

SAMIAN AMPHORAS

(PLATES 12–15)

DURING my school years with my brother Michael in Samos, between 1902-1904, I never tired of visiting various places in the island in search of stamped handles of ancient amphoras, so as to find out from them what amphoras were brought into Samos by way of trade. And I did indeed discover at first a few handles of Rhodian amphoras, and two or three of Knidian ones . . . But what was my surprise when beyond all expectation I found also stamped handles entirely different from the well-known Rhodian, Knidian and Thasian, both as to their fabric and as to their stamps. And how great on the other hand was my joy when, as my collection of these handles increased, I became convinced by studying them that I had before me the stamped handles of ancient Samian amphoras, hitherto unknown to the archaeological world . . .

In communicating here for the first time the discovery of these stamped handles of Samian amphoras, and in publishing at the same time the stamps of six of them, I think I should put down a few notes as to the style of Samian amphoras and as to the workmanship of the handles, and a few general remarks about the stamps, reserving a more extensive treatment for when I publish the rest of the stamps.

No intact Samian amphora is known so far, and I can therefore not conjecture safely as to what their style was. I think however that it is entirely probable that in stamp no. 1 [our **36**; see Pl. 15, 10, for an enlargement] the style of the Samian amphora is depicted, because the Samian potter could not do otherwise than represent in his own stamp the style of amphora familiar in his own country, since furthermore it was he who made the amphora.

All 63 of the handles in question are of the same technique: they are quite flat and thin, and they curve almost at once from their place of attachment near the lip of the amphora; . . . ; they are generally speaking quite delicate, and made with care and a love of beauty.

Their clay is very fine and firm, with quantities of gold-colored particles; its color is not the same in all, but in some it is quite grey, in others deep red, indeed almost black, and in most it is reddish.

The stamps, found on the curved part of the handle, are of various shapes: oval or circular, square or rectangular.

Of the whole lot, only five or six have letters on them, like no. 4 [our **48**]. The rest bear different types—various vases, birds, insects, heads of animals, heads and busts of men, gods, goddesses, and some the prow of a ship with the letters **A** or “Samian”—supply “ship” or “trireme.” So they are marked apparently with types from the history and mythology of Samos, such as one meets on the coins of Samos . . .

It is worth particular attention and study that the types of certain of the stamps correspond exactly with those of coins, and that others seem to come from ringstones.

The technique of all these stamps is very fine; particularly, in some of them it is comparable with that of Samian coins of the best period, or that of the finest ringstones.

Such being the quality of Samian amphora stamps, they will probably occupy an exceptional place in the study of amphora stamps.

Here the author presents a selection of six of his stamps, our numbers **36, 5, 40, 48, 4, 61**. They are illustrated (p. 5) by reproductions of rubbings. He concludes:

So much, on the occasion of communicating the discovery of the stamped handles of Samian amphoras.

I count myself happy that it has been given to me to add a page not without value to the rich and illustrious archaeology of Samos, so dear to me, and thus to pay gratefully a pupil's fees (διδασκτρα) for what I was taught in the Pythagoreion.

In Syme, April 1910.

Nikitas D. Haviaras

Above are selections translated from a short article by a young man, published in Samos in 1911.¹ The author was entirely right in his estimate of the unique nature of his discovery. For all that, more than a half-century has passed since his article was published without its ever having had any archaeological notice, so far as I know. The circulation of the journal in which it appeared must have been mostly among the Greeks of western Turkey and of the Turkish islands (which then included Samos and Syme), and on these people events began to move very soon after 1911.

The Haviaras boys were knowledgeable on the subject of amphora stamps, since their father, Demosthenes Haviaras, collected stamped handles; he came to have, in his home in Syme, by the time of his death in 1922, probably the largest private collection of such things then assembled, over 4000, a good part of which he had picked up on expeditions with his sons to near-by islands and to the Anatolian coast opposite Syme, in those days of *pax Turcica*. When later Michael Haviaras was a young schoolmaster in Alexandria, he gave special tutoring in the Greek language to a Greek boy whose younger childhood had been spent in America, and pupil and teacher supplemented more formal lessons by collecting Greek stamped handles from the surface of the ancient sites along the shore from Alexandria. Thus was started the Lucas Benaki collection, which eventually numbered some 66,000.²

From Lucas Benaki in the early 1950's I learned of the probable existence in Syme of the collection of Demosthenes Haviaras, and in September 1956 Maria Savvatianou (now Mrs. Petropoulakou) visited the island for me and found the collection, making the acquaintance of children and grandchildren of the collector. On this occasion Mr. Nikitas Haviaras gave her the offprint of his article from which I

¹ Νικήτα Δ. Χαβιαρά, "Ἐνσφράγιστοι Λαβαὶ Ἀρχαίων Σαμιακῶν Ἀμφορέων," Μικρασιατικὸν Ἡμερολόγιον τοῦ 1911 τῆς κυρίας Ἑλένης Σ. Σβορώνου, σελ. 3-6.

² *Year Book of the American Philosophical Society for 1959* (1960) (hereinafter Grace 1960), p. 475; *ibid.* for 1964 (1965), pp. 518-522; *Archaeology*, XIX, 1966, pp. 286-288 (taken from pp. 1-5 of the *Newsletter* of March, 1966, of the American Research Center in Egypt, the text abridged, illustrations added); further notes in Ph. Bruneau, ed., *Exploration Archéologique de Délos*, XXVII, *L'îlot de la maison des comédiens*, Paris, 1970 (hereinafter *Delos* 27), p. 285 (pp. 277-382, a chapter on Greek amphora stamps by V. R. Grace and Maria Savvatianou Petropoulakou).

Note that in *Delos* 27 and in earlier publications by V. R. Grace, Lucas Benaki's name has regularly been spelled "Benachi," the Italianate form used by him while resident in Alexandria.

For full references for other short titles used in this article, see footnotes below as follows: *Agora*, XII, note 26; *Amphoras*, note 34; Barron, note 9; Boehlau, note 42; Head-Hill, note 13; Lacroix, note 13; Maiuri, note 25; Rostovtzeff, note 19; *S.C.E.*, note 45; Schede, note 25; *Tarsus*, I, note 19; Technau, note 25; Zeest, note 45.

have quoted above.³ Then, and again during our reconnaissance—brief but in force—in Syme in early July of 1957, we had glimpses of the smaller but unique collection of Nikitas Haviaras.⁴ It was understood he would himself make the full publication to which he had looked forward in his preliminary report; and I hoped to make photographs for him to use in this publication. I had later some correspondence with him, but chiefly concerning his father's collection.

During the spring and early summer of 1959, Mr. Benaki's periodical reports to us on new acquisitions in his collection in Alexandria (which came to him a thousand at a time in mixed baskets of stamped handles largely salvaged from local building operations) included mention of two stamps with the forepart of a bull (our 1 and 2) like that illustrated by Haviaras in his 1911 publication (our 4), and also of two examples of a facing Hera (our 25 and 26) which also has turned out to have been matched in the Haviaras collection (our 27). It seemed very desirable to encourage and help Mr. Haviaras to publish his exciting collection. But other pressures prevented. In October of 1962 Nikitas Haviaras died, without having achieved his wish.

Now an occasion arose that seemed designed to rescue from oblivion the boy's discovery in Samos, nearly 70 years ago, of an unknown class of amphora stamps, one of interest to many more than a narrow specialist. So in October 1968 I asked Mrs. Petropoulakou to go back to Syme and make the necessary records of a collection previously known to us only in a few samples. Warm thanks are given to the family of our friend Nikitas Haviaras for making possible this publication.⁵ In the

³ Here, as at other key points of the investigations leading to this article, the contribution of the former Miss Savvatianou has not been limited to normal research assistance. That we know the material which is the kernel of this study is due first to the sympathetic relations she quickly established for our group with the Haviaras family, then to her enterprise in undertaking the stormy voyage to Syme in the fall of 1968, then to admirable performance in the classification and recording of this, to us, almost entirely new material in the short time between calls at Syme of the only available island boat. Recording included photography of nearly the whole collection, with no failures and with appreciation of the original content and quality of the individual pieces, despite the small size of many types and the bad preservation of many impressions.

⁴ Grace 1960, especially pp. 474-475.

⁵ Of the collection of Nikitas Haviaras, rubbings were taken of all the stamps, also notes on the fabric and dimensions of the handles except for the two Rhodian, also photographs of all but five (two of which were the Rhodian). In the absence of Nikitas Haviaras' daughter (now married and living in Egypt), Mrs. Petropoulakou was given every assistance and kindness by Miss Eleni Apokotou, his niece, as also by Dr. Kostas Pharmakides, dentist of Syme, who had been a close friend of Nikitas Haviaras during his last years and had assisted Mr. Haviaras in a study published posthumously, a first volume on the monasteries of Syme (Athens, 1962, the press of D. Frankiadakis and Chr. Fratseskakis). For a copy of this book by her father, I am grateful to Maria Haviara-Katsimbri. From the introduction we learn that it is a part-realization of a work on Byzantine and post-Byzantine remains in Syme planned for their years after retirement by the brothers Nikitas and Michael when they finished at Athens University and went to be schoolmasters of Greek communities in the Sudan and in Alexandria. Lucas Benaki tells me that Michael died in the 1950's.

present article I add suggestions as to the shape of the Samian amphora at various periods, and remarks on its probable contents. For the stamps, I have supplemented the Haviaras group with some related items of which about a third were also found in Samos.⁶ Having no expertise in any of these types, I have gladly taken advice from those better informed, in order to make as clear a presentation as I could.⁷ In the event, I have been unable to confine this article to the limits of what might have been my share of *Hesperia*, XXXVIII, 2. I hope that the scholar honored there will accept the present piece as a supplementary installment of *didakta*, in celebration of the many and varied enjoyments of Greece and things Greek to which he introduced his students.

To turn then to Samian stamps, under our **1-27** (Pl. 12) are assembled types specifically reminiscent of Samian coin types.⁸ In this section are most of the stamp parallels from outside the Haviaras collection. Nos. **1, 2, 17, 25, and 26** are duplicates of Haviaras stamps, found the one (**17**) in Memphis, Egypt, and the rest in the Benaki collection, probably from the outskirts of Alexandria. These five handles indicate a very small movement to the outside world of the particular kind of amphoras represented in our group. The rest of the non-Haviaras items with Samian coin-devices (save **8**, of which the reading is not clear) are related to our basic group but distinct from it: they show the Samian lion-mask but with the addition of a proper name not present in the Haviaras types, and perhaps (see below) they belong to a slightly later date. See **9** through **16**, items found in Naukratis, Kos, Pella and probably Alexandria, as well as at the Heraion in Samos. Of these, the fragment **10** plus **11** gives information on the amphora as a whole, which had in this case the same stamp on both handles, and had a broad mushroom rim, the edge of which is visible in Plate 12.

For investigating Samian coin devices, we are fortunate in having the recent

⁶ From the Benaki collection, on which see note 2: **1, 2, 9, 12, 13, 25** and **26**. From the German excavations on Samos: **8, 10-11, 42** and **53**; of these the last was found in the Kastro of Tigani, the rest at the Heraion. From Naukratis, now in the British Museum: **14**. From Kos: **15**. From Pella: **16**. From Memphis, now in the University Museum, University of Pennsylvania: **17**. For permission to publish these stamps, and for much courtesy and assistance during the taking of records and later, I am much indebted to Mr. Benaki, to Professors Buschor, Homan-Wedeking and Jantzen of the German Archaeological Institute in Athens, to Dr. Barbara Philippaki (in 1958) and Dr. N. Zappeiropoulos and Mr. K. Tsakos of the Archaeological Service in Samos, to Dr. John Kondis (in 1957) and Dr. G. Konstantinopoulos of the Archaeological Service in the Dodekanese, to Dr. Ch. Makaronas of the Archaeological Service in Macedonia, excavator at Pella (retired), and to the authorities and staff of the British and University of Pennsylvania Museums.

⁷ On some of my obligations, see below, notes 9, 13, 15, 20, 25, 46, 48, 54, 55, 62, and 77; the captions of Figures 2 and 3; the catalogue text on **41** and **62-63**. I add here my thanks to Mrs. Barbara Clinkenbeard for checking references for me. Mrs. Clinkenbeard and Mrs. Marion McCredie have helped me with the proof.

⁸ For descriptions of the individual types and of the handles on which they appear, see the catalogue (below, pp. 88-89).

volume by J. P. Barron, which has served as basis for any comment here.⁹ "The two chief types of all Samian coins are the mask of a lion and the forepart of an ox," as Barron remarks at the beginning of his introduction, following the statement with a discussion of the origin and religious significance of these devices. The ox or bull device is represented in known stamps by a single type, our examples 1-4. It shows the whole forepart including forelegs, as in the coins from the mid 5th century onward. The cloven hooves are shown, as also in the coins, beginning in the 5th century (Barron's Class VIII). Most troublesome to place is a kind of hump on the shoulder which may be exaggerated muscle. For this feature, closest in Barron's plates is plate XXV, octobol no. 6, dated 270-259 B.C.; but the ugly elongation of the body behind the shoulder, which begins in coins in the 3rd century (Barron, p. 129), is not matched in the device of the stamps. Finally, the pi-shaped frame that surrounds the stamp device gives something of the effect of the incuse square the edges of which frame the bovine forepart in coins; the incuse square dies out in the 4th century B.C., and does not reappear.

The lion's mask accompanied by the name of a person (as in our 9-16) seems to be matched in coins only on certain bronzes, Barron, plate XXXI, nos. 2-5, dated *ca.* 310-300 B.C. according to parallels to silver coins cited in Barron's text (p. 134). Compare also the device in our 14 (Pl. 12) with that in Barron's plate XXIV, drachma no. 3, also dated 310-300 B.C. As remarked above, it is the types without any names (5-7) that are represented in the Haviaras collection itself. These are too badly preserved and too badly impressed for close comparison; but the lion's mask may perhaps be compared with that in the coins of smaller denominations in Barron's plate XXII; compare the diobols 1-7 (obverses) of which no. 7 is dated by Barron (p. 114) with the tetradrachms of Demon, i.e. apparently *ca.* 370-365 B.C. (cf. Barron, p. 111).

The ship's prow of the coins, the prow of the *samaina*, is discussed by Barron on p. 6. On the handles we have at least four distinct stamp types having the prow, known in from one to three examples each, all types being represented in the Haviaras collection, and a single example (17) having been found elsewhere.¹⁰ The ethnic ΣΑ(appears above the prow in 17-21, while the type of 17-19 has in addition the inscription ΗΡΗΣ below the prow. On coins, the ethnic accompanies the prow rarely. I find it abbreviated as here in Barron's plate XXII, reverses of the diobols 1-7; and perhaps this series, dated by Barron not long before 365 B.C. (see above on the obverse of no. 7, with lion mask) is a fair parallel to our prow types with ethnic. Compare also the bronze, Barron, plate XXXI, no. 7, which however has also a personal name.

⁹ J. P. Barron, *The Silver Coins of Samos*, London, 1966 (hereinafter Barron). I am obliged to Mr. Barron for several informative letters; see further, note 62.

¹⁰ A doubtful fifth type is represented by the badly impressed (rectangular) stamp on X 489, listed below, note 22, among illegibles from the Haviaras collection.

Note that a change in direction of the prow (as of the head of Hera in obverses) is considered by Barron (p. 147) to call attention to a difference in size of coins; our prows are to the left, save on **17-19**, three handles which are in fact consistently a little smaller than the eight impressed by the other three prow types, and their smaller dimensions very likely indicate a somewhat less capacious amphora.

Finally, the facing head in **25-27** can be compared with heads in Samian coin types. Although there is not a close parallel, the fact that the lady plainly wears a necklace (see the second, differently lighted, photograph of **25** in Plate 12) associates her with a series of profile heads on Samian coins which are identified as Hera.¹¹ Among the (less common) *facing* heads, compare that on the bronze, Barron, plate XXXI, no. 5, which the author (see above) dates *ca.* 310-300; however, this type shows headgear that is lacking in the stamp, and no necklace. The letters eta rho which seem like a label with the head in the stamp are rather to be taken as corresponding with the inscription below the prow in **17-19** and a possible inscription below the lion's mask in **8**. See further below on these latter, and compare the monogram of **77**, and similar monograms discussed in note 77.

In contrast to the types illustrated in Plate 12, our **28-77** (Pls. 13 and 14) would not have identified for us as Samian the amphoras on which they were impressed. But since all the fragments **28-77** were found in Samos (**42** and **53** in the German excavations, the rest by Nikitas Haviaras), and since no duplicate of any of their stamps has been found outside the island, it seems a reasonable presumption that these pieces, as well as those bearing Samian coin devices, come from amphoras made in Samos. Even *near* duplicates of **28-77** seem to be notably lacking from other sites. Overlooking stamps with single letters like those in **48-50**, since such types are too simple for parallels to have significance unless they are from the same die, I find only one stamp parallel from outside Samos that might suggest a foreign source for any amphora marked by any of our series in Plates 13 and 14, and that is the one impressed on the Phanagorian stamped measures cited in the catalogue in connection with **41** (and perhaps **42**). It is rather my present suggestion that if **41** is a foreign type, it has only the same kind of significance as the type of **74** (with Knidian coin device), i.e. each may be the personal, or possibly official, signet of a foreigner in Samos. Compare below, text with note 37, as well as the catalogue text on **41**.

From the series under discussion, the latter part, **54-77**, has been set apart because the stamps all seem to be impressions from ringstones or engraved metal rings.¹² The miscellaneous remainder are taken up first, **28-53** (Pl. 13).

The cult statue of **28-29** has a general resemblance to representations on Roman

¹¹ Barron, pl. XXII, trihemioiols 1-3, obverses; p. 114 (with mention of the necklace). The reverses of these coins are compared with the obverses of tetradrachms of Zenodotos, who is dated (table, p. 104) *ca.* 370-365 B.C.

¹² Below, note 20.

coins of the most famous of the Asiatic goddesses, Artemis of Ephesos.¹³ Characteristic are the extended forearms and hands, from which hang knotted (?) and tasseled fillets, and the elbows close to the body, also the polos, and the sheath-like covering of the lower body, which narrows downward ending at the ankles. The goddess in the stamps however lacks the best-known anatomical feature of the Ephesian; further, the skirt of her dress does not show the indication of ornamental panels seen in the numismatic and other representations of this Artemis. On the other hand, the Samian Hera is identified, on Samian coins of the Roman period, in a similarly posed figure, who wears polos and veil like our goddess, and from whose hands hang similar fillets.¹⁴ The full-skirted drapery of this figure makes it look different from the goddess in **28-29**. However, since the cult statue consisted of a primitive *xoanon* dressed in actual clothing, the style of the clothing may well have changed over the centuries.¹⁵ Pre-Roman coins do not depict the cult goddess of either Ephesos or Samos. We would like to know what the figure of the Ephesian was like, of which Xenophon had a copy made for the sanctuary he founded near Olympia.¹⁶ Presence in the Haviaras collection suggests that **28** and **29** give us a notion of the goddess of Samos, perhaps as she looked in Xenophon's time.

The same context encourages one to identify the turreted head in **30** as the walled city of Samos, although a city goddess does not appear in Samian coins, as it does in the coinages of numerous other eastern cities.¹⁷

A few notes follow on the rest of the stamps in Plate 13. Barley ears and bees (**31-35**) both appear as symbols at various times in coins of Samos (as in those of other states), although not in combination (suggesting barley cakes?); stars (**44**)

¹³ B. V. Head, rev. G. F. Hill, *A Guide to the Principal Coins of the Greeks*, London, 1932 (hereinafter Head-Hill), pl. 44, 9, pl. 46, 10, pl. 47, 8 and 9. Cf. L. Lacroix, *Les reproductions des statues sur les monnaies grecques, la statuaire archaïque et classique*, Liège, 1949, pp. 176-192 on Artemis of Ephesos, pp. 146-147 on the hanging fillets of Asiatic goddesses. For a similar figure identified as Artemis Leukophryene, British Museum Catalogue of Coins, *Ionian*, pl. 19, 4-6 (coins of Magnesia after 190 B.C.). Mrs. Petropoulakou has called my attention to comment on the type of the Oriental goddess in connection with a new acquisition in the Boston Museum of Fine Arts (Cornelius Vermeule, *Cl. Jour.*, LXIII, 1967, pp. 58-59, p. 56, fig. 8).

I owe my acquaintance with Lacroix's book, together with many helpful suggestions in connection with problems raised during the preparation of this article, to Professor Evelyn B. Harrison. She is of course not responsible for any unattributed opinions in this article.

¹⁴ British Museum Catalogue *Ionian*, pl. 37, 2 (cf. Head-Hill, pl. 48, 16), period of Commodus.

¹⁵ Professor Harrison called my attention to this likelihood. On garments worn by the Samian goddess, C. Michel, *Recueil d'inscriptions grecques*, Brussels, 1900, p. 678, no. 832, an inventory of the temple of Hera, dated 346/5 B.C. (by an archon in Samos and by the Athenian archon Archias). I owe the reference to Professor Henry S. Robinson.

¹⁶ *Anabasis*, V, 3, 12.

¹⁷ Head-Hill, pl. 20, 54, p. 36 (Salamis, Cyprus, 351-332 B.C.); pl. 28, 17, p. 51 (the same city, 331-310 B.C.); pl. 34, 30, pp. 60-61 (Sinope, 220-183 B.C.); pl. 34, 34, p. 61 (Marathos, Phoenicia, 279 B.C.); pl. 40, 15, p. 72 (Smyrna, 190-133 B.C.).

also appear.¹⁸ Amphoras (**36, 37**) are found not only as symbols but also as reverse types of Samian coins; on these see further below, in the discussion of Samian amphora shapes. The vases (**38-43**) might have been expected to give us an idea of an earlier stage of the Samian table ware familiar, at least by name, to the Romans as early as Plautus. The original product must have been competent and of good value to have been so widely purchased as to give its name, as apparently it did, to crockery in general, something which happened in recent times with a product of China.¹⁹ However, the variety seen in our stamps is not great; and, as noted above, the kantharoi depicted in **40-42** may in fact be foreign. It is hoped that some reader will identify the devices in the fragmentary types **45-47**. For the stamps having letters without devices, **48-53**, note that **51** may not belong with the rest of the Haviaras handles; and that **53**, from the excavations of the Kastro of Tigani (Pythagoreion) gives us a probable restoration of the incomplete stamp **52**, although the two stamps are not identical. No. **53** gives also information on the shape of the Samian amphora; for a profile view of this fragment, see Plate 15, 11. For an additional stamp with a monogram, see the ring impression **77**.

As already noted, **54-77** (Pl. 14) seem to be impressions of engraved metal rings or of gems; for comments on these I am much indebted to John Boardman.²⁰ Note among deities and monsters Athena in fighting attitude (**54-56**) and figures which may be identified as Pan (**57**), Herakles (**58**), Eros (**59**), a bearded siren (**60-61**), and perhaps Priapos (**67**). Genre scenes are apparently represented by **62-63**, a draped female figure with a waterbird (?), and **66**, perhaps an athlete using the strigil on his thigh; in **64** and **65**, some mythological or ritual event seems to be

¹⁸ On these various devices see Barron's index under symbols and types. For barley cakes in Samian ritual, see below, on the festival at Samos.

¹⁹ On "Vasa Samia," F. O. Waage, *Antiquity*, XI, 1937, pp. 46-55; numerous passages from Latin authors are assembled on pp. 54-55. Cf. M. Rostovtzeff, *The Social and Economic History of the Hellenistic World*, Oxford, 1941, pp. 1478-1479, note 66, for further references; also H. Goldman and others, *Excavations at Gözlü Kule, Tarsus*, I, Princeton, 1950 (hereinafter *Tarsus*, I), pp. 186-187 (F. F. Jones). These publications are partly concerned with the possibility of identifying an archaeologically known ware with the "Samian" of the Romans. On this question, see further below, note 53 and accompanying text.

²⁰ Mr. Boardman writes (December 2, 1968): "I would expect that they were all impressed by metal finger rings. This seems the usual practice on, for instance, loomweights, and the fact that you seem never to have trace of the hoop at each end would be explained by the date, since by then the hoop usually runs straight back from the bezel . . . For the sort of rings, slightly earlier, see *Olynthus*, X, pls. 26-27." The rings there illustrated are mostly of bronze. Comments by Mr. Boardman are quoted in the catalogue text below as well as in the general commentary above. He is not to be held responsible for any of my actual text, which he will not have read.

Addendum, April 1971. For published reference by Mr. Boardman to our ring impressions, see now his *Greek Gems and Finger Rings, Early Bronze Age to Late Classical*, London, 1970, p. 406.

depicted. Among the rest, Mr. Boardman has identified a janiform head in **68** and a murex shell in **73**; and he has suggested that the type of **71** and **72** may be a female head (badly impressed and/or from a worn die), rather than the grape-cluster it resembles at first sight. On his recommendation, some of the impressions are shown at twice actual size (**57, 58, 62, 63, 64, 65**). See the catalogue text on the enigmatic **57**; in this, Pan (?) appears to have goat feet (and head) but human knees, as he was sometimes made in the 5th century B.C., for instance by the Pan Painter. It may be remarked that although the amphoras on which these impressions were made were surely Samian, the same is of course not necessarily true of every one of the rings or stones that impressed them. Despite the fame of earlier Samian gem-engravers, some of these engravings may not have been Greek at all in origin, or, in one case, even made by human hand, according to an ingenious suggestion recorded below in the catalogue text on **76**.

The devices in **54-56** and in **74** correspond with reverse types in certain non-Samian coins: the lion head and forepaw (**74**) was a long-lived type of Knidos, while the Fighting Athena (**54-56**) appears in the late 4th and early 3rd century B.C. on coins of various governments of Macedonian origin, so that the goddess has sometimes been identified with a statue of Athena Alkis or Alkidemos at Pella.²¹

In addition to the handles of which the stamps are shown in Plates 12-14, the collection of Nikitas Haviaras included four others of similar fabric on which only vestiges of stamps could be made out.²² Finally there were two Rhodian handles, and one of unknown origin.²³

²¹ Head-Hill, pl. 28, no. 19, a coin struck by Ptolemy Soter, as ruler of Egypt, between 311 and 304 B.C., according to p. 51, where also is the identification of the statue of Athena Alkis. For Newell's slightly earlier date for this coin, see note 33. For a recently published, and as yet unidentified, bronze coin found in Samothrace having this figure, *Hesperia*, XXXVII, 1968, pl. 59, b, pp. 201-202 (J. R. McCredie).

²² X 476, with circular stamp, diam. ca. 0.017, with traces of a wreath (?) round outer part; X 489, part of a rectangular stamp, with part of a prow (?); X 490, part of a circular (?) stamp, with monogram (?); X 506, small part of circular stamp. X 507 is a handle found with the rest, but it is unstamped.

X 476, with wreath (?), may be compared with Agora SS 10912, which has a circular stamp with wreath round the outer part and an uncertain device in the middle. Though of about the same size, the two stamps do not appear to come from the same die. SS 10912, which comes from a disturbed latter 4th century B.C. deposit, by its fabric is possibly also Samian; see further below, on shapes and clay of Samian amphoras.

²³ The two Rhodian are X 508, with illegible rectangular stamp, and X 509 which has the reading [*Ἀγαθός*/χ]ov/caduceus right (restored from rubbings of better examples in the Benaki collection in Alexandria; for a published example of probably the same type, M. P. Nilsson, *Timbres amphoriques de Lindos*, Copenhagen, 1909, p. 349, no. 4, 1). Known handles endorsed by this fabricant are few, datable in the 2nd century B.C., not early. X 504, of unknown origin, reads perhaps *Ἀρχη* (0.044 by 0.023; buff clay, red at core, having small black bits). Note that we found no Knidian in this collection, although Haviaras states (see above) that he discovered "two or three." In general to reconcile our findings with his reference to "all 63 handles" (again

It is my guess that the last three handles mentioned (possibly plus our 51) were the results of general wanderings (cf. Haviaras' text quoted at the beginning of this article) and that the rest of the collection was found all together. While Mr. Haviaras still hoped to publish his collection himself, he was naturally reluctant to discuss it in detail or to state precisely where it had been found; although he did tell us, during our visit in 1957, that it came from in or near Tigani, now called Pythagoreion, of which the houses lie on part of the site of the ancient capital city of the island.²⁴ But before he died he talked a little further about the findingplace with a friend in Syme; and these words afterward reported to us suggest that the collection as a whole was from one place; so the text of 1910 quoted above, "as my collection of these handles increased" would refer to repeated visits by the boy to the same place. In fact, deposit on the handles suggested to Mrs. Petropoulakou (when she took the records in October 1968) that most of them had been exposed together; for a similar reason, coins are sometimes identified as from the same hoard. Finally, there is confirmation in the internal nature of the group, as reviewed in the foregoing pages. Here is a set of handles, found in Samos, of sufficiently homogeneous fabric (see further below), impressed by a series of stamps almost unknown elsewhere and including a number of Samian coin devices. As already remarked, it seems impossible to suppose they are anything but Samian. And yet the particular types have not been found, so far as I know, in the archaeological investigations of Samos, whether of the Tigani-Pythagoreion area or at the Heraion, from which sites, at least through the finds of 1957, 77 per cent of the stamped handles were in fact Rhodian.²⁵ It seems a fair guess

see his quoted text), Mrs. Petropoulakou gave numbers to the Nikitas Haviaras collection following the series given by us in 1957 to a part of the collection of Demosthenes Haviaras, so that Nikitas Haviaras' handles are X (for *Xaβιapās*) 441-509, or 69 handles. If we omit X 504, 508, and 509 (the non-Samian listed in this note), also 2 or 3 listed in note 22 as having little or no stamp, and/or possibly our 51, we are in agreement as to the number of Samian in the collection, a fact which has some importance for definite identification of the group.

²⁴ Note that the Pythagoreion referred to by Haviaras, at the end of his article quoted at the beginning of ours, is not the town (which was not so named in his day) but the Gymnasion (secondary school) of this name, which was, and still is, in Vathy, the present-day capital of the island.

²⁵ Composition of the amphora stamps from both excavated sites in Samos together through 1957: Samian, 4 (our 8, 10-11, 42, 53); later Samian (?), 1 (see below, note 81, mention of I 933); Rhodian, 390; Koan, 21; Knidian, 9; Zenon Group, 6 (of which 2 are uncertain while the other 4 are of the type with two-letter abbreviation; *Hesperia*, XXXII, 1963, p. 331 with note 25); Chian, 4 (of which one is from a lagynos); Sinopean, 1 (I 566 plus 579, neck with two stamped handles, of Grakov's earliest period); Parian and Thasian, 1 each; Roman (Latin), 1; unclassified, 62; total, 500. A few more may be transferred from the "unclassified" to the Samian, e. g. from their general appearance I 861, 934, 935. Cf. also below, note 77, on I 580, 859.

A large proportion (about 55 per cent) of the Rhodian belong to the early period before months began to be named on Rhodian amphoras, i. e. before ca. 275 B.C. according to my present belief, cf. *Delos* 27, pp. 291-293. Trade relations following 322 B.C. were no doubt affected by the previous hospitality of Rhodians to Samians during the time of exile of these latter (A. Maiuri, *Nuova Silloge Epigrafica di Rodi e Cos*, Firenze, 1925, pp. 3-4, no. 1; and Hiller, s. v. "Rhodos,"

that we have here a local product for a particular occasion or series of occasions. In that case the stamps of the collection would be a group close to one another in date, although of course, particularly in the case of the ring-impressions, some might be

Pauly-Wissowa, Supplementband V, Stuttgart, 1931, p. 778). Rhodian stamped handles of this period are relatively uncommon at other sites save on Rhodes itself; though numerous in Alexandria, these early Rhodian are a small percentage of the huge total of Rhodian handles found at that site.

An inscription records also a Koan citizen as benefactor to the Samians in exile, M. Schede, *Ath. Mitt.*, XLIV, 1919, p. 5, F. So it is interesting to note that the number of Koan in Samos, although these are far fewer than the Rhodian, is still relatively large: the proportion, 4.2 per cent of the total, is more than twice that of this class in Alexandria, more than 4 times that in Athens, and apparently 40 times that in Rhodes. Cf. Grace 1960, pp. 473-474, 476, for percentages and figures on Koan at various sites; the figures for Alexandria given in *Year Book of the American Philosophical Society for 1955* (1956), p. 323, should be adjusted for the greatly increased Benaki collection, *Archaeology*, XIX, 1966, p. 286.

For other benefactors of the Samians mentioned in inscriptions, cf. below, notes 28 (on a Magnesian) and 38 (on a Macedonian).

The figures given for stamped handles on Samos are based on records made there in 1958, with permission and much facilitation from Dr. Buschor, and from Dr. Barbara Philippaki for the Greek Archaeological Service. A total of 30 handles actually from *both* sites in Samos (despite the title of the publication) had been included by W. Technau in "Griechische Keramik im Samischen Heraion," *Ath. Mitt.*, LIV, 1929, pp. 6-64, especially pp. 58-63. In this connection it is curious that Rostovtseff (*op. cit.*, p. 1486, note 97) remarks that Technau's publication reports a "large admixture of Sinopian handles"; in fact, Technau lists (p. 60 under "II, Sinope") only the single item later inventoried as I 566 plus 579 mentioned at the beginning of this note. Inventories of the handles from both sites were made *after* Technau's publication, I believe in 1939, by W. Wrede for the finds in Tigani and by F. Willemssen for those from the Heraion (as I was informed by Dr. Buschor in 1958). Numbered in the Inschriften series of the site, the stamps in the two inventories are respectively I 501-640 (Tigani, save that the last two items seem to be from the Heraion) and I 641-862 (Heraion). In 1958 we were authorized to record the earlier finds and also to continue the "I" series (now no longer used for inscriptions) to cover the accumulation, again from both sites, through the finds of 1957, I 863-1006. The total should be 506 instead of 500 in the analysis at the beginning of this note; but in fact following wartime disturbance of the Heraion storeroom we were unable in 1958 to identify some 30 of the handles inventoried from the site. Where readings could be made (from Dr. Willemssen's careful drawings) the missing items have been included in our figures, but there remains the small residue of unidentified items. In the operation of 1958, the undersigned was aided by Maria Savvatianou (cf. note 3) and also by Andreas Dimoulinis. I take this occasion to thank Mr. Dimoulinis not only for his full share in our rather heroic work-period of 4 and ½ days in Samos at that time, but also for much else he has contributed to this article, the processing of records, the compilation of figures, in particular the original profiles from which the drawings in Figures 2 and 3 were made, and finally, many checks in the text of the article.

Unfortunately there has not been time to make the records that would be necessary for a fully up-to-date statement on stamped handles found on Samos. But by the kindness of Professor Jantzen, I have been able, in a short visit late in 1968, to look through more recent finds at Pythagoreion (Tigani) and to see that here in any case no further *stamps* recognized as Samian seem to have been found, while at the same time sherds from the excavation tend to confirm at least one of our identifications of Samian amphora shapes. *Addendum*, April 1970: see under 7 in the catalogue below for mention of a new handle with Samian stamp which was apparently a surface find in the Pythagoreion area.

To the above figures from two sites on Samos, we must now add (see note 23) 69 from a separate site, of which 2 are Rhodian, 1 unclassified, and most if not all of the other 66 are probably

from heirlooms, and so of earlier style than the others. Especially indeed as a terminus at least for these seals of Plate 14, a date for the group would be welcome, since fixed points in this part of the chronology of engraved signets seem to be few.²⁶

What date for the group is suggested by the indications that we have? Consider the types associated with Samian coins, and how they fit into the chronology of the coins. It should first be noted that no coins are believed to have been struck at Samos after 365, when the greater part of the population was expelled by the Athenians and replaced by Athenian cleruchs, and before 322, when the Samians were reinstated by Perdikkas as ordered by Alexander.²⁷ In fact, Barron assigns no issues to the second half of the 4th century until *ca.* 310 B.C. On our stamps with coin devices, see above, comment on 1-27. There are fairly specific parallels between coins and stamps that have personal names combined with the lion masks; the stamps however are our 8 (?) and 9-16, *not* from the Haviaras collection; the coins (bronze) are dated *ca.* 310-300 B.C., and similarly dated is a silver drachma which has no personal name but in which the device is remarkably close to that in our 12-16. In contrast, the Samian coin devices in stamps of the Haviaras collection itself are closest, though not very close, to devices in some of the later pre-365 B.C. silver issues. It thus seems probable that these stamps date before the resumption of coinage after 322 B.C. The only feature which might seem to connect this group with post-exilic coins was the hump on the bull, 1-4 (see above); and since the type as a whole does not resemble that of the 3rd century coin in which the shoulder muscle is similarly prominent, possibly in 1-4 the hump has been added to the normal Samian bovine animal in some sort of topical allusion of the day.²⁸

Samian. For the precise place of discovery of these fragments, certain of Nikitas Haviaras' words as reported by Dr. Pharmakides have suggested to me a possible identification which I should like to see properly investigated. Mr. Haviaras told his friend the place was in a cave where there was a church; there were many pieces of amphoras there, he said, in the dark and the cold. In the Tigani area (where the collector had told us his handles had been found), this description suggests the Speliani crypt. In fact, on several of the handles Mrs. Petraopoulakou noticed a marking, Σπηλιανή Τιγάρι Σάμον; it was clear on our 50 and on X 506 (see note 22), and partly effaced on our 66. Professor E. Homann-Wedeking, who discussed with me on October 9, 1970, the material and the evidence, was inclined to accept the probability of Speliani as the finding-place; he told me there is a spring in there used in ancient times, with rock-cut basins.

²⁶ I am so informed by Mr. Boardman, who cited for instance 59 as a type which might have been called Greco-Roman. Other context now available for certain gem-impressions on amphora handles should also be presented, since it would produce modifications in the current dating of ring or gem types; for instance the date suggested by a visiting expert in 1957 for the type of *Hesperia*, III, 1934, p. 291, no. 278 (Victory before a trophy; correct the identification in the publication) was Augustan, whereas a duplicate has been found in Agora deposit J 11: 1, a deposit dated 340 B.C. and earlier in B. Sparkes and L. Talcott, *The Athenian Agora*, XII, *Black and Plain Pottery of the 6th, 5th and 4th Centuries B.C.*, Princeton, 1970 (hereinafter *Agora*, XII), p. 394.

²⁷ B. V. Head, *Historia Numorum*, 2nd ed., Oxford, 1911, p. 605; and Barron, pp. 118, 135.

²⁸ For humped bulls in coins of Asia Minor of about the same period, cf. e. g. Head-Hill, pl. 27, 13 (Seleukos I) and pl. 28, 28 (Magnesia). Note that a Magnesian (but of which Magnesia?) was one of those honored by the Samians by a proxeny decree after their return in 322 B.C., for

Among the devices shown in Plates 13 and 14, the stemmed kantharos in **40-42** has some dating value by its similarity to a device in Thasian stamps of the 4th century B.C. Compare the vase in Bon no. 297, one of the two-name stamps which are datable before *ca.* 340 B.C.;²⁹ also that in Bon no. 703, probably of the third quarter of the 4th century.³⁰ Monograms (**52**) are uncommon in stamps before the late 4th century B.C., but are apparently attested as early as the third quarter of the century.³¹ The Fighting Athena is particularly common on coins of the late 4th and early 3rd century (see note 21 and text above); but she does appear, standing (as in our **54-56**) rather than striding, as a symbol in coins of Alexander,³² and the "swallow-tailed wrap" over her shoulders, while elegantly noticeable in the coin of Ptolemy Soter of 315 B.C., adorns Panathenaic amphoras as early as 363/2 B.C.³³ The Eros with amphora (**59**) belongs to a class of gem-compositions which might have been dated in the early Roman period, as Mr. Boardman tells me (see note 26); but the surely Chian amphora fits even better in the latter 4th century B.C. A siren on a gem or ring impression with good 4th century context can be proposed as a parallel for our **60-61**; there is no very close resemblance, but the creatures seem not to be common. The pose and style of the figure in **62-63** can be paralleled in 4th century sculptural relief.³⁴

support during their exile. Cf. note 25 above; of Schede's article there cited, p. 12, N, refers to a Magnesian.

²⁹ References for photographs are to A.-M. and A. Bon, *Les timbres amphoriques de Thasos*, Paris, 1957. For the dates of two-name stamps, Grace, *Hesperia*, Suppl. X, pp. 122-135, on finds from the Filling of Assembly Place III of the Pnyx. For recent confirmation from stratification in Thasos, Y. Garlan, *B.C.H.*, XC, 1966, pp. 586-652, especially pp. 591-605. Cf. *Delos* 27, pp. 354-356.

³⁰ Bon 703 has the legend on the two *short* sides of the rectangle, a feature of that period, cf. *Hesperia*, Suppl. X, pl. 58, nos. 57 and 58; further, SS 11003, the illustrated example of Bon 703, came from Agora deposit O-R 7-10, the construction filling of the Square Peristyle, dated 4th century B.C., and mostly of the third quarter, *Agora*, XII, p. 396. See also the catalogue text of **41** for what seems to be a context of the second half of the 4th century B.C. for some pottery measures found at Phanagoria which bear stamps related to that of **41**.

³¹ None were found in the Pnyx Filling of Period III, *Hesperia*, Suppl. X, pp. 6, 119, 122-123, 171. Monograms of a sort, however, were found in Agora deposit J 11: 1 (see note 26): SS 11327, 11340, 11392-11393 (unpublished).

³² E. T. Newell, *Amer. Num. Soc. N. Mon.*, XIX, 1923, pp. 29, no. 967, and 30, no. 1100; cited by Lacroix, *op. cit.*, p. 116, note 2, on tetradrachms struck at Amphipolis in 326/325 B.C. For illustrations of these coins, see *Amer. Journ. Numis.*, XLV, 1911, pl. 9 (Newell's pl. VIII), no. 3, and pl. 10 (Newell's pl. IX), nos. 4 and 12.

³³ 315 is Newell's date for the Soter coin, cf. Lacroix, *op. cit.*, p. 117. Cf. also the catalogue text below under **54-56**. For the Panathenaics of 363/2, J. D. Beazley, *The Development of Attic Black Figure*, Berkeley and Los Angeles, 1951, p. 98.

³⁴ For the 4th century Chian amphora, V. R. Grace, *Amphoras and the Ancient Wine Trade*, Excavations of the Athenian Agora, Picture Book no. 6, Princeton, 1961 (hereinafter *Amphoras*), fig. 46. For the 4th century siren, *Hesperia*, Suppl. X, pl. 77, no. 226, from the Pnyx Filling of Assembly Place III. For a parallel in 4th century sculpture for the pose of our figure in **62** and **63**, cf. for instance the relief on the inscribed treaty between Athens and Kerkyra, Athens, National Museum, 1467, dated *ca.* 370 B.C. by S. Karouzou, *National Archaeological Museum Collection of*

We may perhaps frame our group chronologically by noting that discovery at Alexandria of four duplicates of Haviaras types (**1**, **2**, **25**, and **26**) suggests a date after 331 B.C.; while the use of the Ionic genitive form Ἡρηs in **17-19** apparently indicates a date before about 310 B.C.³⁵

Occasion for the production of this unique small series of stamped Samian amphoras might then be found in the festival or festivals inaugurated for the restoration of the Samians to Samos in 322 B.C. (cf. Barron, p. 135, and Habicht's work there cited, especially p. 160.) A description of an annual ritual on the shore near the Heraion and a legend to account for it come to us from a Samian writer thought to date in the 3rd century B.C.: Menodotos, as quoted by Athenaios (*Deipnosophistai*, XV, 672). Each year the cult image was brought down to the sea and purified, and barley cakes, ψαιστιά, were laid beside it, in memory of a propitiatory offering by some pirates who once agreed to steal it. According to the legend, the image proved, magically, far too heavy to be rowed away, and so the pirates put it ashore in fear, placed the cakes, and escaped unnoticed. Next morning a search was instituted for the image missing from the temple; and when it was found by simple people, these secured it tightly with the long willow-like branches of the agnus castus (λύγος) that grew there, so it should not run away again. For this reason, says Menodotos, the festival is called "Tonaia" or "Tight-pulling." Perhaps the story is illustrated by the type incompletely represented by our **64** and **65**, for which no parallel has been found, and no other explanation. To the right, that may be Hera's image, and the rather comically depicted central figure is perhaps engaged in tying it up, his back arched in a pull, and something like the end of a cord hanging from his left fist, while his raised right hand may be reaching for another long branch. In the light of the story, what is spelled out by the bees and the bearded grains of our **31-34** may be the ritual ψαιστιά, since these were made of ground barley mixed with honey and oil. In **28** and **29**, then, we may see the image (βέρας) back in the temple, ἐπὶ τοῦ βάθρου, as replaced by Menodotos' priestess.

The types of our **1-7**, and **17-27**, possibly also our **28-29**, reinforced by the inscriptions in **17-19**, **25-27**, and perhaps **77**, seem to show us who received those who came to celebrate. "And the goddess would provide for the banqueters barley meal and loaves of bread, wine and sweetmeats, and a portion of the sacrificial victims from the sacred herd," as Xenophon says with reference to the festival he instituted near Olympia; the food and drink offered were the produce of the land belonging to the temple.³⁶ Perhaps both wine and oil for Samian festivals were supplied in our

Sculpture, Athens, 1968, p. 131; relief illustrated G. M. A. Richter, *A Handbook of Greek Art*, 6th edition, 1969, p. 165, fig. 222. The figure in **62** and **63** rather combines the poses of the two figures in the treaty relief.

³⁵ Ch. Habicht, *Ath. Mitt.*, LXXII, 1957, pp. 159, 260.

³⁶ *Anabasis*, Loeb translation, V, iii, 7 ff. For the pleasure of festival at the Heraion itself, see Nikainetos (2nd century B.C.) apud Athenaios, *Deipnosophistai*, XV, 673. For amphora stamps which apparently identified the produce of a sanctuary, cf. *Delos* 27, under no. E 252.

stamped amphoras. I am unable to account very satisfactorily for the great number of different endorsements represented by our stamps. It seems improbable that there were so many different potters. Perhaps subscriptions were made to supplement the produce of the temple lands, whether in aid of a recently revived or expanded festival of Hera or in support of a new foundation. A subscriber when making his payment may have impressed his own ring on the still unfired amphora; as will be seen presently, the jars were not all of the same size. For legislation that seems to have covered purchases thus identified, compare a text of the last quarter of the 5th century in Thasos.³⁷ We may then for instance associate **54-56** with the Macedonian leadership that brought about the restoration of the Samians in 322 B.C.; note also that Macedonians were among those honored by the returned Samians as having helped them in their exile.³⁸

So much for the stamps in the Haviaras collection and the few related from elsewhere published here. We need not labor the point that Mr. Haviaras was right in believing that he had found a notable and unique group of stamped handles.

Like him, we would like to know what kind of jar it was on which these stamps appeared. Unfortunately not a single one of the Haviaras handles, or of those with stamps duplicating these, has so much as a rim attached; one only (**17**, from Memphis, Pl. 12) has nearly its whole height preserved. The height of this handle was about 0.115 m., i. e. close to that of P 24869 shown in Figure 2, 4 and Plate 15, 3; but it would have looked quite different, because the handles of the Haviaras group, which we have dated in the last quarter of the 4th century, have in general very short tops, i.e. distinctly less projection of the top of the handle from its attachment to the neck than is to be seen in earlier amphoras such as P 24869; see Haviaras' own comment quoted above on the shape of his handles.³⁹ Such real measurements as preservation allows to be taken of most of the Haviaras pieces (width and thickness of the handles at the position of the stamp) show that the handles are relatively broad in section (rather than thick like for instance most Chian and Rhodian). The figures indicate also by their variation (see Catalogue of Stamped Handles) that the fragments come from jars of different sizes: compare for instance the measurements of **36** and **37**, two handles having the same stamp, of which the former is a good deal smaller than the latter, a fact that is very noticeable in photographs that show the whole handles. Such photographs are not illustrated for **36** and **37**; but compare **1** with **4** and **25**

³⁷ G. Daux, *B.C.H.*, L, 1926, p. 214, no. 1, lines 5-6.

³⁸ Above, text with note 21, on the Macedonian associations of this type. For homage to a Macedonian after 322 B.C., see p. 11, M, of Schede's article cited in note 25.

³⁹ From the descriptions in the catalogue the expressions "short-topped" or "curving down quickly" of Mrs. Petropoulakou's notes in Syme have been omitted, as they appear very commonly. A few handles (e.g. **54**, **55**) do rise a little from the upper attachment. For such of the Haviaras-class handles as I have been able to handle, chiefly those of the Benaki collection, these are certainly very short-topped and without any rise from the attachment.

with **27** on Plate 12, even though the differences here are less great. An intentional marking of a minor difference in capacity between fractional containers has been suggested above (p. 57) for **17-19** as contrasted with **20-24** (all prow stamps) on an analogy with similar differences in marking used to distinguish between fractional coins of different denominations.

Two larger fragments found in Samos, bearing stamps related to those on Haviaras handles, have projecting "mushroom" rims: see Plate 15, 11⁴⁰ (stamp Pl. 13, **53**), and Plate 12, **10** (lion mask with name) where part of the overhang of the broad rim can be seen above the stamp. The Haviaras handles may have come from amphoras that had similar overhanging rims, which would make an additional reason why their short tops are usually stamped somewhat on the outside of the curve, a fact observed in many cases by Mrs. Petropoulakou in Syme. The position of the Haviaras stamps is like that of the stamp on a fragmentary amphora in Rhodes shown here as Plate 15, 13 and 14; here again the stamp is from a ring or gem, quite similar to those on numerous Haviaras handles. Note that both of the pieces with mushroom rims shown in Plate 15 have broadish short-topped handles. In both the neck has a definite terminus below, and a taper downward which is in fact a good deal more noticeable when one turns the fragment around through 90 degrees, because in attaching the handles the potter pressed together somewhat the tops of the necks as seen in our photographs.

It is clear that amphoras with mushroom rim, broad short-topped handles, and necks tapering to a well-defined shoulder-articulation were made in Samos latish in the 4th century B.C. It seems likely enough that the Haviaras amphoras were of this kind. We have then the puzzle of the jar represented in **36-37** of the Haviaras stamps, shown enlarged in Plate 15, 10. With its neck widening downward, its widely set and proportionally long handles, and with even such slight indication as there is of the rim, the depicted amphora looks more like the latter-5th century real amphora of Plate 15, 5, here associated with Samian for independent reasons (which will now be given), than it resembles what we suppose to be the Samian shape of its own period. The answer may well be simply that, as in certain other cases, the amphora represented in a stamp is of an earlier era than the amphora on which it is stamped.⁴¹

⁴⁰ For scales, measurements, contexts, and other documentation of items in Plate 15, see Documentation (below, pp. 93-95).

⁴¹ *Amphoras*, fig. 48, for an old-style Chian amphora with swelling neck depicted in a stamp impressed on a new-style Chian amphora with straight neck. Unpublished stamps of the Rhodian fabricant *Πίτρος*, datable perhaps early in the second half of the 3rd century, have as device an amphora which is certainly not a contemporary Rhodian shape (which should be about that shown in *Amphoras*, fig. 22), but, with its indication of relatively heavy rim and long tapering body, is considerably more like a Rhodian shape of at least 50 years earlier, only recently identified but now known in several hundred examples found in a wreck off Kyrenia in Cyprus; *Archaeology*,

No Samian stamps identify for us a 5th century amphora shape, but we are led to search for one by the fact that an amphora appears in certain Samian coins of that period, for example, Plate 15, 6-8. Excavations in the late 19th century in the cemetery west of Tigani, on the terraces of the akropolis of the ancient Samian capital, turned up numerous amphoras which were not in graves but were themselves probably used to contain the bodies of small infants. In an account of these excavations by J. Boehlau there is no illustration of the amphoras except for the generalized outline drawing reproduced in our Figure 1, 1, which, it is stated, represents the "usual shape" of those found there; it is rounder-bodied and shorter-necked than

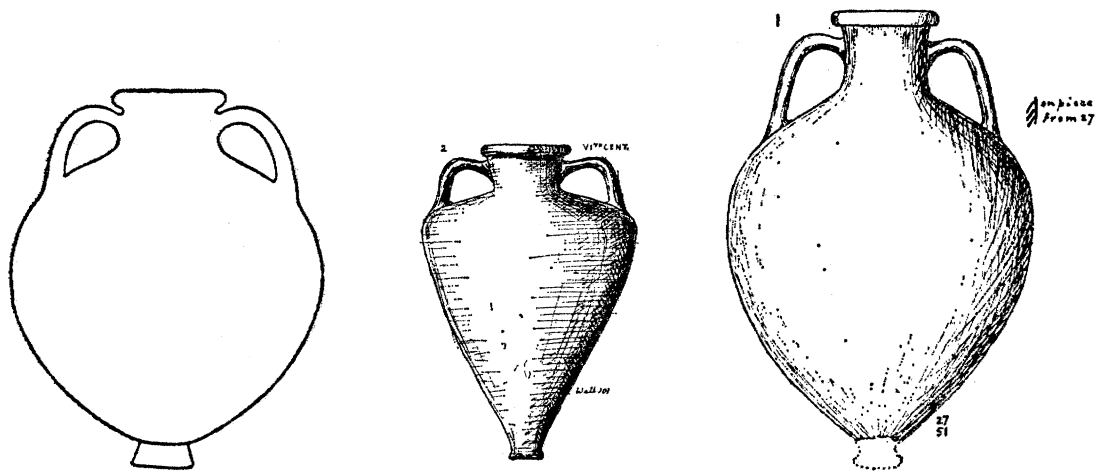


FIG. 1. Boehlau's shapes in Samos: 1, his generalized picture of amphoras from the Tigani cemetery; 2 and 3, drawings of jars from tombs in Naukratis and Daphnai, cited by Boehlau as matching those most commonly found at Tigani. See notes 42 and 43 for documentation, including the evidence for scale: 1:10.

the jars depicted on the coins.⁴² Further on in the article (pp. 144 ff.) there is a discussion of the amphoras, where it is stated that they "correspond exactly" with those of which, as the author states, so many were found in Daphnai and Naukratis. References given to finds at these places cite drawings by Petrie of actually two

XXI, 1968, p. 172 for a drawing, and cf. *Delos* 27, p. 292, with note 4. On the wreck, see also below, note 68.

⁴² J. Boehlau, *Aus Ionischen und Italischen Nekropolen*, Leipzig, 1898, pp. 10 ff., on the Samos cemetery; p. 23, fig. 16, for the outline drawing of the amphora shape reproduced at a larger scale in our Figure 1, 1. Boehlau cites the use in Sicily of amphoras as urns or coffins for the burial of children; but he could not believe that those in Samos had been used in this way, since no bones had been found in them. However the bones of small infants are apt to crumble away leaving little or no trace, and since no such interments were otherwise found, among 100 intact graves, we may take it that that is what the amphoras had been used for. For burial in amphoras of the classical period, cf. more recently G. Mylonas, J. Travlos, *Πρακτικά*, 1952, pp. 68-69; and G. Mylonas, *Πρακτικά*, 1954, p. 59; both are on amphora burials of infants in Eleusis.

shapes, rather different one from the other, of which one (see our Figure 1, 3, from Daphnai) resembles the globular jar in Boehlau's drawing but at a longer-necked stage, while the other has, with a shorter neck, a body that narrows downward from a high broad shoulder over which the handles arch out; see our Figure, 1, 2, from Naukratis.⁴³ Petrie's drawings, while rather rough, identify for us fairly well the shapes represented in our Plate 15, 3, for his round shape, and Plate 15, 1 and 2, for the drawn-in body. Of these, 3 comes from a well-group of before 490 B.C. at the Agora, and 1 from a tomb-group of the early 6th century B.C. in Cyprus.⁴⁴ A number of approximations to Plate 15, 3, are known, including a second jar from the same deposit at the Agora, two from early 5th century tomb-groups in Cyprus, one from a late 6th century context at Nymphaia on the Black Sea.⁴⁵ One seen in Samos in 1958 is illustrated in Plate 15, 4. Lest it be thought that Boehlau's drawing was merely schematic and did not correspond with any reality, a fragment from the Agora, P 14694, has a neck and handles just as short; a round body to fill it out as in Boehlau's sketch may perhaps be restored by analogy with an amphora seen in Pythagoreion in December, 1968, of which neck and handles are only slightly longer. The Agora piece (Figure 2, 2) comes from a context of the first third of the 6th century B.C., i. e. perhaps not much later than that of Plate 15, 1.⁴⁶ It seems quite possible

⁴³ See Boehlau, *op. cit.*, pp. 144 ff., for discussion of the shape of the amphoras. Of his references, the rounder shape (like our Plate 15, 3 and 4) is Petrie's *Tanis*, II (Daphnai), pl. 33, 1 (I correct from Boehlau's "pl. 23, 1"); this is our Figure 1, 3. The shape Boehlau refers to that has a narrow lower body is Petrie's *Tanis*, II, pl. 34, 39, and his *Naukratis*, I, pl. 16, 2; the latter is our Figure 1, 2. For the scale in Figure 1, in order to reach an approximate 1:10, nos. 2 and 3 have been reduced respectively from the 1:5 and 1:8 stated on the pages of Petrie's publication drawings; the ht. of no. 2 is estimated to have been *ca.* 0.42 and that of no. 3, if its foot were restored, *ca.* 0.624; while no. 1 has been set at the halfway point within the range given by Boehlau of 0.40 to 0.60 for amphoras of this kind in the cemetery, that is, it has been enlarged to 0.05 for an estimated ht. of 0.50. Boehlau remarks that in the Samos cemetery not uncommon were also oval amphoras like *Naukratis*, I, pl. 15 (it should be 16), 4, and *Tanis*, II, pl. 33, 2; these shapes are archaic Chian.

⁴⁴ Above, note 40.

⁴⁵ The jars cited are as follows: Agora P 24870; Marion, Tomb 71, 6 (E. Gjerstad and others, *The Swedish Cyprus Expedition* (hereinafter *S.C.E.*) II, Stockholm, 1935, pl. LXXV, 1, center pot, cf. text, p. 393); Marion, Tomb 80, 17 (*ibid.*, pl. LXXIX, 2; better, *ibid.*, pl. CXXXII, 15; also *S.C.E.*, IV, 2, fig. LVII, 24, an outline drawing, not a profile; cf. text, *S.C.E.*, II, p. 416); I.B. Zeest, *Pottery Containers from the Bosporos*, Moscow, 1960 (in Russian), pl. I, no. 3, cf. text, p. 70 (in pl. I, see especially the detailed drawing of the foot, which is not accurately incorporated into the drawing of the jar as a whole).

P 24870 is barely visible in *Amphoras*, fig. 35 (the highest jar); one can see that its neck is not quite so sharply articulated below as that of its mate in Plate 15, 3. Of the two jars from Marion, the one from Tomb 71 is more elongated in neck and body than Tomb 80, 17, and probably a little later; but the context in each case is called "later part of Cypro-Archaic II" or early 5th century B.C. On Mme. Zeest's amphora from Nymphaia, see further below, text with note 55.

⁴⁶ P 14694 comes from Agora well S 21:2, a deposit dated 600-570 B.C. (*Agora*, XII, p. 399). The fragment bears a graffito lambda. I quote from its inventory description: "Very micaceous

that, as between jars with similarly short necks, the drawn-in lower body as opposed to the rounder one is not an indication of greater age but of adjustment of capacity. There is a series of fractional jars of which Plate 15, 2, in Samos is a little bit smaller than any others I have seen. Most of these have rounder shoulders and a slightly fuller lower body than Plate 15, 2; these include two more photographed in Pythagoreion in December 1968, and two found in Athens, of which one from the North Slope of the Akropolis has been published, while the other, from the Agora, has context of the late 7th or early 6th century B.C.⁴⁷ A sixth, photographed in Kalymnos in 1956, has more the angular outline of Plate 15, 2, but it is a size larger (height 0.50 m.).⁴⁸

The complete amphoras I have seen in Samos as in Kalymnos are (mostly if not all) fishermen's trove, as shown by the marine deposit that adheres to them (see about the neck of the jar Pl. 15, 2). In theory jars brought home by fishing boats to Samos need no more be Samian than Thasian or Rhodian or Chian, and amphoras of all these classes, all encrusted from the sea, have indeed been seen in Samos. However, it is an observed fact that, on the sites of ancient centers which produced commercial containers, an unusual proportion of the jars brought in by local fishermen are of the local class. This was found to be noticeably true in Kos, and overwhelmingly true in Chios, where the fishermen's quarter used to bristle with Chian amphoras before these jars acquired their present regrettable market value.

cinnamon-brown clay. Single letter, heavily scratched on neck before baking." Pres. ht. of fragment 0.177.

For the short-necked, round-bodied amphora which I saw in Pythagoreion in December, 1968, I am grateful to Mr. John Nettos for sending me a photograph of it soon after my visit; and to Mrs. Fox King for measuring its height, 0.545, during her visit to the island in April, 1970.

⁴⁷ The two in Pythagoreion are in the collection of Mr. and Mrs. Sartakoulis; photograph numbers VG 691.18 and 19; heights respectively 0.445 and 0.455. I am grateful to the owners for their kindness and courtesy in arranging for me to make records of these and other amphoras in their collection. For North Slope AP 1491, stored with the amphoras from the Agora, C. Roebuck, *Hesperia*, IX, 1940, p. 258, fig. 61, no. 335, p. 257. Agora P 3609 (preserved height 0.415) comes from well deposit I 14:1, dated ca. 625-570 B.C. (*Agora*, XII, p. 393). *Addendum*, January 1971: A recently published small amphora in the de Ménéil collection in Houston, Texas, is of this fractional series and seems to be earlier than any of those here listed; the shortness of its handles and neck suggests it dates before 600 B.C. It is even smaller than our Pl. 15, 2, according to the height given (0.381). See H. Hoffman, *Ten Centuries that Shaped the West, Greek and Roman Art in Texas Collections*, Houston, Texas, 1970, p. 453, no. 208, with photograph. Note that the jar is said to have come from Samos. I owe my acquaintance with this volume to Mrs. Fox King.

⁴⁸ Jar in the collection of Colonel Hadjistavris in Kalymnos; photograph no. VG 392.8. I am most grateful to the owner for arranging for me and my assistant Miss Savvatanou to record amphoras not only from his own large collection but also from other collections in the island. We thank him also for a very interesting visit to the many other antiquities of the island.

Possibly to be associated with this series is a rather small amphora in Syme in the collection of Demosthenes Haviaras, photograph no. VG 407.26, ht. 0.62, diam. 0.363, ht. of handles (which are delicate), ca. 0.095.

Perhaps some came from ancient dumping operations near the ports rather than from wrecks. Naturally also it was the local shipping that most frequented the nearer waters, coming and going, and so most risked the local storms. It is therefore some confirmation of their identification as Samian that sea-encrusted jars of a certain series have been relatively numerous in Samian houses.

Plate 15, 1-4, illustrate, then, some tentatively identified Samian amphora shapes of about 600 B.C. (1, 2), about 500 B.C. (3), and probably the early 5th century (4). The identification so far is based mainly on discovery of many apparently similar amphoras in excavations of a cemetery in Samos, with some support from Samian

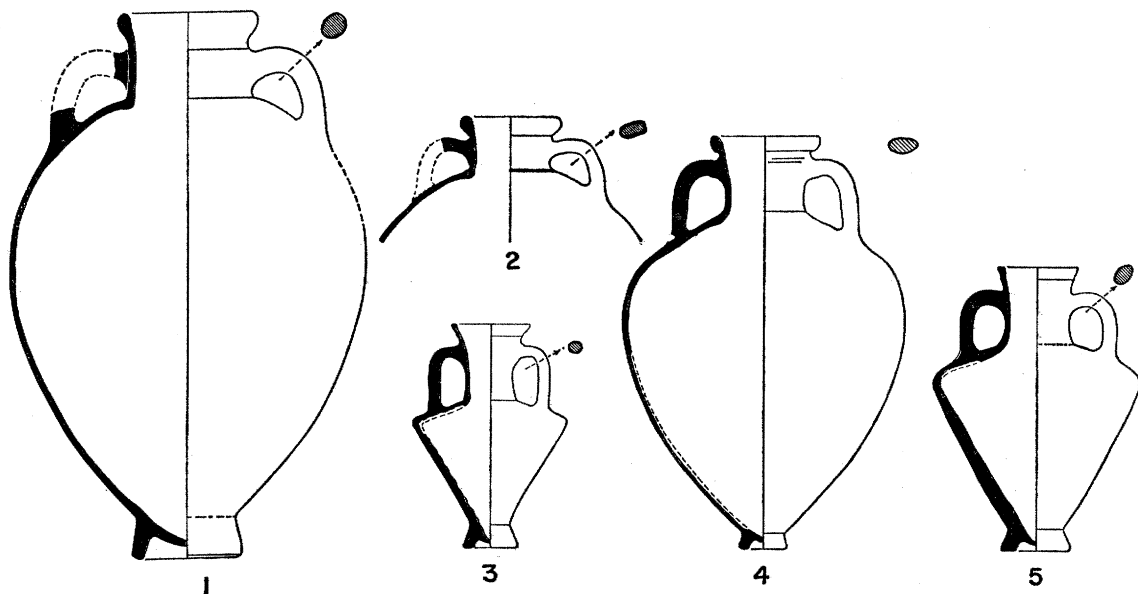


FIG. 2. Attic (1) and Samian (?) amphoras from the Agora Excavations. Early 7th century (1), early 6th century (2), and *ca.* 500 B.C. (3-5). Note the type of foot. For 1, 2, 3, and 5, see respectively notes 58, 46, 59, and again 59; for 4, see Documentation of Plate 15, 3 (p. 93). Publication drawings by Helen Bezi (4) and W. B. Dinsmoor, Jr. (1-3, 5), from pencil originals by Andreas Dimoulinis. Scale 1:10.

fishermen's nets. A closer look at jars of these shapes is needed to see what features they may have that would isolate them as a series which can perhaps be followed to a later date.

Boehlau calls characteristic of the common type of amphoras from his cemetery (apart from the "pointed" bottom) a broad shoulder, relatively short neck, and broad handles set close under the mouth. Add a distinct articulation of the neck from the rim above and from the shoulder below: in our examples the neck narrows slightly downward and there is an offset at its bottom which folds upward over the base of the neck in the Perserschutt jar Plate 15, 3 and Fig. 2, 4, while it spreads from the

neck over the start of the shoulder in the earlier jars, large or small (Fig. 2, 2).⁴⁹ Finally, as to shape, in all the jars of these types that I have been able to examine since I knew what to look for, the bottom is constructed in a way certainly uncommon in commercial containers, and so far as I know peculiar (until one comes to a much later date, see note 51) to this series and to earlier Attic containers: the interior of the body comes down to a place well below the upper edge of the toe as visible from the outside; it is as though the tip of the body, as thinwalled here as in any other part, was fitted like the tip of an egg into a diminutive ring (Fig. 2). In such jars as Plate 15, 2, this scheme is particularly surprising; one expects a solid foot to finish off such a narrow body, as for instance in the later Thasian.⁵⁰ As it is, to knock off the foot must have been a convenient way of broaching these little Samians, and in fact the two relatively complete jars in Athens are lacking their feet.⁵¹

So far little or nothing has been said about the clay of any of the amphoras discussed, save in the remarks, quoted at the beginning, of Nikitas Haviaras on the handles of his collection. On these pieces Mrs. Petropoulakou's impression concurred in general with the collector's description: the clay is relatively fine compared with that of other container-amphoras; it is usually fired red or reddish, sometimes quite dark red, sometimes brownish or grayish at core or even through most of the thickness

⁴⁹ The relief line of this fold is easily visible in the published photograph of the North Slope jar; see reference in note 47.

⁵⁰ For the Thasian, cf. Bon, *op. cit.* (in note 29), p. 21, fig. 5; and I. B. Zeest, *op. cit.*, pls. VII-VIII etc.

⁵¹ Above, note 47. Agora P 3609 is open on the break below, but this method of broaching does not seem to have been successful in the case of AP 1491, and a hole (through which a pencil fits) was bored through from a little to one side.

I cannot attempt in this article to follow the Samian amphora to the Roman period, but will call attention to two container shapes the outsides of which are familiar among finds from Roman Athens, but it may not have been generally noticed that, as in our Samian here examined (Fig. 2), the body hollow goes deeper than the visible upper edge of the foot as seen outside. These are 1) the one-handed containers of which a study has been published by M. Lang, *Hesperia*, XXIV, 1955, pp. 277-285; further H. S. Robinson, *The Athenian Agora*, V, *Pottery of the Roman Period*, Princeton, 1959, p. 17, under F 65; and 2) the earlier part of the series of amphoras with "tubular foot"; on the series Robinson, *op. cit.*, p. 69, under [K 113], but the foot is not well illustrated in this volume, being in fact missing from many of the pieces. In the later jars of this kind, the foot is hardly distinguishable on the outside, cf. *Amphoras*, fig. 37, jar furthest right. But see *Klio*, XXXIX, 1961, p. 297, no. 3, for a photograph of the rather earlier Agora P 25674, illustrated by G. Kapitän to show the restoration of amphora fragments from a wreck off the east coast of Sicily. Here the toe is distinct on the outside, while in section (not illustrated) it is rather like Robinson's section drawing, *op. cit.*, pl. 73, P 822.

Both series need further sorting and study, in the light of additional material now available: see for instance *Not. Sc.*, X, 1956, p. 158, fig. 9, for more one-handlers, found in Syracuse, of which one has a graffito. A good part of Miss Lang's jugs are of noticeably micaceous clay. Her description of this clay (top of her p. 278) could well suggest a Samian ware; cf. the discussion of Samian clay that now follows in this article. In size, her jugs are probably comparable to some of our early fractional Samians: cf. those in her pl. 79 with the one shown in our Plate 15, 2.

of the handle; the surface is often buff or yellowish; and mica is apparently always visible on a clean ancient surface, less so on breaks. For those I have examined, the Benaki handles of this narrower class, I would agree, adding that flaked surfaces (breaks more or less parallel to the ancient surface) also show much mica.

Samian coin types in the stamps, plus discovery in Samos of the Haviaras handles, have identified this clay as local, and the plain wares found in excavations in Samos have been similarly described by Technau;⁵² he states that they have much mica but great variation in color, "die Struktur ist nicht immer deutlich schieferig sondern oft ganz dicht und fein." So it is hard to define, he says, but recognizable in the hand. Technau writes against the background of a proposal by Zahn to identify a certain distinct ware found at Priene (and at numerous other places) as that of the *Vasa Samia* of the Latin authors mentioned earlier in this article.⁵³ Experts on pottery of the Roman period are now inclined to doubt that this ware was actually made in Samos, since relatively little of it has been found on the island, and a great deal in other places.⁵⁴ I would like to think there was something in the identification, since it must have been at the bottom of Madame Zeest's attribution to Samos ("only because of the clay" as she states in her publication) of the jar from Nymphaia listed above as similar to our Plate 15, 3; her drawings of this jar show not only the general outline as in our Plate 15, but also the hidden feature of the foot not visible in photographs (Fig. 2).⁵⁵ It would be pleasant to think that the competent Samian potter produced red ware for Roman banqueters after a look at some Arretine these visitors had brought with them; he might have done it at the instance of Antony, to please Cleopatra with something maybe provincial but pretty good for the country, for their parties in Samos in 32 B.C.

In any case, the micaceous and usually reddish clay serves to distinguish our series from fragments of other amphoras akin to it in shape, for instance the tops of certain early Corinthian (?) jars. These have again a distinctly articulated neck,

⁵² See W. Technau, *op. cit.*, p. 8.

⁵³ For Zahn's original suggestion, see his section on the pottery from Priene in T. Wiegand and others, *Priene*, Berlin, 1904, pp. 430 (description of the clay), 440-447. For later discussions of his hypothesis, see above, references in note 19.

⁵⁴ I owe this information to Professor H. S. Robinson. He tells me that a quantity of the so-called "Samian" ware has been found in Egypt, especially in old Cairo.

⁵⁵ See I. B. Zeest, *loc. cit.* in note 45 above. The class isolated by Zahn was early recognized in finds on the north shore of the Black Sea, cf. Mme. Knipowitsch, "Die Keramik Römischer Zeit aus Olbia," *Mat. z. röm.-germ. Keramik*, IV, I, 1929, pp. 12 ff. In a letter of February 15, 1969, Mme. Zeest tells me that the clay of her amphora is that known in the red-glazed Samian ware (i.e. evidently that of Roman date), but also in painted pottery of the 6th-5th century B.C. recognized as Samian. The class of amphoras (of her pl. I, no. 3) is widespread in the Bosporos area in the second half of the 6th century and early 5th century B.C., the period of lively communications of that area with the Ionian cities. Their clay is pale and very micaceous and has a layered construction ("elle a des couches").

a curved, flaring rim, and a similar position and lift of the handles;⁵⁶ but their clay is normally greenish buff and virtually without mica. Noticeable mica should also set off an amphora as non-Attic; and this is the more important because there seem to be **recurrent similarities** (borrowings?) between the series we take to be Samian and the one we take to be Attic, both of which, further, have reddish clay.⁵⁷ For instance the peculiar foot described and again referred to above is beautifully exemplified in Attic "SOS" amphoras of the early 7th century B.C. such as Agora P 23833 (Fig. 2, 1);⁵⁸ although by the date of our Samian (?) (Fig. 2, 4), the bottom of the contemporary Attic (?) amphora seems to have thickened so that there is little or no dip of the interior below the level of the top of the toe outside. The mushroom rim of the 4th century Samian amphora (see above) may well be a feature borrowed from the Athenians, since the development of this rim from the 5th into the 4th century can be followed in the Attic series. Here the distinction provided by noticeably micaceous clay is particularly helpful.

Returning to the amphoras and fragments of the early 6th to early 5th century B.C. above attributed to Samos (Pl. 15, 1-4 and related pieces discussed), where I know their clay, it is noticeably micaceous, with the single exception of the North Slope published jar (see reference in note 47). In the case of pottery covered with marine deposit, one usually cannot judge the clay. Taking into consideration now the details of shape observed in the group referred to, as well as the clay, we may make a few guesses at other associations and further development.

Still at about 500 B.C. by their context, certain small angular jars have suggested themselves as fractional Samian of their period, first of all because of the construction of their rather emphasized feet (Fig. 2, 3 and 5). Of these no. 5 (Agora P 20801) is of noticeably micaceous clay, while no. 3 (P 8858) has little or no mica. The drawn-in lower body may be a means of arriving at a particular capacity; note the

⁵⁶ *Amphoras*, fig. 35, the bright jar in the foreground; M. Campbell, *Hesperia*, VII, 1938, p. 605, fig. 27, especially no. 192. Of the two classes of amphoras found in quantity in Corinth, these belong to the series sometimes attributed to Corcyra, cf. Grace apud Boulter, *Hesperia*, XXII, 1953, p. 108, under no. 166. Note that Boehlau attributes to the amphoras from his cemetery an "Ionic shape especially exemplified in Corinthian pottery," *op. cit.*, p. 144. For the shape as seen by Athenians, see the Syleus Painter's pointed amphora, *C.V.A.*, Brussels, II, pl. 8.

⁵⁷ For notes on the proposed Attic series, following it through the 5th and into the 4th century, Grace apud Boulter, pp. 101-102, no. 147. Much study and presentation remains to be done. For Attic container amphoras of an earlier period, E. Brann, *The Athenian Agora*, VIII, *Late Geometric and Protoattic Pottery*, Princeton, 1962, pp. 32-33, under "Storage Jars"; see references there; for a summary of the development of the earlier Attic oil jar, especially E. Brann, *Hesperia*, XXX, 1961, pp. 338-339, under nos. 40-41.

⁵⁸ For a photograph of this amphora, of which the height is 0.72, see E. Brann, *Hesperia*, XXX, 1961, pl. 13, R 3 (at 1:10); see *ibid.*, p. 143, for a description of the jar and identification of its deposit, Agora well N 11:6, Professor Brann's Well R, dated by her (*ibid.*, p. 98) to "perhaps somewhat after 700 B.C." The jar is illustrated also in *Agora*, VIII, pl. 2, no. 23 (at less than a tenth).

uneven thickness of the walls. Slight offsets below the rims and lines more or less faint above the shoulders seem to echo a neck-articulation like that of Figure 2, 4, etc. In this Figure, no. 5 matches no. 4 in having finger-impressions at the base of the handles; these are the only amphoras mentioned in this article to show this feature. The two small jars, with parallels from other contexts, are being published elsewhere.⁵⁹

Beyond Plate 15, 4 (and the slightly later amphora found in Cyprus, in Marion Tomb 71, cited in note 45), a tentative step leads us to Figure 3, 1. This is a top combined with a bottom that seems to belong to it, both from a context of *ca.* 460-440 B.C.;⁶⁰ the body has been filled out from a photograph of an amphora with marine deposit seen briefly in Eretria in 1952 and not otherwise recorded. The micaceous clay and traces of light slip of the fragments are sufficiently like those of the earlier amphora Plate 15, 3 (Fig. 2, 4); so are the grooves below the rim and the taper downward of the neck. Note that the toe while narrower and less flaring retains the odd feature of the deeper interior which appears throughout Figure 2; it has in addition a sort of cuff, as seen from the outside. A stage a little later is represented by an amphora neck (Agora P 25426, not illustrated) from a context dated *ca.* 450-425 B.C.⁶¹ In shape and clay this much resembles Figure 3, 1, but neck and handles are a little longer.

I am unable up to the present to point to any amphora or fragment in Samos itself that parallels this shape proposed for the mid-5th century. Some confirmation is afforded however by the amphoras depicted on the 5th century coins already mentioned (Pl. 15, 6-8, enlargements of three of these). I have ventured here to rearrange somewhat the sequence of these types within Mr. Barron's framework; and, with his provisional approval, to alter a little the dating attributed. Thus modified, the dates of Plate 15, 6-8, would be 468/7 B.C. for no. 6, 460/459 B.C. for no. 7, and perhaps as late as 446 B.C. for no. 8.⁶² The amphoras in the coins then follow the usual 5th

⁵⁹ *Agora*, XII, nos. 1495 and 1496. Heights respectively 0.302 and 0.391. I am grateful to the late Lucy Talcott for information on these and similar small jars discussed in her text.

⁶⁰ Agora P 21984 a (top) and b, published with a photograph of the top part in Grace apud Boulter, p. 109, pl. 40, no. 167; a profile drawing of the foot at about 2:5 is shown *ibid.*, p. 103. Context: Agora well N 7:3, of which the pottery as a whole is published by C. Boulter, *ibid.*, pp. 59-115. Of the amphora made up from the two fragments as Figure 3, 1, of the present article, the height has been restored as 0.648.

⁶¹ Agora P 25426, from deposit R 11:3. For an amphora toe from the same deposit, and perhaps to be associated with this piece, see the text below, comment on Figure 3, 3.

⁶² I am much obliged to Mr. Barron for discussing with me the dates of these coins, as well as for sending me numerous photographs of casts, including the two used in Plate 15. See Barron, pp. 71 and 92, for the requirements in dating the trihemiobols, and the table, p. 48, for Barron's tetradrachm sequence and his proposed dating of the smaller coins in relation to the tetradrachms. My proposed date of 468/7 B.C. for Plate 15, 6 (Barron's pl. XVI, 4b) makes it contemporary with certain of Barron's tetradrachms, his Class III, pl. X, nos. 35-37, with olive branch upright and circular incuse as in the trihemiobol. Our Plate 15, 7 (Barron, p. 198, 3a) may perhaps be dated with Barron's Class IV, 460/459, again with olive branch upright and circular incuse as in

century development toward a slimmer body and longer neck and handles, a tendency just now noticed as between two fragments of this series from two contexts of which one was a little later than the other. We can then compare the amphora Plate 15, 4 with the one represented in the coin Plate 15, 6, and date the jar tentatively a little earlier than the coin's date, called above 468/7 B.C. The slimmer, longer-necked and

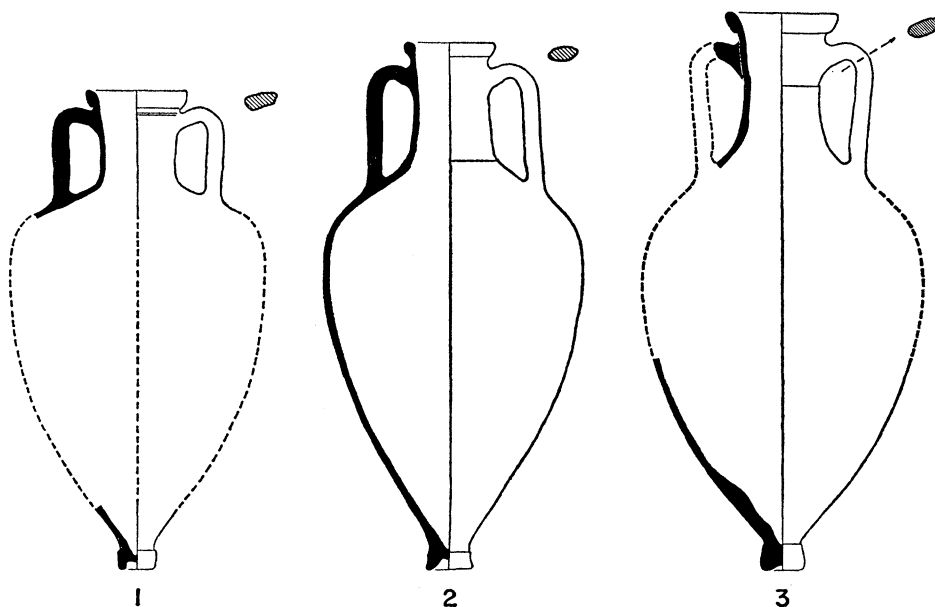


FIG. 3. Samian (?) amphora shapes from the Agora Excavations. Second quarter (1) and last quarter of 5th century B.C. For 1 and 3, see respectively notes 60 and 64; for 2, see Documentation of Plate 15, 5 (p. 94). Publication drawings by Helen Bezi (1 and 2) and by W. B. Dinsmoor, Jr., from pencil originals by Andreas Dimoulinis. Scale 1:10.

longer-handled shape Figure 3, 1 (and its parallel, the jar seen in Eretria) is more comparable to the amphora in the coin Plate 15, 7, and the context of its parts (*ca.* 460-440 B.C.) goes well enough with the new date attributed to the coin, considering that *pieces* of a jar may be expected to belong with an earlier part of a context than a whole jar. Note that at this stage the neck still narrows toward the body, and this feature is more or less visible in the coin. An unpublished amphora found in Thasos, in context perhaps of the 5th century B.C., seems to have about the shape shown in the coin Plate 15, 8: as compared with Figure 3, 1, a heavier rim, longer and less rising handles, a neck that spreads to the shoulder, and a slimmer body; the photo-

the trihemiobol. Our Plate 15, 8 (Barron's pl. XVI, 2a) may be as late as the tetradrachms of his Class VII with the letter theta which he dates 446/5 (his pl. XIV, 85 and 86); these are the last with the rectangular incuse as in the trihemiobol; this latter has an inverted olive branch which seems not to be matched in any of the tetradrachms.

graph I have shows a groove round the neck at about the halfway point; it shows also the cuffed outside of a toe that might be rather like that of Figure 3, 2, i.e. it seems to have slightly concave sides.⁶³

Consider now this Figure 3, 2, Agora P 18988 with context of the last quarter of the 5th century, of which a photograph is shown in Plate 15, 5. This amphora had been entered tentatively in the Samian series because of its cuffed toe, its rounded body, by now rather narrow, its handles broad in section and without finger impressions on their lower attachments, its neck articulated below (by a faint groove) although by now spreading (rather than narrowing) to the shoulder; the lengthening of the neck, handles and body corresponds with the latish date in the 5th century B.C. The clay of this amphora, however, while similar in color to preceding items in the Samian (?) series, is virtually without mica. Of jars mentioned above of which the clay is known to me, only in AP 1491 (see note 47) and perhaps in P 8858 (Fig. 2, 3) is it as nearly non-micaceous as in P 18988; note that both the other jars are fractionals. It may turn out that P 18988 was not made in Samos, but belongs to a series somehow related to the Samian. It should be recalled that its shape seemed to be closest to that represented in the Samian stamp, Plate 15, 10 (above, p. 67), although in the stamp the handles are shown a bit longer in proportion.

Micaceous clay as well as the profile of the rim, also (save for length, increased at the later date) that of the handles, associate Figure 3, 1 rather with Figure 3, 3, another shape made up of two fragments, Agora P 27530 and 27531, from a deposit again of the last quarter of the 5th century.⁶⁴ The middle of this shape has been restored with an eye to Plate 15, 9, an amphora apparently of a slightly later period, seen in Samos in 1958. Note especially in the drawing Figure 3, 3 again a cuffed toe, but having now a slight flare, only a small depression underneath, and the interior reaching to just below the top of the cuff. A toe like this, not quite so high, was found in the same deposit of the third quarter of the 5th century as the neck P 25426 (see above, with note 61) which it greatly resembled in fabric. If this top and toe are from the same amphora, then apparently we have a prototype for Figure 3, 3.

Characteristic of the developed form is the long spreading neck with a break in its line, the offset easily visible in Figure 3, 3; also the elegant flaring rim, as well as the cuffed, slightly flaring toe. A feature noticed in several pieces is their unexpectedly heavy weight in the hand. In addition to Plate 15, 9, I have seen a second example in

⁶³ Thasos, Lazarides inv. no. 555π; from the excavations of 1950. I owe the photograph and information to Mme. Lilly Kahil, who further told me that the amphora had apparently been found set in an earth floor, with blackfigure and redfigure pottery near its mouth. Unpublished.

⁶⁴ Deposit S 16:1. The area was excavated in May, 1965, by an expedition from Brown University working in collaboration with the American School of Classical Studies; R. R. Holloway, *Hesperia*, XXXV, 1966, pp. 83-84 for the well. Of the amphora restored as Figure 3, 3, from the fragments P 27530 and P 27531, the height is restored as 0.735. The deposit is dated *ca.* 425-400 B.C. (*Agora*, XII, p. 398). Figure 3, 3 may date near the beginning of this period.

Samos (in 1968). The class is uncommon: two or three more fragments from late 5th century deposits at the Agora, a whole amphora with marine deposit in Kos, a top and bottom from a wreck off Marathon, two necks in Old Smyrna.⁶⁵

Plate 15, 9 may carry us into the 4th century. I have no further shape to propose as Samian until we come to the one with the mushroom rim, discussed above in connection with the Haviaras handles. Since this kind of rim is characteristic of the 4th century shape thought to be Attic (cf. *Amphoras*, fig. 42, right, and see above, with note 57), probably it was introduced in Samos at least as early as 365 B.C., with the Athenian cleruchs. Deposits at the Athenian Agora of the mid-4th century and later contain many fragments with mushroom rims, including quite a number of which the clay is distinctly micaceous.⁶⁶ Complete amphoras of this stage of Samian development have not been available clean for study. In December 1968 I saw in Samos two jars, one or both of which may fit in here, but both were heavily encrusted.⁶⁷ There seems fair prospect that some fragments found recently in a wreck of the latter 4th century off northern Cyprus may prove to be Samian, and that intact amphoras of this kind may be raised in the coming season of investigation of this wreck. The bulk of the cargo was earliest Rhodian.⁶⁸

⁶⁵ Agora P 27547, neck fragment, also from deposit S 16:1; P 28078, toe and lower body, from deposit A-B 21-22:1; P 26379, toe fragment, from deposit Q 15:2; Kos B.E. 44, in the storeroom in the citadel (VG phot. 412.36); from the Marathon wreck, J. Marcadé, *B.C.H.*, LXXVII, 1953, p. 141, fig. 3, c and d; the Smyrna fragments, seen and photographed (VG 201.14) in October 1952 by the kindness of J. M. Cook, and here mentioned by his permission, come from the excavations reported by Mr. Cook in *B.S.A.*, LIII-LIV, 1958-1959, pp. 1-34; see subsequent numbers of *B.S.A.* for reports on various classes of pottery from the site.

The toe P 26379 is attributed to this class with some hesitation. The style as viewed from the outside resembles that of the toe of Figure 3, 3, but the hollow interior of the body of the jar began well above the toe as visible outside, and the fragment must come from a considerably larger amphora (diameter of the knob 0.075, as opposed to 0.06 for Figure 3, 3).

⁶⁶ Necks with mushroom rims of which the clay is micaceous include P 25742 from A 16:1 (ca. 350-325 B.C.); P 27834 from H 16:7 (late 4th century B.C.); and many fragments of such rims of which some were micaceous were found in J 11:1 (ca. 400-340 B.C.). In general similar, but of non-micaceous clay, is the fragmentary amphora P 6152 (lower part missing) from D 15:3 (ca. 375-330 B.C.).

⁶⁷ One of these was in the office of the airport at Pythagoreion, where by courtesy of the Olympic Airlines official, and with help from John Nettos, I was able to photograph it (691.10).

⁶⁸ For a preliminary report on the wreck off Kyrenia, Cyprus, see *Archaeology*, XXI, 1968, pp. 171-173. On the main cargo of the ship, see above, note 41. I am much obliged to Professor Michael Katzev, the excavator, for permitting me to study and record his finds in Cyprus in the fall of 1968, and to mention here his Type X, which may be Samian.

Addendum, September 1970. The text above, and the beginning of this footnote, were written before Professor Katzev's season on the wreck in the summer of 1969. During that season there was raised from the wreck an intact amphora (inv. no. 212) the top of which resembled the neck fragments of Type X from the 1968 season in that it had a mushroom rim, handles that were short-topped and broad in proportion (rather than roundish in section), neck and handles much shorter than on the accompanying early Rhodian Jars, and the neck tapering slightly to the shoulder

In connection with Samian shapes of the late 5th to 4th century B.C., one must mention the bronze coins of Samos with amphora as reverse type dated tentatively by Barron 412-405 B.C. (pp. 73 with note 16, and 99). See our Plate 15, 12, an example from a different die from that illustrated by Barron, plate XVII, lower right corner; but both show an amphora with handles longer in proportion even than those depicted in the stamp, Plate 15, 10. I am unable at present to match the amphora on these coins at all convincingly with an actual jar. We have similar difficulties with amphoras represented in Chian bronzes.

Further attention to history is indicated, if some day we are to give more definition to the foregoing sketch of developments in the Samian amphora. The involvement with Athens in this commercial matter is somewhat different from what might perhaps be supposed, since it turns out to be clear that the contents of the Samian shipping container were not wine but oil. The fact is really announced on the coins (e. g. Pl. 15, 7-8): contrast the little olive branch here with the bunch of grapes above the Chian amphora on contemporary coins of Chios. The fame of Samian wine is

(whereas on the Rhodian the neck *spreads* to the shoulder). The toe of no. 212, however, differed noticeably from that of no. 576, the 1968 toe fragment belonging to Type X. Tops and toe of Type X among the first-season finds could readily be isolated as belonging together by their distinct clay, which had much fine mica and on fresh breaks showed gray unevenly in layers, reminding me of the Benaki handles I had seen that bore duplicates of the Haviaras stamps. No. 576 has a carefully made knob which widens from its short stem to a sharp edge and is bevelled steeply below this edge. The knob of no. 212 is much simpler and flatter.

Now studies of the assembled material in the summer of 1970 have finally given the excavators joining fragments to supply the whole profile of their Type X, from mushroom rim to bevelled knob toe (inv. nos. 380 plus 130). It has become clear that no. 212 is a separate shape, in body as well as in toe; the shoulder is narrower, more angular, and less sloping than that of Katzev's Type X as now complete in his restored jar; or than that of our Plate 15, 13. Professor Katzev assigns the name of Type XI to the shape of his no. 212; this amphora has on top of one handle a stamp containing two large letters. There were no other examples of Type XI in the wreck.

I am obliged to Professor Katzev for photographs and a drawing of no. 212, a drawing of no. 576 (as well as of others of the earlier finds), and a photograph of the new repaired amphora nos. 380 plus 130, all soon to be published by him.

Amphoras of the late 4th to early 3rd centuries B.C. with mushroom rim still need study before they can be sorted out convincingly. We need further data on the clay, not properly obtainable from an intact jar such as Katzev no. 212. The classification problem is evident in Zeest's Type 32, her Solokha Type I, *op. cit.*, pls. XIV (end), XV, and the first item of XVI, with her text pp. 91-92. No place of production is suggested by the author for the jars included in her Type 32, and in fact possibly they show too much variation to be grouped as one type, without at least some internal sorting, perhaps by date.

For Katzev's Types X and XI, although these are two distinct shapes, it seems possible that both are Samian, or connected with Samos, given the political history of the Samians in the late 4th century; modifications in the shape of an official container may have been decreed by new administrations, for instance to distinguish changes in standard; cf. *Delos* 27, pp. 279 and 359-360 for such a procedure in Chios. For the two-letter stamp of Type XI, cf. Zeest's pl. XIV, 32a (of her Solokha Type I), the top of a mushroom-rimmed jar having on its preserved handle a stamp with the monogram eta-rho; on parallels to this stamp type, see below, in the catalogue under no. 77.

somewhat older than Byron, but it is not ancient. There seems nothing to indicate that wine produced in Samos in ancient times had any outside reputation, any export value.⁶⁹ This is of course not to say that the Samians did not drink wine or eat grapes, or perhaps bottle refreshments for their festivals as above suggested. But the product for which they had an outside market was oil. Samos is "olive-growing" to Anakreon, and to Aischylos in the *Persians*; and a special quality is attributed in the 4th century to oil produced in the island.⁷⁰

Any considerable import to Athens, another oil-exporting state, would be surprising and has not been found. The short-necked jars of the early 6th century, including Figure 2, 2, can have been settlers' effects of some of the foreign craftsmen accepted as citizens of Athens by Solon.⁷¹ The round jar Plate 15, 3 and others associated with it are of a kind no doubt taken on as supplies by Darius' fleet when it assembled in Samos; note that seven of these ships were captured afterwards at Marathon.⁷² The fragments combined in Figure 3, 3 may come from a jar or jars that brought indemnity payments from Samos, the collection of which was one of the provisions of an Athenian decree of 426/5 B.C.⁷³ In the preserved part of a relief of coarse workmanship that crowns the stele on which this decree is carved, there

⁶⁹ Pace Barron, the passages he cites on his p. 7, note 53, include no praise at all of Samian wine. As for Apuleius, his text without emendation actually states that nobody scratches the ground to plant vines in Samos. Cf. the Budé edition (1924), where P. Valette remarks (p. 145, note 1) that this information surprised some critics, who corrected the text to make it say the contrary. Even as emended, this passage does not amount to praise of Samian wine.

We are indebted to Mr. Barron (again his p. 7) for dispelling a former interpretation of the olive branch on the coins as being a symbol of submission to Athens. His study of the coins proves that their chronology does not allow this explanation.

For praise of Samian wine before Byron, note that in 1702 the French traveller J. P. de Tournefort drank in Samos a very good sweet wine being made there on order for French merchants in Smyrna; whereas in 1610 the Englishman Sandys had found the vine quite lacking on the island. References for the travellers and a selection of their accounts are given by E. Papademetriou in the fine picture book *Σάμος* edited by her and published by the Institut Français d'Athènes in 1959 (with texts also by N. M. Kondoleon and Ph. Kondoglou), pp. 22-26.

⁷⁰ Anakreon, Fr. 98 Page; *Persians*, 882; Antiphanes or Alexis, *ap. Athen.*, 66. The references are assembled by Barron, p. 7, notes 50-52.

⁷¹ Plutarch, *Life of Solon*, 24.

⁷² Herodotos, VI, 95; *ibid.*, 115.

⁷³ *I.G.*, I², 65. See P. Jacobsthal, *A.J.A.*, XLVII, 1943, p. 308, with references. For illustrations of the relief, see A. Hess, *Klio*, XXVIII, 1935, pl. 1 (opposite p. 32); B. D. Meritt, *Documents on Athenian Tribute*, 1937, p. 4, fig. 1. Jacobsthal and several other scholars identify my "upended amphoras" as money-bags. Hess (*op. cit.*, p. 27) calls them pieces of broken amphoras with their knobbed tips upward. It was Daniel J. Geagan who suggested to me that the artist was trying to show inverted amphoras as *behind* another pot that lies below. Whether broken or merely inverted, the significance would be the same. Hess, in the article cited, lists much evidence on the use of pottery jars for the transport of money.

I am obliged to the late Lucy Talcott for calling my attention to this relief some years ago, and for giving me references to it.

seem to be represented, as in the background, two upended amphoras, their toes in the air. If that is what they are, they must apparently be jars like our Figure 3, 3, since there seem to be no others of the latter 5th century which combine a relatively narrow lower body with an unstemmed but relatively tall and flaring toe. It would seem pertinent to head the decree with the emptied characteristic containers of a debtor state provided for in the decree, even if the actual money did not travel in such containers, which however it may well have done.

Most of the Samian pieces identified so far in Athens could after all be accounted for by such special occasions, if not by ordinary travel, except perhaps for the more numerous mushroom-rim fragments of the middle and later 4th century. As for these, at this time Samian oil is not in competition with that grown in Attika, but an augment to the home product.

Note that a parallel of sorts in Athens for what we have found in Samos in the latter 4th century is provided by certain liquid measures of which the handles were stamped with Athenian coin types.⁷⁴ The shape of these vessels is not known; only small fragments have been found; one way in which they differed from those bearing Samian coin types is that the Athenian jars were glazed on the interior. A gem or ring impression, very fine, has been published with the Athenian coin-type stamps.⁷⁵ It was not found near the Tholos with the others, and the shape of the handle was very different from that of the handles impressed with the coin types. Nevertheless this small fragment may well also be from an Athenian amphora, and it comes from a good deposit of the third quarter of the 4th century in the Athenian Agora. It thus adds, as a gem or ring impression, something to an Athenian parallel for our Haviaras Samian group.

In contrast with Athens, Greek Egypt must always have been a market for olive oil, so that we find an Athenian traveller in the early 4th century carrying a supply on his Egyptian trip as exchange against local expenses.⁷⁶ The Samian am-

⁷⁴ M. Lang and M. Crosby, *The Athenian Agora*, X, *Weights, Measures and Tokens*, Princeton, 1964, p. 63, LM 21-27; cf. pl. 18, noting here that the same types appear on dry measures also. Since the publication of this volume, two good new impressions of the Athena head of LM 25-27 have been found on handles from a 4th century context (Agora P 27368-9). In these better-preserved examples, it is clear that a special blob of fine clay has been placed on top of the handle to take the impression of the die (noticed by Lucas Benaki). The added blob of clay is also noticeable on SS 14675, a recently catalogued handle bearing the double-bodied owl type, cf. M. Lang, *op. cit.*, LM 21-24 (no useful context for SS 14675). Cf. Herodotos, II, 38, for reference to *γῆν σφραγισμένην*, but this was used to set a seal on papyros wrappings, whereas on the Athenian jars it was fired with the jar.

⁷⁵ Lang and Crosby, *op. cit.*, pl. 18, LM 28, pp. 60-61, 63. The engraving is finer than can be seen in a photograph, and deeper than in the die of the coin type. Notice in the photograph that although the impression is deep in the upper part, it has not been deep enough to take the detail of helmet or face, which retain the grain of the surface of the handle.

⁷⁶ Plato, according to Plutarch, *Life of Solon*, 2.

phoras found at Naukratis and Daphnai (see above, note 43) are evidence of import in the 6th and 5th centuries; while certain fragmentary jars with mushroom rims, some stamped with a monogram eta-rho, found recently by Emery at Sakkara, make a similar suggestion for the second half of the 4th century.⁷⁷ More explicit is a papyrus of 259 B.C. listing a shipment of oil to Alexandria in Milesian and Samian jars and half-jars.⁷⁸ I have at present no candidate for an amphora of Miletos of the 3rd century B.C., but offer here one more picture of a possibly Samian shape, in Plate 15, 15. The amphora the collector is holding is stamped on one handle (Pl. 15, 16). A duplicate of this stamp has been added (Pl. 15, 17), because on the pre-

⁷⁷ I am obliged to Professor Emery for permission to mention the amphora fragments (probably not all of the same class) found in his excavations of 1965-1968 under the auspices of the Egypt Exploration Society. In a call at the excavations in April 1967, I had a glimpse of the pieces which had by then been found, by the kindness of H. Smith of the staff; and drawings, some rubbings of stamps, and some notes were later sent to me by G. T. Martin and K. J. Frazer, also of the Expedition. The Sakkara eta-rho monograms resemble two found on Samos, I 580 and I 859. A stamp with monogram eta-rho, but retrograde, appears on handles at the Agora, including one (SS 14680) fully preserved with both attachments, which apparently comes from a Samian amphora with mushroom rim (rim not preserved, but the handle is broad, very short-topped, and of highly micaceous reddish clay). Further study among unclassified handles stamped with monograms or abbreviations will no doubt identify further Samian of this period.

⁷⁸ C. C. Edgar, *Zenon Papyri*, I (*Catalogue général des antiquités égyptiennes du Musée de Caire*), Cairo, 1925, no. 59015 (recto). For a more detailed account, *idem*, *Annales du service des antiquités*, XXIII, 1923, pp. 86-95. The words used for the jars are *κεράμια* and *ἡμικάδια*. Neither oil as the cargo nor Alexandria as the port is actually mentioned in the papyrus, but the Customs' valuation and duties paid apparently leave no doubt that the contents of the jars were oil, while various considerations make the identification of the port very probable; see Edgar's remarks, *ibid.*, pp. 86-88. For a more recent comment on the papyrus, see e.g. L. Casson, *Studi in Onore di Aristide Calderini e Roberto Paribeni*, I, Milano-Varesi, 1956, p. 236.

For *hemikadia*, see the interesting discussion, with bibliography, by D. A. Amyx, *Hesperia*, XXVII, 1958, pp. 186-190, on *kados* and related words. However, the word is Semitic in origin; cf. Émilie Masson, *Recherches sur les plus anciens emprunts Sémitiques en Grec*, Paris, 1967, pp. 42-44 on *kados*. The Greek word evidently followed the Hebrew *kad* as a general term for a carrier for fluids. "Most frequently [*kados*] occurs as a vase used to store and transport wine" (Amyx, p. 186, with references); and Mme. Masson (p. 44) cites the Ugaritic *kd*, a jar or measure specially for wine or oil. The Greeks apparently used the borrowed term interchangeably with *keramion*, as in our papyrus, and cf. *Athenaios*, XI, 473a; or with amphora, cf. Pollux, X, 71, quoted by Amyx in his note 3, p. 186. Any kind of container-amphora might serve from time to time for drawing water, and excavators often find them at the bottoms of ancient wells. So it is not surprising that there is ancient reference for such use (see Amyx's note 4, and add now Menander, *Dyskolos*, 190 and 576); and such reference should not persuade us that the principal function of the *kados* was as a pail. Nor need we look to identify with the word too specific an ancient shape, unless in special context. Whether *kados* or *keramion* or amphora, ordinarily the term is general for a container-jar, needing a defining adjective (such as "Samian") to identify the particular style. On a Rhodian amphora of the beginning of the 2nd century B.C. which seems to have been used as a property to play the "*kados*" of the *Dyskolos*, see S. Charitonidis, L. Kahil, and R. Ginouvès, *Les mosaïques de la maison du Ménandre à Mytilène*, Sechstes Beiheft zur *Antike Kunst*, Bern, 1970, p. 101.

served amphora the device in the impression is not very clear. This stamp type is one of a series using the same device, the prow of a galley, with some 24 (as now known) different names. A few of the types are circular but most are squarish rectangles like those on Plate 15, with the name along two (occasionally three) sides, and the prow often tilting upward as here, as though riding a choppy sea. The prow in this series does not markedly resemble that in the Haviaras stamps (Pl. 12, 17-24) or that in coins of Samos (see Barron, p. 6). However there seems to be no other state so closely identified with a prow as Samos; the prow of the *samaina* was as Samian as the owl was Athenian, according to Plutarch's story of the branding of captives.⁷⁹ So with all due reserve I suggest jars of this class as the *keramia Samia* and/or the *hemikadia Samia* of the shipment of 259 B.C. The shape is entirely new to the Samian series as above proposed, a series which throughout its various modifications has usually borne some relation to the current Athenian shape (save in the late 5th-early 4th century). With its thick rolled rim set close above long (and rather thick) handles, the new shape resembles that of some Pontic amphoras.⁸⁰ Plate 15, 15 shows the only example bearing one of these prow stamps of which more than a piece of handle and rim is preserved. It seems likely that if it is Samian, and of the period of the shipment, this jar is a *hemikadion* rather than a *keramion*, in which case the angular drawn-in body may once more be an adjustment of capacity, and the unit jar may have had a much fuller, more rounded, body. Unfortunately on our preserved stamped jar we again lack the toe. For the clay of the stamped handles: it is red, reddish or brown, sometimes fired reddish at the core; it is coarser than that of the earlier Samian (?) jars above identified, and contains numerous white bits as well as mica in varying quantities. So far as can be told by the naked eye, I think this could be a fortified version of the clay of the earlier jars. The foreign distribution of the known fragments is not unlike that of the 6th century amphoras, that is, largely in Egypt and in the Black Sea area; but only a single stamped handle of the prow class, so far as I know, has been found in Samos itself.⁸¹ It must be stated that

⁷⁹ *Life of Perikles*, 26. The suggestion that the prow stamps may have been Samian was made to me 20 or more years ago in the museum of the American Numismatic Society in New York, I think by the late Sydney P. Noe. There is actually another state whose coinage commonly bore the prow of a galley, and that is Phaselis on the east coast of Lycia. Its geographical position would make natural the import to Egypt of products of Phaselis; but stamped handles found in the Black Sea area would seem more likely to be from Samos than from eastern Lycia. Reference to the prow types of Phaselis were passed on to me in 1955 by Mr. Lucas Benaki.

For previous published mention of the prow class of stamps, Grace 1960, p. 475, with references in note 5. The Haviaras amphora is mentioned.

⁸⁰ Cf. M. Ebert, *Præhist. Zeitschrift*, V, 1913, pp. 30-31, fig. 34, no. 1 Qa. This object is stamped on the neck. Its producing center was perhaps Herakleia Pontica.

⁸¹ I 933, from the Heraion, exact provenance not known; the name has not been read. On inventory numbers in I, see above, note 25.

Of a total of 150 known examples, 51 have been found in Alexandria; 29 more in Egypt (in Naukratis chiefly and in Tell Fara'in in the Delta, or, of unknown but presumably Egyptian proven-

the names known in these types have only one correspondence with the names on the coins listed by Barron, and even in this case the form is apparently different.⁸² For dating the group, we have very little context evidence, the best being at Tarsus and at the Athenian Agora, giving in each case a *terminus ante quem* in the early 2nd century B.C.⁸³ The letter forms of for instance the type of Plate 15, 16 and 17 would I suppose suggest a rather earlier date.

On the whole, none of the evidence seems to exclude the proposed identification.

ance, now stored in the Cairo Museum); 23 in the Black Sea area; 8 in Athens (of the 3 in the National Museum, the source is not strictly known, but 5 are from the Agora excavations); 7 in Syme (probably collected elsewhere); 4 in Salamis, Cyprus (recent finds); and 28 in various other places, for 23 of which the provenance is unknown (most of these are in the British Museum). The Naukratis examples are largely in the British Museum. The 35 handles formerly in the Benaki residence in Alexandria have now been installed in the Musée Gréco-Romain in that city.

⁸² The name is *Θευκλῆς* in the stamps and *Θεοκλῆς* in the coins. See Barron, pp. 236-237, for a list of names appearing on the coins. The following names are known in the prow stamps:

¹ Ἀκη(Δωριγένης	Σωσικρά(της)
¹ Ἀλεξίμβροτος	¹ Ἐξέκεστος	Τροχιλ[
¹ Ἀλεξί(νος)	Θευκλῆς	Φαινοκλῆς
¹ Ἀπολλ(ωνίδ(ας)	Κλεανδ[Φιλίνος
¹ Ἀριστόδαμος	Μεγαλίων	Φιλίσκος
¹ Ἀριστοφῶν	Μοσχίων	Φιλοκράτης
¹ Ἀρχεκρά(της)	Πασικρά(της)	Φίλτατος
¹ Ἀρχέμαχ(ος)	Πανσίμα(χος)	Φιλωνί(δης)

⁸³ See *Tarsus*, I, p. 147 and fig. 118, no. 95; the comment on this stamp gives some references for published examples of the class. The Agora example that has good context is SS 667 from the Middle Stoa Building fill; on this fill, see recent notes in *Delos* 27 (see its index, pp. 382, and 381); the end date of the stamped handles seems to fall in the second decade of the 2nd century, but the fill contains also much earlier material. As it happens, no name has been restored in either of these two dated examples.

Addendum. In Rhodes in June, 1970, after this article had been turned in to the editor, I was able to study some amphora fragments found in the Pipinou lot of the modern city in late 1968, in a closed deposit with two redfigured kraters. Included in the group, which apparently must date in the second half of the 4th century B.C., was a Samian (?) handle (MΣ 511) bearing a duplicate of the stamp of SS 10912 mentioned above, note 22; and 4 Samian (?) fragments (MΣ 505-508) with prow types, having the names Δωριγένης, Μοσχίων and Σωσικρά(της). The new find adds 200 per cent to the number of stamped fragments of the prow class known from Rhodes (there were only 2 before), without requiring alteration in the general statement above that the class has been found largely in Egypt (80 examples) and in the Black Sea area (23). It indicates that some at least of the prow series are datable in the 4th century. It further adds to our knowledge of shapes of the prow-stamped amphoras, since while MΣ 506 (with stamp of Δωριγένης) has a shallow rolled rim not very different from the rim of the jar in Plate 15, 15, on the other hand MΣ 505 (with stamp of Μοσχίων) has a heavy mushroom rim, more like that of Plate 15, 13. The mushroom rim has been shown above to be characteristic of Samian in the 4th century, but also of some other classes at this time.

I am greatly obliged to Dr. G. Konstantinopoulos, Miss I. Zervoudaki, and Miss Archontidou, for permitting and facilitating my studies of this and other material in Rhodes. Of the closed deposit in the Pipinou lot, Miss Archontidou was the excavator, while Miss Zervoudaki will publish the redfigured kraters.

The strongest point in its favor is undoubtedly the device, and the fact that it would be natural to label a new shape in a known series by something so generally associated with the producing state on whose coins a prow continued to appear through the 3rd century B.C. and later. Similarly, at an earlier period, a Chian coin-type stamp identified a new Chian shape.⁸⁴

At this point, capacity studies are needed, and I regret I have no reliable figures at all for any of the containers illustrated here or for others like them; see only, pp. 93-94, the documentation on Plate 15, 4. In the text of the papyrus of 259 B.C. (see above), as it has been restored, there is reference to containers claimed to be of 18-choe capacity, but which the writer of the papyrus reckons as actually 16-choe jars. Even 16 is a large figure for the capacity of a Greek amphora. Using the equivalent of the Attic chous, 3200 cc.,⁸⁵ 16 choes gives us 51,200 cc., or over 13 gallons. The largest capacities of which I have record among jars at the Agora Excavations are those of three jars found each to hold about 45 liters, or about 14 Attic choes; two have been illustrated.⁸⁶ We have however records of an amphora from the sea, now in the National Museum, Athens, of which the measured capacity shows that it would have taken 16 (Attic) choes.⁸⁷ A comparison by means of photographs at the same scale suggests a capacity possibly as great as that of the National

⁸⁴ See now *Delos* 27, pp. 359-360.

⁸⁵ For a labelled Attic 2-choe measure, S. Young, "An Athenian Clepsydra," *Hesperia*, VIII, 1939, especially pp. 278-280.

⁸⁶ SS 4568, Attic (?) amphora of the third quarter of the 4th century (from Agora cistern D 15:3) with monogram stamp on one handle; ht. 0.73, diam. 0.437, capacity 45,250 cc.; *Amphoras*, fig. 42, right. SS 8214, Koan amphora of the first half of the 2nd century (from Agora well G 5:3) stamped [A]σκη(on one handle; ht., 0.785, diam. 0.45, capacity 45,050 cc.; *Hesperia*, Suppl. VIII, pl. 19, 8 (amphora) and pl. 20, 10 (stamp); reading of the stamp, *ibid.*, p. 188, is to be corrected, and the capacity figure there given has also been somewhat revised; see also *Amphoras*, fig. 56, second jar from the left. The third Agora jar of large capacity that has been measured is P 6795, of Corinthian type but datable about 100 B.C. (from Agora cistern C 9:7, on which see now *Delos* 27, p. 332, under E 88) and is without stamp; ht. 0.78, diam. 0.443, capacity 44,980 cc.; for a similar jar (but with neck and handles shorter in proportion) from the same deposit, see *Amphoras*, fig. 38, third jar from left. The capacities of the first two amphoras were taken with wheat, in 1939; the figures given are the result of a recalculation, slightly higher than as first arrived at. The third capacity was taken with barley in 1954, and I owe the figure to Professor M. Lang. Note that the average capacity of these three jars is about the same as that of the two-bath Israelite amphora of the 7th century B.C., cf. S. S. Weinberg, ed., *The Aegean and the Near East, Studies presented to Hetty Goldman*, Locust Valley, 1956, pp. 106-107, under no. 13, and cf. *ibid.*, pp. 84-85.

⁸⁷ Not inventoried; VG photograph no. 278.33. Full-bellied jar with mushroom rim, neck spreading to a rather steeply sloping shoulder, and a heavy ring or knob toe with a finger-width concave stem (like that of Katzev's 212, see note 68, but the upper part of the jars is different). Ht. 0.80, diam. including marine deposit 0.46, ht. of handles ca. 0.23, capacity (water) ca. 52,875 cc. A break in the toe (later repaired) showed reddish buff clay red at core. I am grateful to Mr. and Mrs. Karouzos for permitting and facilitating our studies in 1954 of this and other amphoras in the Museum.

Museum jar for a restored amphora at the Agora, P 14179 (unpublished). As this latter has a context of late 4th to early 3rd century B.C., and as its top is rather similar to that of the *hemikadion* (?) in Plate 15, 15, it is worth considering among candidates to represent one of the 16-choe *keramia* of the papyrus, and a capacity measurement should some day be tried.⁸⁸ Whoever investigates the text of this papyrus with relation to capacity figures of actual amphoras will no doubt have in mind also the evidence apparently provided for the Samian linear standard by the metrological relief in Oxford, which presents to some a "suggestion that the Attic foot has been subsequently engraved alongside the embodied Samian fathom," showing a ratio of 7 Attic feet to the Samian fathom, or a 7 to 6 relationship between Attic and Samian standards.⁸⁹

⁸⁸ P 14179 comes from Agora well O 20:3. Ht. 0.76, diam. 0.44, ht. of handles *ca.* 0.22. Clay orange-buff, micaceous. Repaired and somewhat filled out in plaster; complete with toe. Note the full height of this amphora is slightly *less* than that of the Haviaras amphora without its toe, but the shoulder of P 14179 is higher as well as wider than that of the other, and the lower body has a full curve, all features that would give added capacity. The rim of P 14179 is a smaller roll than that on the Haviaras jar, and the handles swing out below to the wider shoulder; the jar has been cited in an attempt to guess at the shape of amphoras of the Zenon Group, of which the handles swing out similarly, cf. *Hesperia*, XXXII, 1963, p. 331, note 25.

Taking a capacity measurement of a restored amphora, especially of a very large one, is difficult and never very satisfactory.

⁸⁹ A. Michaelis, "The Metrological Relief at Oxford," *J.H.S.*, IV, 1883, pp. 335-350, on a relief of pedimental shape which shows the head (right) and the shoulders of a man, and his arms out straight on either side, and above one arm, engraved in the field, the underside of a foot. Cf. E. S. G. Robinson, *Hesperia*, Suppl. VIII, 1949, p. 338, note 10, from which I take the words quoted above; as the date of the relief is called just before 450 B.C., Robinson tentatively associates the addition of a foot of Attic length with the Weights, Measures and Coinage decree of 449 B.C. Michaelis (p. 339) cites a passage in Herodotos (II, 168) "in which he affirms that the Egyptian fathom is equal to the Samian fathom . . . Doerpfeld was right in interpreting the words of the historian as referring to the great or royal ell [rather than the smaller Egyptian one]." The Oxford relief has been illustrated recently by D. E. Haynes, *Archaeology*, XXI, 1968, p. 209 (as one of the Arundel marbles); and in J. Boardman, J. Dörig, W. Fuchs, and M. Hirmer, *The Art and Architecture of Ancient Greece*, London, 1967, fig. 42, above; cf. text p. 12. Boardman dates the relief mid 5th century; Haynes, with Michaelis, puts it in the previous decade. Note that a joining fragment at the right end of the relief as shown in Michaelis' photograph (pl. XXXV) is missing in the two recent illustrations; Mr. Boardman has informed me (13. VI. 70) that the fragment was actually a restoration.

To the hypothetical 7 to 6 relationship between Attic and Samian standards, compare the 7 to 8 relationship between Attic and Chian standards, although these relationships would be attested in the one case only for linear measures and in the other only for weight and volume. For a summary with references on the Attic-Chian standards relationship, apparently first hypothesized by M. Lang in 1956, see now *Delos* 27, pp. 359-360.

It should be stated that Professor W. B. Dinsmoor considers that the second standard implied by the foot which is a seventh of the length of the "embodied fathom" cannot be Attic, because the engraved foot is too short. He has another interpretation, to appear in a new edition of his *Architecture of Ancient Greece*, now in preparation. See his paper, "The Basis of Greek Temple Design: Asia Minor, Greece, Italy," *Atti del Settimo Congresso Internazionale di Archeologia*

So far as the present article is concerned, here the matter must rest. Samian amphora stamps have been presented (Pl. 12-14), a series for which a date is proposed in the latter 4th century B.C., the basic group (the Haviaras stamps and duplicates of these) perhaps soon after 322 B.C., while a few associated items may be of the end of the century (9-16, types with lion mask plus proper names). Some of the stamps in Plates 13 and 14 are of interest from the point of view of cults, and some make their contribution to art history. I have investigated what may have been the shape of the amphoras on which these stamps were impressed and of earlier and later amphoras perhaps produced by the Samians in the course of their history of many vicissitudes, while olive oil continued to be carried abroad from Samos. The chronology of this study of shapes has depended much on context of discovery of jars and fragments from the Athenian Agora. The shapes presented in Figures 2 and 3 and in Plate 15 retain interest whether or not all prove to have been made in Samos.

Of these shapes, the latest illustrated returned us to the Haviaras family. In Plate 15, 15, Demosthenes Haviaras sits with his prow-stamped amphora (unique to this day) in a sort of out-door study at his home in the upper town of Syme. On the table beside him is Dumont's *Inscriptions Céramiques de Grèce*; one can see its stiff back pages lying open at plate II. Under the table is a Rhodian jar; the collector had published three of these in a Smyrna newspaper when he was a younger man, soon after Dumont's book appeared.⁹⁰ From this pleasant antiquarian background Nikitas and Michael Haviaras went away to school on Samos, whence the one brought back his unparalleled group of Samian stamps here presented. Plate 15, 17, may remind us of what is owed to the other son, since it is part of the great collection in Alexandria of Michael Haviaras' pupil Lucas Benaki. Through the generations the scholarly pursuit of these minor antiquities has built up for us a coral island of small but solid bits of fact. In the meanwhile to their addicts these studies have continued to provide a refuge for the attention in the midst of whatever dismal outer circumstances have prevailed, a garden enclosed.

Classica, I, Roma, 1961, pp. 355-368, for identification of the lengths of various foot units employed in ancient Greek and Roman buildings. The paper includes (pp. 361-362) discussion of the relation of linear measures to those of capacity and weight.

⁹⁰ Published in the *Πρόεδρος* of April 21, 1876, see *Rev. Arch.*, XXXII, 1876, pp. 295 ff.; cf. commentary on *I.G.*, XII, 3, 83. The collector cannot have been more than about 35 at that time, since he lived until 1922. It is implied in *Rev. Arch.*, *loc. cit.*, that Haviaras' 3 Rhodian amphoras brought up to 7 the total then known. Dumont's fig. 1, p. 13, is fully misleading as to the Rhodian shape: see *The Antikythera Shipwreck Reconsidered*, *Transactions of the American Philosophical Society*, LV, 1965, p. 5, note 2 (but correct the place of publication of Dumont's book to Paris). For one more glimpse of our original collector, see A. Maiuri, *op. cit.*, p. 245: "Questa caratteristica classe di anfore, a manici bifidi mi venne già segnalata da Demostene Chaviaràs, il benemerito studioso di Simi e della Perea rodia, che possiede da tempo nella sua ricchissima collezione anforaria, numerosi bolli di anfore a manici bifidi, e grazie al cui interessamento, il Museo di Rodi poté venire in possesso di tre esemplari interi di anfore del genere, tratte dalle acque del golfo di Simi dagli arditi pescatori di spugne di quell'isola."

CATALOGUE OF SAMIAN STAMPED AMPHORA HANDLES (Plates 12-14)

In the following catalogue, items from the Haviaras (Nikitas) collection, which constitute the great majority, are cited by numbers preceded by X. See note 23 above. I owe descriptions and measurements of the Haviaras handles to Mrs. Petropoulakou. Measurement figures are given in the order of width by thickness of the handle (or for more fragmentary pieces only one of these dimensions) taken at the point where it is stamped, and given in fractions of a meter. See also note 39 above. A few inventory numbers of handles found in the German excavations on Samos are cited; on these, see above, note 25. Handles cited from the Benaki collection are probably from Alexandria. Comments on many of the types will be found above in the text of the article.

No doubt more Samian stamps will be identified in the course of time. Considered but not included this time was SS 11336 from Agora deposit J 11:1 (*ca.* 400-340 B.C.; cf. note 66). This has two small stamps, one a monogram, the other apparently a lion mask in a rectangular frame, rather resembling (save that the frame is not beaded and the lion has teeth) the lion masks on certain Samian coins of the late 6th century, cf. Barron, pls. IV and V. The clay of this handle contains fine particles of mica, but it is pale buff all through, on the surface and on the breaks, which distinguishes it from that of the handles listed below. See also note 77 for further possible additions; also note 22, mention of SS 10912.

A. HANDLES STAMPED WITH SAMIAN COIN DEVICES. 1-27. Pl. 12.

1-4, impressions of probably the same die, forepart of bovine animal right, within a pi-shaped frame; the animal appears to have a hump; its right foreleg is bent back; above the frame, letters (?), possibly nu epsilon retrograde. 1-2, Benaki collection (of 1, dimensions 0.038 by 0.02, clay reddish buff with fine particles of mica especially at surface, remains of cream slip, grayish core; of 2, clay fine, gray, micaceous); 3-4, Samos (X 442, 0.032 by 0.018, light red clay; X 443, 0.033 by 0.015, red clay; 3, a dim example, is not illustrated).

5-16, various types with lion mask, i. e. the skin of the head.

5, 6, rectangular without letters. Samos (X 445, 0.041 by 0.02, red clay, mica on surface; X 446, 0.037 by 0.014, fine red clay).

7, circular without letters. Samos (X 484, 0.033 by 0.013, at surface buff with mica). *Addendum*: in April, 1970, I received from Mr. J. Nettos (cf. note 46) a rubbing of a duplicate of this type, apparently a surface find from Pythagoreion recently added to the Museum's collection.

8, circular, possibly with *Ἡρας* inscribed below the mask. Samos (Heraion I 841, from the excavations of the German Archaeological Institute in Athens; 0.035 by 0.017, red clay, gray at core; the letters were seen by F. Willemsen in 1937).

9, rectangular with TIMΩ (?) below the mask. Benaki collection (0.037 by 0.023, micaceous reddish buff clay, gray-buff at core).

10-11, rectangular with *Ἀριστο* (retrograde on an erasure below the mask. Samos (Heraion I 857 a and b, two handles attached to the preserved top of an amphora with broad down-sloping ["mushroom"] rim, both handles impressed by the same stamp; this must be the item published by Technau, p. 60, no. 2, although Technau indicates a barred sigma, whereas in 10-11 it is visibly lunate).

12-16, rectangular with *Διονυσικλέους* down left and across bottom of stamp below the mask. 12 and 13, Benaki collection (M 280, 0.045 by 0.023; M 563, 0.046 by 0.024; both of finely micaceous russet buff clay with a few white bits); 14, Naukratis (British Museum 1955, 9-20, 72, fine reddish buff clay, smooth surface; from Petrie's excavations presumably); 15, Kos (no. 220 of a provisional inventory); 16, Pella (A 1743). Only 14 is illustrated.

17-24, various types with prow of ship.

17-19, with $\Sigma\alpha$ (above and Ἡρῆς below, and prow *right*. **17**, Memphis, excavations of the University of Pennsylvania in about 1920 (29-71-56, M 1912, small, broad handle nearly all preserved, 0.032 by 0.018, height about 0.115; finely micaceous russet buff clay, grayish at core); **18** and **19**, Samos (X 491, 0.032 by 0.015, micaceous light red clay, surface yellowish; X 475, 0.030 by 0.014, dark red clay). **19** (X 475), less well preserved, is not illustrated; it is not certainly from the same die as the others. (I am greatly obliged to Professor Ellen Kohler for measurements of **17**.)

20-21, with $\Sigma\alpha$ (above, no letters below, and prow *left*. Samos (X 474, width 0.035; X 471, 0.034 by 0.013; both with red clay gray at core).

22-23, with uncertain letters above and prow *left*. Samos (X 472, 0.034 by 0.02, dark red clay with lighter surface, somewhat micaceous; X 499, 0.036 by 0.017, red clay; it is not entirely certain that the two examples are from the same die).

24, without letters, prow *left*. Samos (X 473, 0.035 by 0.02; dark red clay, surface buff).

25-27, impressions probably from one die, facing bust of Hera wearing necklace, enclosed in pi-shaped frame, letters to right and left, together reading (retrograde) Ἡρᾶ . **25** and **26**, Benaki collection, probably from Alexandria (of **25**, dimensions of handle 0.041 by 0.023; the handle bends down abruptly after a very short top; micaceous russet buff clay, yellower at surface, light grayish at core; of **26**, clay fine, gray, micaceous). **27**, Samos (X 444, 0.033 by 0.014, red clay).

B. HANDLES, ALL FOUND IN SAMOS AND MOSTLY IN THE HAVIARAS COLLECTION, BEARING MISCELLANEOUS STAMPS. **28-53**. Pl. 13.

28-29, impressions from one die, cult statue of Hera (?) wearing polos and veil, standing on a raised base, holding in each hand a hanging knotted (?) fillet with tassel; the lower part of the body is enclosed in a sort of sheath, below the hem of which the feet appear; on the body, no indication of drapery folds or of ornament, or of anatomical features (X 502, 0.037 by 0.019; X 501, 0.037 by 0.012; of both, red clay with micaceous cream surface). Cf. text with notes 13-16; also p. 65 on the festival.

30, female head right, turretted, with letter beta preserved below, left (X 493, thickness 0.02, dark red clay). Cf. text with note 17.

31-33, ear of grain, with bee in upper right corner and in lower left corner, uncertain device upper left, lower right corner never preserved (X 457, 0.038 by 0.018; X 456, 0.035 by 0.02; X 458, not illustrated, 0.037 by 0.017; all three have light red clay, and X 457, **31**, is particularly short-topped).

34, three ears of grain, with bee (X 488, 0.035 by 0.019, hard red clay with little mica).

35, insect, bee? (X 450, 0.036 by 0.018, red clay).

36, 37, amphora (X 482, 0.034 by 0.015, clay brown at core with yellowish surface; X 481, not illustrated, 0.045 by 0.019, micaceous dark red clay). For an enlarged photograph of **36**, see Pl. 15, 10.

38, 39, impressions from two different dies, jug (X 461, 0.031 by 0.018, micaceous red clay brown at core; X 462, 0.031 by 0.019, dark brown clay grayish at core).

40, kantharos (X 459, 0.036 by 0.018, dark red clay).

41, kantharos, with letters right and left, together ΦA retrograde? (X 460, 0.030 by 0.016, red clay).

A significant parallel for **41**, and perhaps **42**, has been published from Phanagoria in the northern Black Sea area. A stamp appears with the same content as **41**, impressed on the body of a measure and on a fragment of another one. The measure is like a small vase (ht. ca. 0.18) with wide mouth and body swelling to somewhat greater width below. The stamp is not a duplicate of ours, but has again the letters phi alpha on either side of a kantharos, this time reading forward, not retrograde; the field is circular instead of rectangular. These stamped pieces were found near the potteries of ancient Phanagoria, apparently with context of the second half of the 4th century B.C. The letters, combined with the finding place, seem to make quite certain that these were regulation measures in local use at Phanagoria. The stamp is therefore official in the way that a coin type is, even though so far as I know a kantharos is not a device used on coins of Phanagoria. On this material, see I. B. Zeest, ed., *Ceramic Products and Ancient Ceramic Building Materials* (in Russian), Moscow, 1966, p. 19, pl. 23, nos. 2 and 6. Other measure (?) fragments had other stamps. I am grateful to Professors Jan Bouzek and Jan Pečírka of Charles University, Prague, for helping me to get information from this publication, which is not now available in Athens; a copy was here briefly, and I am obliged to Mrs. Poly Dimoulini for calling my attention to it before forwarding it. For comment on the significance of this parallel to part of our group, see above, p. 57. For a fragmentary measure of quite similar shape found at Istria, which bears the stamp of an agoranomos, see V. Canarache, *Importul Amforelor Stampilate la Istria*, Bucharest, 1957, p. 372, fig. 68; reference is made there to stamped small measures known to have been found in Tyras and in Chersonesos, neither of which had been illustrated. A fragment of a *dry* measure found on Thasos bears a stamp with a kantharos (but no letters): see L. Ghali-Kahil, *Études thasiennes VII, La Céramique Grecque*, Paris, 1960, p. 135, no. 35.

42, kantharos, with letters right and left, possibly reading again ΦA retrograde (Heraion, I 653; large handle, 0.048 by 0.022). **42** is clearly not from the same die as **41**; the letters, which are not clear, may read ΔI forward.

43, vase with lid (incense burner?), with possible letter alpha to right (X 503, 0.04 by 0.018, micaceous dark red clay).

44, star (X 494, 0.042 by 0.019, brown clay with mica at surface).

45, unidentified device (X 480, 0.03 by 0.013).

46, unidentified device (X 500, 0.037 by 0.016; dark red clay).

47, unidentified device (X 505, 0.044 by 0.018; red clay, dark surface).


48, **49**, impressions from different dies, letter alpha (X 496, 0.035 by 0.014; X 497, 0.036 by 0.017; of both, hard red clay, yellowish at surface, with mica).

Numerous stamps are on file at the Agora Excavations having the letter alpha alone. These handles, of various fabrics, come from the Agora and from many other places, especially Alexandria; one is known from Samos (I 870). I have identified no precise duplicates of **48** and **49**.

50, letter gamma (X 495, 0.036 by 0.018, micaceous red clay).

Unlike alpha, gamma is an uncommon letter to stand alone in an amphora stamp. I find only two examples apart from **50**, one from the Benaki collection (M ABC 733), and the other found at Sakkara in Professor Emery's excavations, on which see above, note 77. The two are both in oval fields, not square as in **50**; photographs are not available of either, but a rubbing of the one stamp and a drawing of the other.

51, $\lambda \Lambda Y$ (X 498, 0.035 by 0.013, yellowish clay with mica at surface). As noted above, perhaps not from the group proper.

52, 53, impressions from two different dies, monogram  (X 492, thickness 0.021, red clay; Kastro, Tigani, I 567, top of jar of which profile is shown in Plate 15, 11, the stamp on one handle only; for details, see description of Plate 15. The stamp of **53** has been published, see W. Technau, *op. cit.*, p. 63, no. V 4.

C. HANDLES, ALL FROM THE HAVIARAS COLLECTION, BEARING IMPRESSIONS APPARENTLY FROM ENGRAVED RINGS. **54-77**. Pl. 14.

54-56, Athena in fighting attitude, facing right, with shield on left shoulder and lance ready in raised right hand (it appears to pass behind her head); there is little or no indication of the aegis, but the garment clings to the body; "a swallow-tailed wrap is worn over the shoulders" (see above, text with note 33); in **56** one sees that the figure is standing, not striding, and there is a base-line below the feet (X 467, 0.038 by 0.018, hard red clay, micaceous at surface; X 466, 0.037 by 0.018; X 487, 0.037 by 0.017, hard red clay).

Mr. Boardman gives me references to two seals with a similar subject: G. M. A. Richter, *Metropolitan Museum of Art, Catalogue of Engraved Gems, Greek, Etruscan and Roman*, Rome, 1956, pl. XXV, no. 143; and H. Hoffmann and P. F. Davidson, *Greek Gold Jewelry from the Age of Alexander*, Mainz, 1965, p. 257, fig. 117. He remarks also on the fairly narrow bezel of the ring which impressed **54-56**, as an archaizing feature.

See above, commentary text, with notes 21, 32, and 33.

57, Pan (?), goat-headed, apparently wearing a cloak, behind him a large thyrsos with ribbon bow and streamers; he seems to be sitting (on rough ground? on a river bank?) with human knees drawn up, and shins that end in cloven hooves, and to be working on something before him, possibly a reed or reeds from which he will make his syrinx (X 452, 0.032 by 0.019, hard red clay).

A rock crystal scaraboid gem in the Ashmolean (no. 1892.1478) shows a similarly constructed Pan sitting on a rock or heap of stones, see most recently G. M. A. Richter, *Engraved Gems of the Greeks and the Etruscans*, London, 1968, p. 86, no. 265; Miss Richter here dates this gem 5th to 4th century B.C. I find no other *seated* Pans with cloven hooves plus knees that bend as do human knees. For standing figures of Pan with goat head and feet but human knees, cf. R. Herbig, *Pan*, Frankfurt, 1949, pl. IV, 2 and 3, p. 55, a bronze statuette from Olympia, dated after 430 B.C. by Kunze; *ibid.*, pl. XXXV, 1, the Pan Painter's Pan, cf. J. D. Beazley, *Der Pan-Maler*, Berlin, 1931, pl. 2. Professor Evelyn Harrison has called my attention to the Pans of the Niobid Painter, see T. B. L. Webster, *Der Niobidenmaler*, Leipzig, 1935, pl. 15, a and b, p. 18; these have horns on more or less human heads, and hooves below human knees. Herbig's pl. VII, 1 and 3, show figures entirely human except that they have cloven hooves.

It should be stated that Mr. Boardman is dubious about what exactly is to be seen in **57**; he suggests that there may be confusion due to a slip in the setting of the die, or even a flaw in it.

58, seated Herakles (?), apparently with club in front and perhaps with quiver behind his shoulder (X 485, 0.033 by 0.014).

59, Eros grasping by one handle a sharp-pointed, sharp-shouldered amphora, surely a Chian; he seems to look inside, perhaps to see how much is left of the contents (X 469, 0.035 by 0.016; brown clay, darker at surface).

Recall the half-empty Chian sent for to help in the "preparation for a party" of the early third century Samian poet Poseidippos: W. R. Paton, *The Greek Anthology, with an English translation*, Loeb Classical Library, 1926-1928, Vol. 1, p. 219, no. 183; but I follow Wallace's version, see William and Mary Wallace, *Asklepiades of Samos*, Oxford University Press, 1941, pp. 99-100.

60, 61, bearded siren, with head thrown back in profile right, and wings partly spread; base line (X 449, 0.040 by 0.015; X 448, 0.041 by 0.02; both, hard red clay).

Mr. Boardman refers me to F. H. Marshall, *Catalogue of the Finger Rings, Greek, Etruscan and Roman, in the Department of Antiquities, British Museum*, London, 1907, p. 198, no. 1253, there assigned to the 4th century B.C. (not illustrated, nor is an illustration cited). He refers me also to G. Hafner, "Neue Mischwesen des 4. Jahrhunderts," *Jahresh.*, XXXII, 1940, p. 31, fig. 15; and for further reference to Hafner's item, to J. Hackin, *Nouvelles Recherches Archéologiques à Bégram*, Paris, 1954, p. 147.

See also above, note 34.

62, 63, draped female figure standing three-quarters front, weight on the right foot, left hand resting behind the hip, right hand with a small branch (?) over a heron or similar pet bird on the ground (X 453, 0.034 by 0.019, hard red clay; X 486, 0.034 by 0.016).

Stephen G. Miller of the Agora Excavations staff calls my attention to an earlier version of the standing woman with a pet water-bird below her right hand, Athens, National Museum, no. 1963 (white ground lekythos by the Achilles Painter), illustrated recently in *Athens Annals of Archaeology*, II, 1969, p. 291, figs. 1-2 (B. Philippaki). See G. M. A. Richter, *op. cit.* above under no. 57, pp. 92-93, for a note on herons or cranes as domestic pets, in connection with her no. 297, a chalcedony scaraboid gem in the British Museum, showing a reclining woman with a similar pet.

See also above, note 34.

64, 65, nude male figure before a small cult image (?) indistinctly impressed, and incompletely preserved, to the right; the man's left hand is bent into a fist which seems to hold something like the end of a rope; he looks up to where his right hand is raised; his arched back suggests that his feet (not preserved) were braced against a pull; the paunchiness of the figure was perhaps for comic effect (X 470, 0.029 by 0.015, hard dark red clay, buff at surface; X 468, 0.033 by 0.016, hard light red clay, buff at surface).

It is suggested (see above, p. 65) that this type illustrates the legend connected with the Samian festival Tonaia, about which we know from Menodotos of Samos through Athenaios.

66, nude male figure stooping left; Mr. Boardman suggests he is using a strigil (X 441, 0.036 by 0.017; red clay with a little mica).

67, uncertain figure, possibly a satyr facing left; Mr. Boardman suggests Priapos (X 465, 0.036 by 0.018, light red clay).

68, bearded head; Mr. Boardman points out that it is janiform (X 451, 0.032 by 0.017, hard red clay).

69, head right (?) (X 463, 0.031 by 0.013, hard light red clay).

70, helmeted head (?) left, possibly with letters ΣΑ below (X 454, 0.033 by 0.019, red clay).

71, 72, grape-cluster, or perhaps (Mr. Boardman suggests) a much worn facing female head; something indistinct below may then be neck and shoulder of a bust (X 478, 0.031 by 0.016, red clay; X 479, thickness 0.014, light red at core, buff at surface).

73, murex shell with something issuing from it (X 455, 0.037 by 0.018, hard red clay).

The identification was made by Mr. Boardman. He referred me to F. H. Marshall, *op. cit.* under **60, 61**, above, pl. 27, 1080, and pl. 30, 1256.

74, head and foreleg of lion, right; coin type of Knidos (X 447, 0.037 by 0.022, hard red clay).

75, composite fruit (?); the relative size of stem and globules suggests something like a black-berry rather than a cluster of grapes (X 483, thickness 0.02, red clay, cream surface).

76, unidentified text or device (?) (X 464, 0.032 by 0.013; hard red clay dark brown at surface).

Miss L. H. Jeffery of Lady Margaret Hall, Oxford, was kind enough to look at a photograph of this stamp and to show it to Orientalist colleagues. None however was able to identify it as a text, and the general consensus was that it was perhaps a device of some kind, not an inscription. Since considered as a device it has left the rest of us equally at a loss, I am glad to pass on here the suggestion of J. P. Kroll, numismatist of the Agora Excavations, that we have in **76** one of the "worm-hole stamps" referred to by Aristophanes, *Thesmophoriazousai*, line 427. It appears to be an established fact that the ancients made for themselves seals from pieces of worm-eaten wood, since such engraving was impossible for a forger to imitate.

77, monogram eta-rho (X 477, 0.036 by 0.015).

The monogram perhaps stands for Hera or her sanctuary. Cf. the inscriptions on **17-19**, and on **25-27**; also text p. 65, on refreshments for the festival; see also note 77 for references to some more ordinary monogram stamps with this letter-combination, impressed on fragments, found in Samos, Athens, Egypt and some other places, which seem to come from mushroom-rimmed Samian jars.

DOCUMENTATION OF ITEMS ON PLATE 15

In Plate 15 are shown amphoras and amphora fragments tentatively identified as illustrating the Samian container shape from the early 6th to the 3rd century B.C.; also amphoras represented on Samian coins datable in the 5th century B.C. (nos. 6, 7, 8) and possibly in the early 4th (12), and in a Samian stamp (10). Note that the jars and fragment, 2, 4, 9, and 11, were photographed in Samos. Scale: 1:10 for amphoras whole and fragmentary; 1:1 for stamps 16, 17, also (approximately) 14; 2:1 for stamp 10; 3:1 for coins. The amphora in 15 is not to scale.

1. Marion, Cyprus, Tomb 83, 3; see *S. C. E.*, II (see above, note 45), p. 423, 3; cf. p. 417, fig. 181 (finds *in situ*); also *ibid.*, pl. CXXXII (83, 3) for a large photograph, sharp but the jar is not in profile; and see *S.C.E.*, IV, 2, fig. LVII, no. 25, for an outline drawing. The amphora is assigned to the second burial period of its tomb, called early Cypro-Archaic II, see *S.C.E.*, II, p. 424, and the end of Cypro-Archaic I is dated "shortly after 570 B.C.," see *S.C.E.*, IV, 2, p. 467. The jar is in the Cyprus Museum in Nicosia, where it was photographed for me by the Department of Antiquities, by kindness of A. H. S. Megaw, then Director of Antiquities.

Ht. 0.55 (see *S.C.E.*, II, p. 423).

2. From the sea, seen and photographed in December 1968 in Pythagoreion (Tigani) at the home of Katina Gerani, who afterward sold it to me at a generously low price so that it could be given to the museum of Pythagoreion, where it now is; it had been for many years in the Gerani house.

Ht. 0.434, diam. 0.27; of the handles, width by thickness 0.032 by 0.019, 0.031 by 0.017, and ht. 0.07, 0.075. On the little jar itself, though not in the photograph, an offset is clear at the base of the neck. The hollow of the interior comes down below the upper edge of the toe as seen from the outside.

3. Agora Excavations, P 24869, from the lowest part of well deposit Q 12:3. H. A. Thompson in *Hesperia*, XXIV, 1955, pp. 62-66 for a preliminary notice on the well. It contained no figured pottery later than 490 B.C. (*Agora*, XII, p. 397).

Ht. 0.56, diam. 0.376; handles 0.037 by 0.021, with ht. ca. 0.11. For details of shape, see Fig. 2, 4; note grooves below rim, slight offset at base of neck, slight taper of neck downward, finger impressions at base of handles, and the hollow of the interior that falls below the top of the foot as seen from the outside. Clay pinkish buff, micaceous, with vestiges of a light slip (?) like a bloom. The inside is smeared near the mouth.

4. From the sea (?), seen and photographed in October 1958 at the home of Angela Andonou-sou in Tigani (now Pythagoreion) where it had been in use for drinking water for three years.

Ht. 0.589. Stated by the owner to take 3 times the contents of her stamnos; as this latter was called a 9-oke stamnos, the amphora should hold 27 okes or *ca.* 34,600 cc. Noted (in 1958) as having small thin handles, a somewhat worn ring toe, and a graffito (epsilon?) at the center of the shoulder; it was said also to have had letters in paint, at first. Note in the photograph slight offsets below the rim and probably near the base of the neck; also a slight narrowing of the neck toward the shoulder.

For graffiti on amphora fragments in Samos, cf. Technau (*op. cit.* in note 25 above), p. 30, with fig. 22.

5. Agora Excavations, P 18988, from well deposit C 19:9, filling datable *ca.* 425-400 B.C. (*Agora*, XII, p. 386).

Ht. 0.691, diam. 0.334; handles 0.039 by 0.02, 0.042 by 0.02, with ht. *ca.* 0.16. For details of shape, see Fig. 3, 2; note a slight offset at the base of the neck (which does not taper downward); and no finger impressions on the lower attachments of the handles; the hollow of the interior nearly reaches, but does not dip below, the top of the foot as seen from the outside. Clay reddish with white bits and almost no mica. Dipinto: in red a vertical stroke on the neck under one of the handles.

6. Cast of reverse of silver coin of Samos in Oxford, trihemiobol, Barron, pl. XVI, no. 4b. Cf. *ibid.*, catalogue p. 198, and text, p. 71. See above, note 62. I am obliged to Mr. Barron for the photograph.

7. Reverse of silver coin of Samos in the British Museum, trihemiobol, see British Museum Catalogue, *Ionia*, pl. XXXV, no. 9, and cf. Barron, p. 198, no. 3a (not illustrated). See above, note 62. I am obliged to Mr. M. J. Price of the British Museum for the photograph.

8. Cast of reverse of silver coin of Samos in Berlin, trihemiobol, Barron, pl. XVI, 2a. Cf. *ibid.*, catalogue p. 198 and text p. 71. See above, note 62. I am obliged to Mr. Barron for the photograph.

9. From the sea, seen and photographed in October 1958 in Tigani (now Pythagoreion) at the home of Ourania Bouza.

Ht. 0.74. For details of shape of a similar jar (or parts of two such), see Fig. 3, 3; the development of certain features, e. g. the slightly longer and more curving handles, and the slightly longer and more flaring toe, suggests that the shape in Plate 15, 9, is a little later than that in Fig. 3, 3.

10. Stamp on handle of Samian (?) amphora, impressed on **36** of the foregoing catalogue of stamped handles, which see for description.

11. Kastro, Tigani (now Pythagoreion), I 567 from excavations of the German Archaeological Institute before 1929. A monogram stamp on one handle has been published before, though without a photograph: see above, **53** of our catalogue of Samian stamped handles, for the publication reference, and Plate 13 for a photograph.

Preserved ht. of fragment, 0.17; of handle to the left, width by thickness 0.038 by 0.022, and ht. *ca.* 0.135 (handle to the right, which had been glued into place, was out of place in 1968). Note mushroom rim, neck that tapers slightly to an abrupt articulation with the shoulder, short-topped, non-rising handles that draw in a bit below, i. e. they are fairly parallel to the neck; the stamp is on the outside of the curve. Clay fine, dark reddish buff, with some white bits, and a little mica on visible patches of the surface.

12. Obverse of bronze coin of Samos in the British Museum, Sir H. Weber Coll. 6308. Cf. Barron, p. 73, note 16, a list of examples of this series, another of which (Paris 2369, he tells me) Barron illustrates in his pl. XVII, lower right corner. I am obliged to the Trustees of the British Museum for permission to publish a photograph of this coin, apparently not illustrated before, and to Mr. M. J. Price for the photograph.

13. Rhodes, in storage with the Archaeological Service, temporary inventory number **MΣ** 493, found in the course of building operations in the city of Rhodes in May 1964.

Preserved ht. (a little more than shows in Pl. 15, but the bottom is missing), 0.725, diam. 0.492; handles 0.044 by 0.022, and ht. *ca.* 0.179. Note mushroom rim, very short-topped handles, taper of neck toward shoulder. Clay yellowish at surface. On the neck, a red dipinto epsilon.

14. Impression as from an engraved ring on one handle of the amphora of 13, set on the outside of the curve. Represented is perhaps a facing head; much of the surface of the stamp seems to be eroded. I am greatly obliged to the ephor, Mr. Konstantinopoulos, for having this stamp photographed for me.

15. Amphora with prow stamp in the collection of Demosthenes Haviaras in Syme. The collector holds his amphora. Photograph, taken before 1922, reproduced by the kindness in 1957 of Elizabeth Haviara-Apokotou, daughter of the collector. Of the actual amphora, preserved ht. (with toe missing), 0.777; diam. 0.35. One handle bears a stamp with prow device: see 16.

16. Stamp on handle of the amphora in 15: Πανσ|ίμα(χος) around prow.

17. Another example of the same stamp type as 16, on a handle in the Benaki collection, Alexandria (Sam ABC 7), in which the device is more fully impressed.

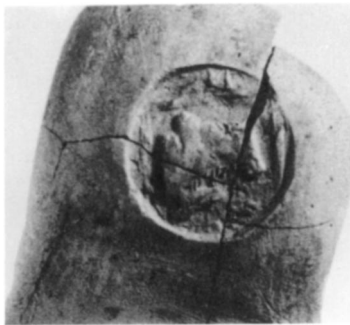
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PLATE 12



1



2



4



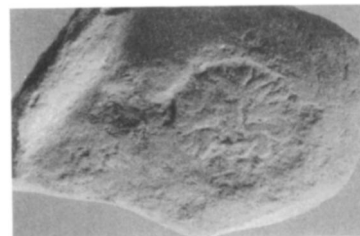
5



6



7



8



9



10



14



17



18



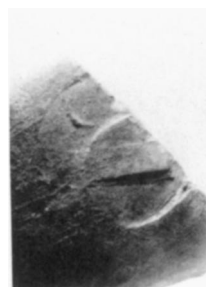
20



21



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23



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27

Handles stamped with Samian Coin Devices (1:1)

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53

Samian Stamped Handles, all found in Samos (1:1)

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PLATE 14



54



55



56



57 (2:1)



58 (2:1)



59



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61



62 (2:1)



63 (2:1)



64 (2:1)



65 (2:1)



66



67



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70



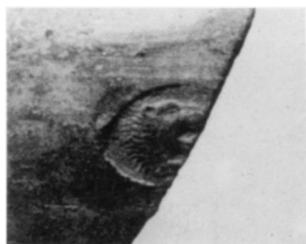
71



72



73



74



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76



77

Samian Handles with Ring-impressions, all found in Samos. 1:1 unless otherwise marked.

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3



4



5



6 (3:1)



7 (3:1)



8 (3:1)



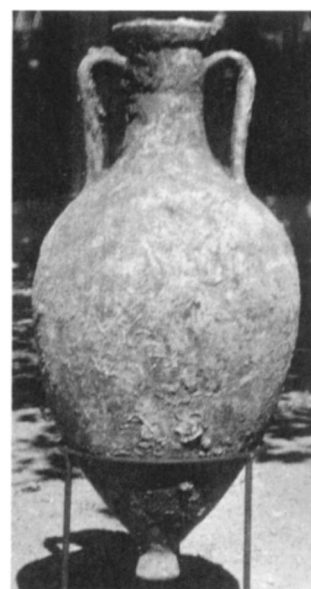
10 (2:1)



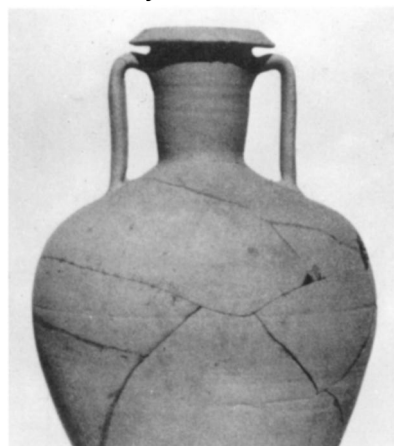
11



12 (3:1)



9



13



14



15



17 (1:1)



16 (1:1)

Samian (?) Shapes, early 6th to 3rd Century B.C. Jars at 1:10.

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