3327	14.117	78.3429	14.106

78.3431	14.238	78.3544	14.33
78.3432+78.969	14.174	78.3547	14.241
78.3435	14.236	78.3549	14.504
78.3438A	14.500	78.3551	14.329
78.3439	14.415	78.3552	14.375
78.3440	14.430	78.3553	14.376
78.3441	14.429	78.3555	14.365
78.3442+	14.431	78.3556	14.416
78.3443+	14.431	78.3566	14.259
78.3444 +	14.431	78.3570	14.454
78.3445	14.359	78.3573+78.3574	14.393
78.3448	14.434	78.3574+78.3573	14.393
78.3450	14.419	78.3580	14.284
78.3453	17.14	78.3582	14.459
78.3454	14.474	78.3590	14.13
78.3456	14.118	78.3591	14.201
78.3459	14.206	78.3596	14.314
78.3464	17.34	78.3597	14.53
78.3468	14.81	78.3600+78.2884	14.4
78.3469+78.1992	14.116	78.3602	14.452
78.3472	14.493	78.3604	14.390
78.3480	14.11	78.3606	14.71
78.3483	14.231	78.3608	14.235
78.3489	14.46	78.3609	14.8
78.3493+78.2327	14.100	78.3610	14.23
78.3494	14.254	78.3613	9.208
78.3495	14.309	78.3624	9.213
78.3497	14.366	78.3626	17.32
78.3499	17.5	78.3627	17.36
78.3500	17.57	78.3633	15.11
78.3501	17.11	78.3638	15.78
78.3502	14.219	78.3659	9.118
78.3503	14.192	78.3711	15.49
78.3504	14.503	78.3712	15.61
78.3505	14.298	78.3713	17.50
78.3518	15.59	78.3714	17.16
78.3521	14.398	78.3720	9.119
78.3522	17.26	78.3721	9.111
78.3523	17.31	78.3725	9.53
78.3526	14.289	78.3726	15.60
78.3529	14.484	78.3727	9.161
78.3532	14.132	78.3728	15.72
78.3533	14.149	78.3734	9.5
78.3540	14.445	78.3735	9.209
78.3543	14.387	78.3737	9.75

78.3738	9.73	78.3861	14.345
78.3739	9.107		
78.3740	9.178	(1981,1982)	
78.3742	9.188		
78.3745	9.95	81.322	14.420
78.3760	20.7	81.682	14.379
78.3765	3.3	81.687	14.439
78.3768	3.25	81.710	14.422
78.3769	3.14	81.740	14.413
78.3770	3.15	81.1111	14.435
78.3771	3.22		
78.3852	14.63	82.120	14.378
78.3853	14.211	82.1369	14.421

CONCORDANCE 3. CATALOGUE NUMBERS - FIND CONTEXTS (CHAPTER 2)

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14.398	244	14.449	184
14.399	193	14.450	186
14.400	184	14.451	245
14.401	244	14.452	244
14.402	192	14.453	185
14.403	188	14.454	184
14.404	247	14.455	186
14.405	186	14.456	247
14.406	191	14.457	247
14.407	247	14.458	185
14.408	190	14.459	244
14.409	252	14.460	188
14.410	191	14.461	191
14.411	244	14.462	193
14.412	190	14.463	186
14.414	251	14.464	247
14.415	252	14.465	186
14.416	193	14.466	247
14.417	244	14.467	212
14.418	191, 192	14.468	179
14.419	252	14.469	186
14.423	192	14.470	179

14.471	191	15.7	128
14.472	186	15.8	245
14.473	244	15.9	207
14.474	251	15.10	141
14.475	245	15.11	230
14.476	247	15.12	139
14.477	245	15.13	203
14.478	244, 261	15.14	215
14.479	193	15.15	198
14.480	245	15.16	139
14.481	187	15.17	213
14.482	245	15.18	203
14.483	261	15.19	139
14.484	251	15.20	212
14.485	186	15.21	200
14.486	186	15.22	204
14.487	244	15.23	219
14.488	247	15.24	216
14.489	181	15.25	215
14.490	184	15.26	184
14.491	186	15.27	201
14.492	188	15.28	216
14.493	193	15.29	215
14.494	186	15.30	187
14.495	189	15.31	213
14.496	247	15.32	204
14.497	193	15.33	193
14.498	193	15.34	191
14.499	187	15.35	186
14.500	252	15.36	207
14.501	245	15.37	213
14.502	189	15.38	215
14.503	244	15.39	215
14.504	244	15.40	215
14.505	185	15.41	235
14.506	186	15.42	109
14.507	191	15.43	191
14.508	251	15.44	252
		15.45	102
15.1	139	15.46	184
15.2	198	15.47	214
15.3	152	15.48	200
15.4	244	15.49	216
15.5	122	15.50	193
15.6	139	15.51	138, 139, 140

15.52	184	15.97	192
15.53	200		
15.54	95	16.1	141
15.55	215	16.2	215
15.56	139	16.3	215
15.57	122	16.4	194
15.58	203	16.5	141
15.59	244	16.6	139
15.60	184	16.7	193
15.61	216	16.8	215
15.62	216	16.9	181
15.63	139	16.10	216
15.64	207	16.11	251
15.65	215	16.12	215
15.66	198	16.13	215
15.67	141	16.14	103
15.68	215	16.15	98
15.69	271	16.16	141
15.70	186	16.17	213
15.71	203	16.18	187
15.72	200	16.19	215
15.73	249, 253	16.20	215
15.74	139	16.21	203
15.75	139	16.22	200
15.76	184	16.23	212
15.77	141	16.24	204
15.78	230	16.25	216
15.79	215	16.26	216
15.80	201	16.27	216
15.81	215	16.28	200
15.82	202	16.29	216
15.83	187	16.30	200
15.84	245	16.31	216
15.85	187	16.32	98
15.86	247	16.33	212
15.87	182	16.34	216
15.88	186	16.35	235
15.89	191	16.36	215
15.90	187	16.37	102
15.91	191	16.39	198
15.92	217	16.40	193
15.93	192	16.41	212
15.94	185	16.42	120
15.95	247	16.43	174, 207, 218
15.96	186	16.44	215

16.45	238, 242, 244	17.38	193
16.46	238, 242, 244	17.39	245
16.47	197, 198	17.40	217
16.48	213	17.41	244
16.49	201	17.42	247
16.50	191, 192	17.43	182
16.51	271	17.44	247
		17.45	252
17.1	193	17.46	184
17.2	189	17.47	247
17.3	182	17.48	193
17.4	191	17.49	186
17.5	191	17.50	252
17.6	185	17.51	270
17.7	247	17.52	192
17.8	247	17.53	185
17.9	185	17.54	193
17.10	191	17.55	191
17.11	191	17.56	192
17.12	179	17.57	191
17.13	193	17.58	179
17.14	251	17.59	191
17.15	217	17.60	186
17.16	251	17.61	191
17.17	179	17.62	193
17.18	190	17.63	184
17.19	247	17.64	191
17.20	247	17.65	191
17.21	261	17.66	191
17.22	185	17.67	247
17.23	179	17.68	182
17.24	244	17.69	186
17.25	184	17.70	186
17.26	193	17.71	245
17.27	184	17.72	247
17.28	207	17.73	184
17.29	192	17.74	186
17.30	191	17.75	193
17.31	184	17.76	207
17.32	217	17.77	179
17.33	191	17.78	179
17.34	192	17.79	186
17.35	186	17.80	189
17.36	217	17.81	186
17.37	186	17.82	270

17.83	271	18.24	140
17.84	271	18.25	215
17.85	272	18.26	216
17.86	272	18.27	192
17.87	126	18.28	193
17.88	184	18.29	180
17.89	180	18.30	251
17.90	98	18.31	200
17.91	212	18.32	203
17.92	126, 130	18.33	179
17.93	189	18.34	200
17.94	140	18.35	189
17.95	271	18.36	180
17.96	270	18.37	232, 235
17.97	188	18.38	129
17.98	193	18.39	271
17.99	203	18.40	126
17.100	215	18.41	215
17.101	271	18.42	191
17.102	190	18.43	193
17.103	193	18.44	139
		18.45	106
18.1	225, 226	18.46	120
18.2	225, 226	18.47	247
18.3	235	18.48	184
18.4	225, 226	18.49	247
18.5	225, 226	18.50	247
18.6	228, 230	18.51	152
18.7	227, 230	18.52	215
18.8	228, 230	18.53	215
18.9	228, 230	18.54	216
18.10	232, 235	18.55	216
18.11	228, 230	18.56	201
18.12	129	18.57	186
18.13	232, 235	18.58	215
18.14	103	18.59	186
18.15	227, 230	18.60	216
18.16	228, 230	18.61	192, 193
18.17	228, 230	18.62	184
18.18	227, 230	18.63	215
18.19	271	18.64	179
18.20	200	18.65	182
18.21	200	18.66	106
18.22	245	18.67	245
18.23	187	18.68	200

18.69	272	18.114	245
18.70	192	18.115	162
18.71	271	18.116	142
18.72	245	18.117	182
18.73	245	18.118	191
18.74	183	18.119	252
18.75	180	18.120	215
18.76	183		
18.77	193	19.1	215
18.78	191		
18.79	232, 235	20.1	137, 142
18.80	138	20.3	182
18.81	215	20.4	200
18.82	216	20.5	111
18.83	207	20.6	189
18.84	165	20.7	186
18.85	180	20.8	198
18.86	121	20.9	94
18.87	193	20.10	120
18.88	227, 230	20.11	151, 168
18.89	189	20.12	120
18.90	187	20.13	184
18.91	216	20.14	232, 235
18.92	216	20.15	198
18.93	232, 235	20.16	166, 168
18.94	215	20.17	166, 168
18.95	232, 235	20.18	204, 205
18.96	185	20.19	96, 97, 101
18.97	201	20.20	165, 166, 168
18.98	189	20.21	193
18.99	179	20.22	99
18.100	98	20.23	247
18.101	252	20.24	238, 244
18.102	216	20.25	185
18.103	186	20.26	179
18.104	103	20.27	261
18.105	271	20.28	188
18.106	180	20.29	238, 245
18.107	180	20.30	186
18.108	180	20.31	184
18.109	180	20.32	184
18.110	180	20.33	188
18.111	180	20.34	186
18.112	139	20.35	189
18.113	188	20.36	200

20.37	187	20.55	216
20.38	180	20.56	200
20.39	180	20.57	201
20.40	180	20.58	192, 193
20.41	180	20.59	189
20.42	186	20.60	234
20.43	186	20.61	192
20.44	188	20.62	189
20.45	179	20.63	207
20.46	186	20.64	193
20.48	187	20.65	216
20.49	120	20.66	201
20.51	215	20.67	198
20.52	215	20.68	232, 235
20.53	191	20.69	200
20.54	184		

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