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For text, see folder Empeur - Hesnard 1987  
 followed by SURVEY AND GENERAL

64

J.-Y. EMPEREUR, A. HESNARD  
 1987

PLANCHE 5 - AMPHORES GRÉCO-ITALIQUES

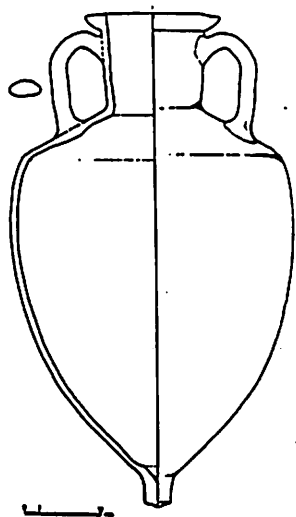


Fig. 22 - GUZZO - LUPPINO 1980, fig. 1, 45.  
 Ech. 1/10. Tombe de Cariati.

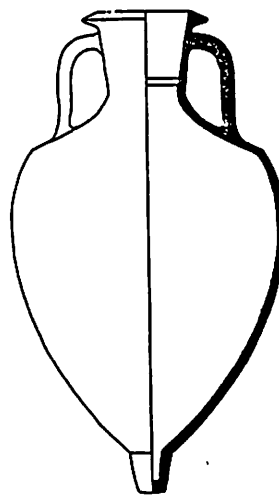


Fig. 23 - BLANCK 1978, fig. 3, p. 94. Ech. 1/10.  
 Epave de La Secca di Capistello.

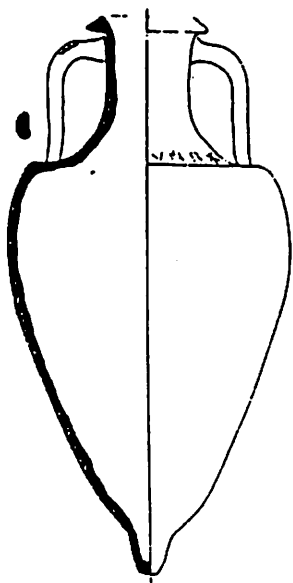


Fig. 24 - SOLIER 1979, fig. 23, 2, p. 94.  
 Ech. 1/10. Entrepôt de Pech Maho.

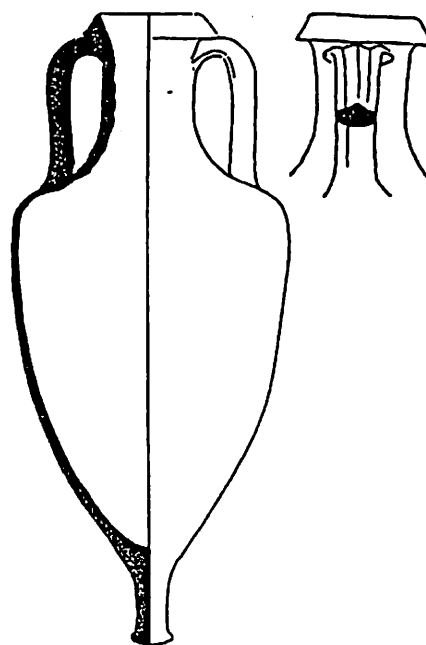


Fig. 25 - F. BENOIT, *L'Épave du Grand Congloué à Marseille*, 14<sup>e</sup> suppl. à *Gallia*, 1961, Pl. II, 2. Ech. 1/10. Epave 1 du Grand Congloué.

## PLANCHE 6 - AMPHORES GRÉCO-ITALIQUES

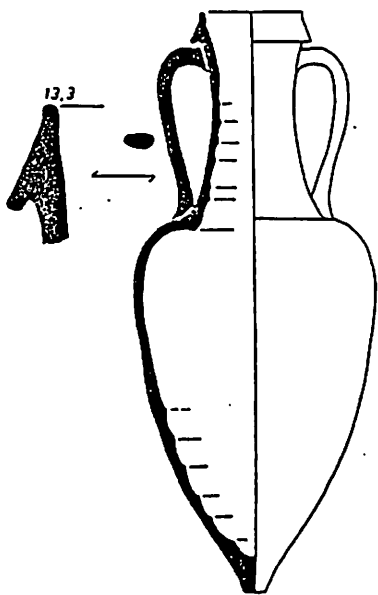


Fig. 26 - M. PY, *Recherches sur Nîmes préromaine*, 41<sup>e</sup> suppl. à *Gallia*, 1981, fig. 68, p. 155. Ech. 1/10. Tombe de la rue Alphonse de Seyne.

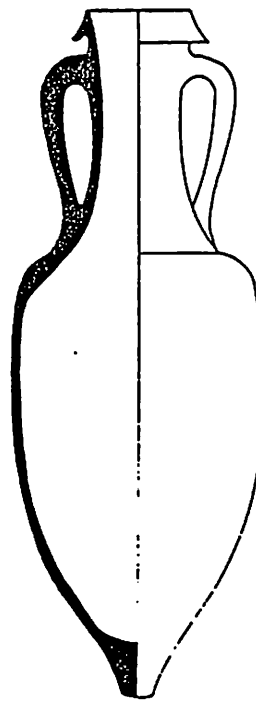


Fig. 27 - NOLLA 1974, p. 149, fig. 1. Ech. 1/10. Ampurias, M.A.B. N° 2624.

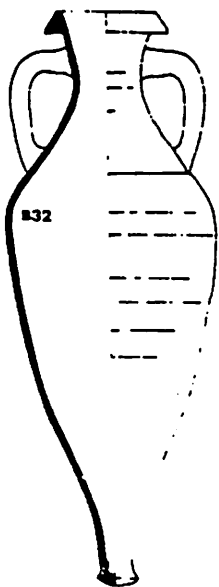


Fig. 28 - RAMON 1981-2, fig. 40, B 32. Ech. 1/10. Ibiza, nécropole de Puig d'es Molins.

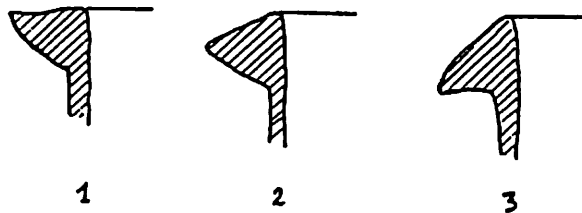
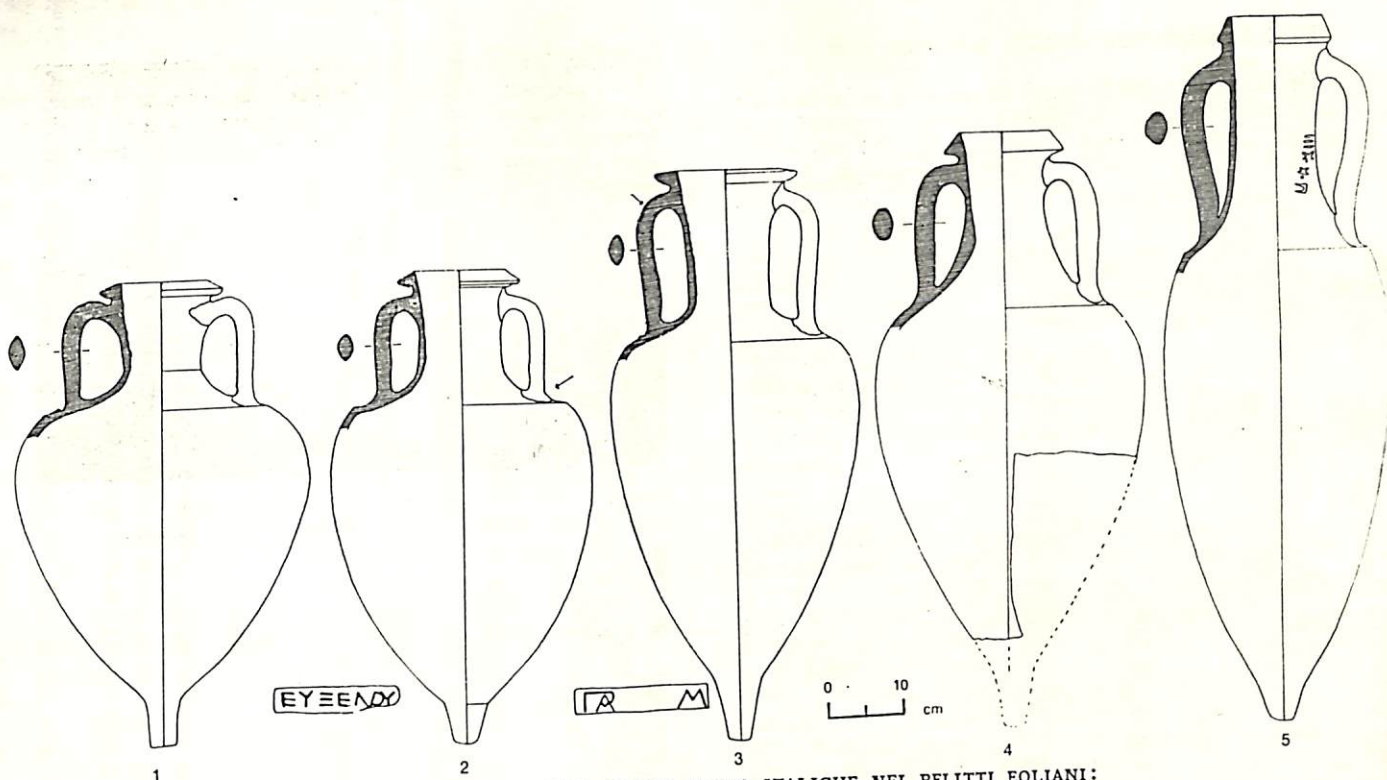


Fig. 29 - Lèvres des gréco-italiques, schéma des formes.



49 - EVOLUZIONE DELLE ANFORE GRECO-ITALICHE NEI RELITTI EOLIANI:  
1) RELITTO ROGHI (PANAREA); 2) SECCA DI CAPISTELLO (LIPARI); 3) RELITTO  
F (FILICUDI); 4) SECCA DEL BAGNO (LIPARI); 5) RELITTO A ROGHI (FILICUDI)

Tutte le anfore appartengono al tipo greco-italico: sono di dimensioni normali (alt. cm 74 circa), tranne l'anfora inv. 10388 che è di dimensione assai minore.<sup>1)</sup> Il labbro è però già a profilo allungato e relativamente poco sporgente (alt. cm 2,5; largh. cm 2-2,2). Queste anfore sono inoltre caratterizzate da un collo lungo, cilindrico e da una spalla piuttosto breve. Sono quindi assegnabili ad un momento tipologicamente molto avanzato dell'evoluzione che dall'anfora greco-italica porta verso l'anfora cosiddetta italica. La Lyding-Will le assegna al suo tipo *d* che data dopo la seconda guerra punica, tipo che inizierebbe, cioè, alquanto prima del 166 a.C. e perdurerebbe fino alla terza guerra punica, inoltrandosi forse nella seconda metà del II secolo a.C.<sup>2)</sup> Però, la presenza, assieme a queste anfore, di un'anfora greco-italica di tipo diverso, cioè con labbro con profilo ad echino (inv. 14660), affine agli esemplari dai fondali della Secca di Capistello, nonché i confronti con l'anfora di Lavezzi (Museo Borely, inv. 8471) e soprattutto con le anfore del

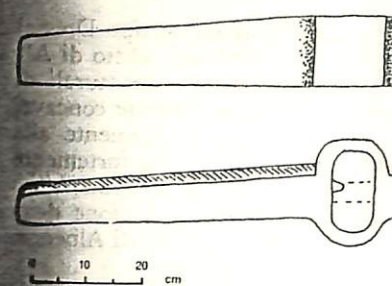
riale del Grand Congloué, che F. Benoit considerava un relitto omogeneo databile intorno agli anni 150-130 a.C., ha rivelato che si tratta in realtà di due relitti sovrapposti. Il primo, che comprenderebbe anfore rodie e greco-italiche, ma anche ceramica campana di tipo A, potrebbe risalire alla fine del III secolo a.C. o all'inizio del II, e sarebbe contemporaneo del relitto della Secca del Bagno; il secondo, con anfore italiche Dressel I A e ceramica campana di tipo B, consentirebbe una datazione alla fine del II secolo oppure all'inizio del I secolo a.C.

1) Un'altra anfora di piccole dimensioni viene dai fondali della Secca di Capistello (inv. 9014). Tutte le anfore della Secca del Bagno presentano un'identica argilla, dura, con rottura nei inclusi sono bianchi e neri di piccolissime dimensioni. Il rossiccio (Munsell 2.5 YR 5/8).

2) LYDING-WILL, in *Hesperia*, 1982, cit., p. 352, n. 29.

3) Per l'anfora di Lavezzi, vedi *Gallia*, XIV, 1956, I, p. 2/22; per il Grand Congloué, vedi F. BENOIT, in *Gallia*, XI, I, in particolare fig. 2, IIIa e IIIb.

4) In corso di studio a cura di B. Liou ed altri.



50 - VULCANO, RELITTO D'ANCORA, IN  
CEPPO D'ANCORA, IN

Il ceppo d'ancora in piombo con anima di legno e con cassetta sensibilmente rastremate. Lunghezza cm 13 x 18; alt. mediana cm 13 cm 8 (fig. 50).

Le anfore, tutte frammentarie, una decina di corpi mancanti del collo e anse talvolta complete della spalla e da minori frammenti 25 esemplari (figg. 51 e 52).

La Punta Luccia sulla costa di Vulcano è l'estrema propaggine su delle formazioni del Vulcano del Piombo altissime balze scoscese e inaccessibili. Dopo la Punta Luccia, si ha, verso la punta, oggi rocciosa e senza più vegetazione, incombe il Vulcano della Fossa. Solo al di là di questo, e cioè al di là di Punta Nere, inizia il Porto di Levante fra esse e Vulcanello.

Nell'antichità prima della nascita del Porto di Levante fra il 186 e il 187 di questa, prima che Vulcanello si formasse con la formazione del Porto di Levante dal Porto di Levante doveva presentarsi molto diversamente.

Quelli che attualmente sono i due porti dovevano essere in comunicazione quasi certamente ancora navigabili e il Faraglione. Il porto di Levante molto più profondamente scavato fra il Vulcano della Fossa e le balze di Luccia, che si prolungano verso il Formaggio.

Una profonda insenatura doveva essere alle navi, soprattutto dai venti del quadrante (Sciocco, Mezzogiorno) e infatti che in esso nel 1872

# BOLLETTINO D'ARTE

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SUPPLEMENTO AL N. 29

ARCHEOLOGIA SUBACQUEA 2

Isole Eolie

(after 1982  
- into ELW)

Questo fascicolo è stato curato con la collaborazione dell'Assessorato ai Beni Culturali e Ambientali della Regione Sicilia e delle competenti Soprintendenze archeologiche.

Athens, March 14, 1988

Dear Letty,

Thank you for the offprint from the Bayerische Vorgeschichtsblätter of 1987. It is something I would probably have missed, all the more now that I don't manage to keep up with what is new in the School library. I must now go and have a look at your section of The Port and Fishery of Cosa, which must be an important volume.

Without that facility, I found your article a bit under-illustrated for the non-specialist. Is there possibly also a mistake in the caption of fig. 1, 1, called the rim of Type 1c, which is not described like that in various places in the text. These things happen to us at the hands of editors eager to earn their salaries.

For the jar found in Rhodes of which I sent the photo to Benoit via Daux: it was the only thing I then knew of that had, like the (earlier) Grand Congloué Wreck amphoras a mushroom rim and what I called a shoulder stop (ridge formed by the meeting of a concave neck curve with a convex body curve), something alien to Aegean shapes in the Greek period. Where that one was found - village of Kalythies, near the city of Rhodes - there were 5 or 6 others more or less similar, plus 3 more or less fragmentary jars of Rhodian shape. One of these had stamps of which we got probable readings, but they had not been cleaned, and Maria (whose trip this was) did not manage to get them cleaned and rubbings made. This trip, with our first acquaintance with these jars, and the photographs of the side views, was in 1952. Later in the '50s we noted several times presence of the jars in one of the store rooms of the Museum, but did not manage to make further records of them (in the midst of all there is to do there). Recently I have not seen them.

I am enclosing photocopies of the "Greco-Italic" jars in this batch. The only one with the toe preserved (top left) is the one illustrated by Benoit. As a group, they seem to me somehow unprofessional, rather careless imitations. ? Have you seen

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enough of the Grand Congloue ones to have an impression as to whether those are  
as crude and uneven? The Rhodian in the same batch seem to me also rather peculiar.  
I enclose a photocopy of the two that have stamps, with a sort of control in the  
middle (light background), a Rhodian amphora dated by apparently the same eponym  
one to the  
as the right in the photostat (ΑΡΑΤΟΦΑΝΗΣ 2nd 1st, see Middle Stoa article, pp.8-9,  
datable 182-176). The two from Kalythies seem to have some erosion on the surface,  
one on the neck and the other on the body. Rhodian amphoras at this period normally  
look very professional, as from controlled production.

The Villanova group are dated by their Rhodian rather earlier than the Kalythies  
group, anyhow all within the period of the Middle Stoa filling. Among the non-  
the Villanova  
Rhodian in that group are a Chian, a Coan and a stamped Thasian.

I hear much praise of your amphora center, most recently from one of your  
neighbors, Caroline Houser. What prospects of seeing the great repertory of  
Latin stamps? People are always asking me about corresponding desirables in my own  
field. My contribution to you on the subject is to mention that it does not get  
any more possible to bring out such things when age creeps upon one.

It would be lovely to hear from you, with news of the children.

Love,

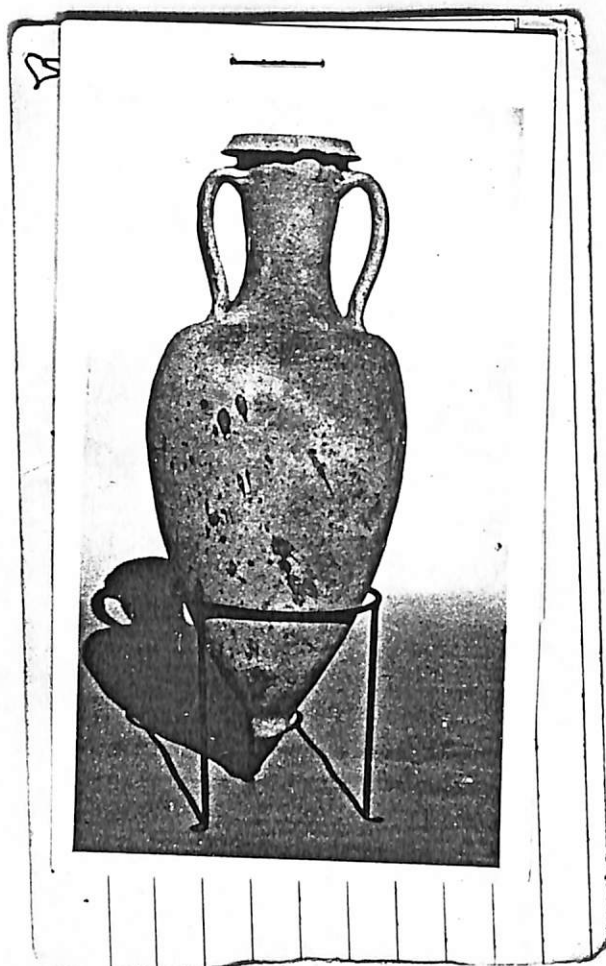
In referring to the Greco-Italic amphoras published in the Villanova article  
by Maiuri, I suggest you give not only the page numbers (as you do), but quite  
specifically the catalogue numbers as in his text (4565-8, 4614-5), since Maiuri  
of course does not call them Greco-Italic, and your reader would be held up  
looking for what you mean in that mixed lot. Perhaps mention also that #4614  
has been found, and its photograph rather corrects the shape suggested by the  
published drawing.

Evelyn Smithson is here this year on Sabbatical (sp.?), and sends you ~~her~~  
heartfelt greetings.

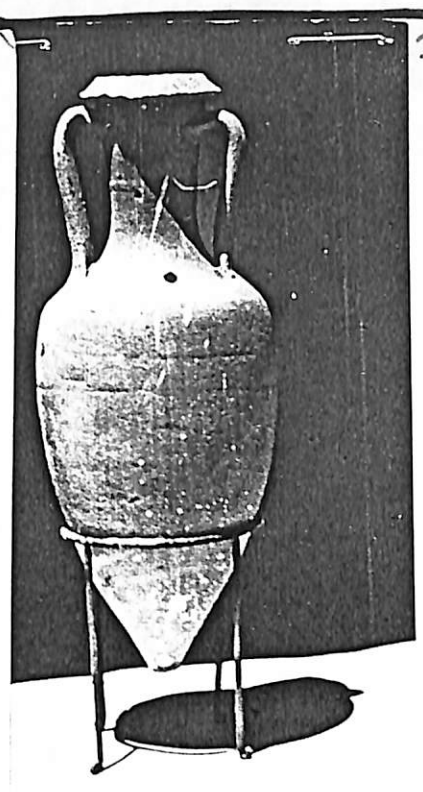
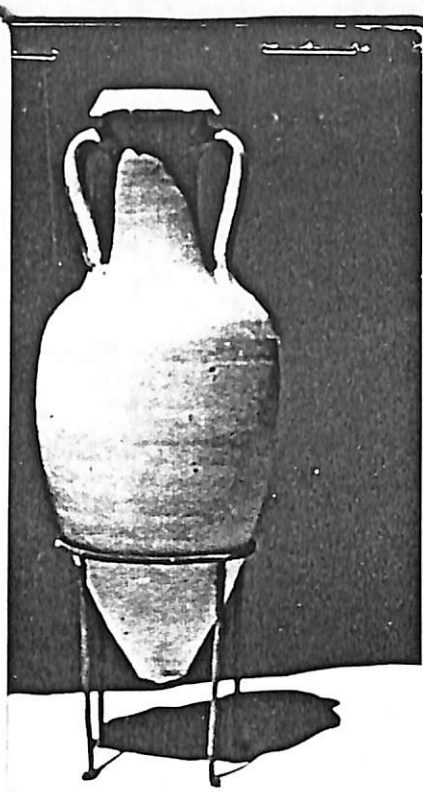
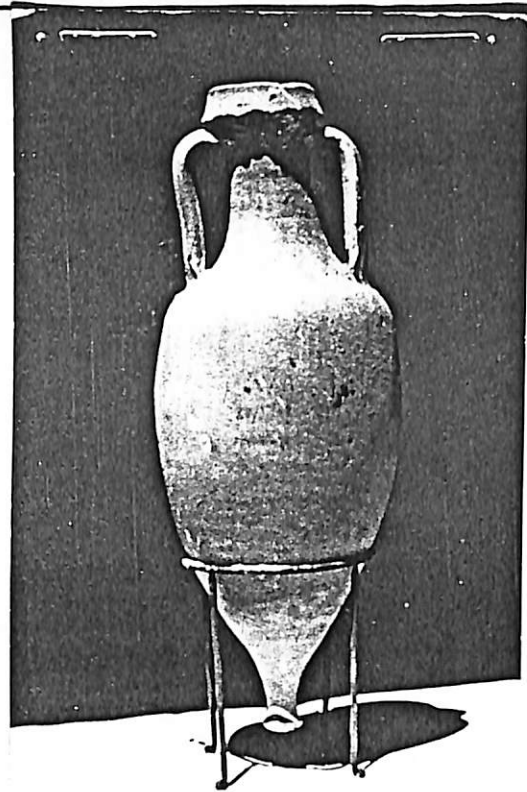
March 25  
Independence Day  
and  
the Anniversary

I had been planning to have a look at  
The Port and Fishing of Gosa before mailing this. For  
one thing, I wanted to see whether you had  
occasion to cite Gellan 31, 1973, Bernard Lion  
reporting on Saint Raphael - Authéon, Épave<sup>C</sup> de la  
Arctienne, possibly in <sup>connection</sup> ~~connection~~ with Villanova  
#4614. Have you an idea where that cargo of  
Lion's came from? I would suggest Vil. #4614  
<sup>was made in</sup> came from the same place, a little earlier.

(I have been foiled in my plan to have a  
look at the Gosa vol., for the moment. A  
kind friend put it on a desk for me, but  
somebody else carried it off from there.)

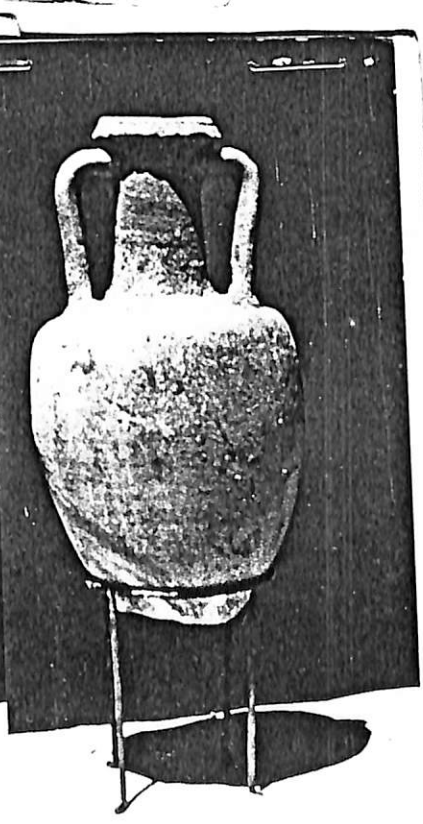


Villanova # 4614



This one illustrated by Baint  
Handles with twisted ribbing

KALYTHIES; RHODES  
(1952)



Kalythies, Rhodes, 1952  
amphoras of Greek-Italic type

Kalythos, Rhodes, 1952  
 2 jars of Rhodian soap, stamped  
 plus (ant) Rh.  
 Jim P. Agnew

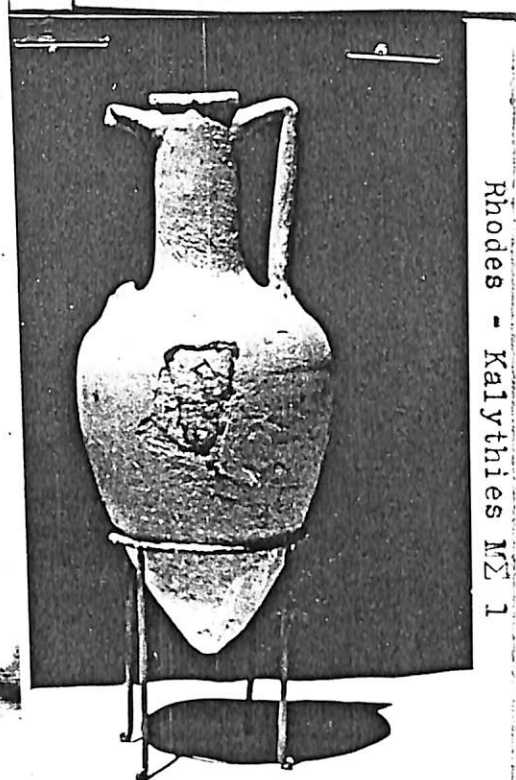


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 11 P. ant. H.T. - 1/2

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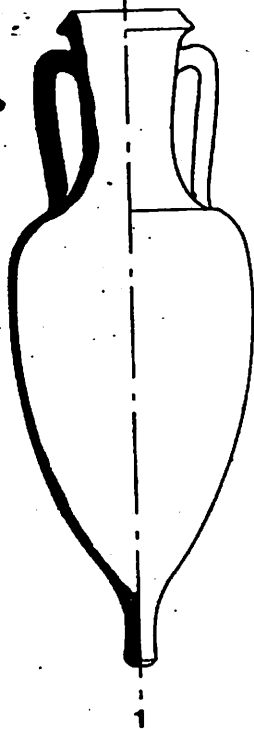
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Rhodes - Kalythos M2 1

18-0-0-0-0-0

34 Saint-Raphaël-Anthéor. Épave C de  
en Christian

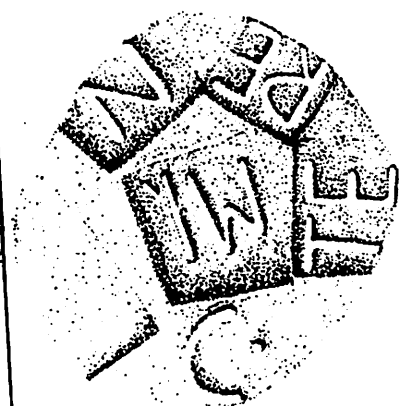


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Kabul Museum

Saint-Raphaël - An  
Épave C de la  
Sur Gallia 31, 1  
Lion (Coppin)  
since 1955. P.  
was the eye  
all still 2 p  
Khabul stamp  
In the work, in  
d) Rome, dated



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WILL

8

V9

Sonderdruck aus „Bayerische Vorgeschichtsblätter“ 52 (1987)

# The Roman Amphoras from Manching: a Reappraisal

With 2 figures

By Elizabeth Lyding Will, University of Massachusetts, Amherst

In his 1979 publication of the coarse wares found at Manching, W.E. Stöckli described and sought to date 112 fragments of Roman shipping amphoras found in the excavations of the great Celtic *oppidum*<sup>1</sup>. These pieces, he felt, belonged mostly to a type called by Nino Lamboglia "Dressel 1A"<sup>2</sup> (Will Type 4a)<sup>3</sup>, a shape which Stöckli dated in the last half of the second and first half of the first centuries B.C. While he recognized the presence at Manching of a very few fragments possibly earlier or later in date than the majority of pieces (approximately five examples of the earlier Lamboglia Type 4 and four examples of the later "Dressel 1B"), Stöckli felt that no importation of amphoras occurred at Manching before about 150 B.C. or after about 50 B.C. The latter date corresponded to his date for the destruction of Manching. He proposed that the foundation of the town took place in the first quarter of the second century B.C., somewhat before importation of Italian amphoras commenced.

In 1982, I had the opportunity, while on a visit to Munich, to examine the Manching amphora finds. I studied all the pieces now known to be in storage in the Prähistorische Staatssammlung in Munich and at the excavation storage facility in Ingolstadt<sup>4</sup>. My observations led me to conclusions that differ in some important respects from those of Stöckli, and the typological and chronological implications of my conclusions are such that it seems useful to look again at the Manching amphora fragments and to reappraise their shapes and their dates.

It is appropriate to mention at the outset that the amphora finds from Manching are mostly quite small fragments, and to emphasize, as well, how difficult it is, even for a specialist, to work with amphora fragments and to try to assign them to type and date them. Roman shipping amphoras were large containers, often over a meter in height. While they were manufactured by techniques similar to those of modern mass production, the dozens of dif-

<sup>1</sup> Werner Ernst Stöckli, *Die Grob- und Importkeramik von Manching* (Werner Krämer, ed., *Die Ausgrabungen in Manching* 8) (Wiesbaden: Franz Steiner Verlag, 1979).

<sup>2</sup> Nino Lamboglia, "Sulla cronologia delle anfore romane di età repubblicana (II—I secolo A.C.)," *RSI* 21 (1955), 241—270. Lamboglia sought to revise and expand Heinrich Dressel's amphora typology in *CIL* XV.

<sup>3</sup> A full presentation of this typology will be contained in E.L. Will, *Stamped Roman Amphoras in the Eastern Mediterranean*, forthcoming in the *Athenian Agora* series. For a recent discussion of part of the typology, including the four types of amphoras examined in the present article (Types 1c, 1d, 4a, and 4b), see my chapter, "The Roman Amphoras," in A.M. McCann, J. Bourgeois, E.K. Gazda, J.P. Oleson, and E.L. Will, *The Roman Port and Fishery of Cosa* (Princeton: Princeton University Press, 1987), 170—220 and figs. IX-1 to IX-453. The same chapter also provides documentation of the important role, referred to throughout the present article, played by the Port of Cosa as a production and export center in the western Mediterranean during the Late Republic.

<sup>4</sup> I would like to take this opportunity to thank the following colleagues and scholars for their help in facilitating my study of the Manching fragments and the preparation of this article: Drs. Jochen Garbsch, Hans-Jörg Kellner, Franz Schubert, Grace Simpson, Susanne Sievers, Hans Peter Uenze, Dorothea van Endert, J.H. van der Werff.

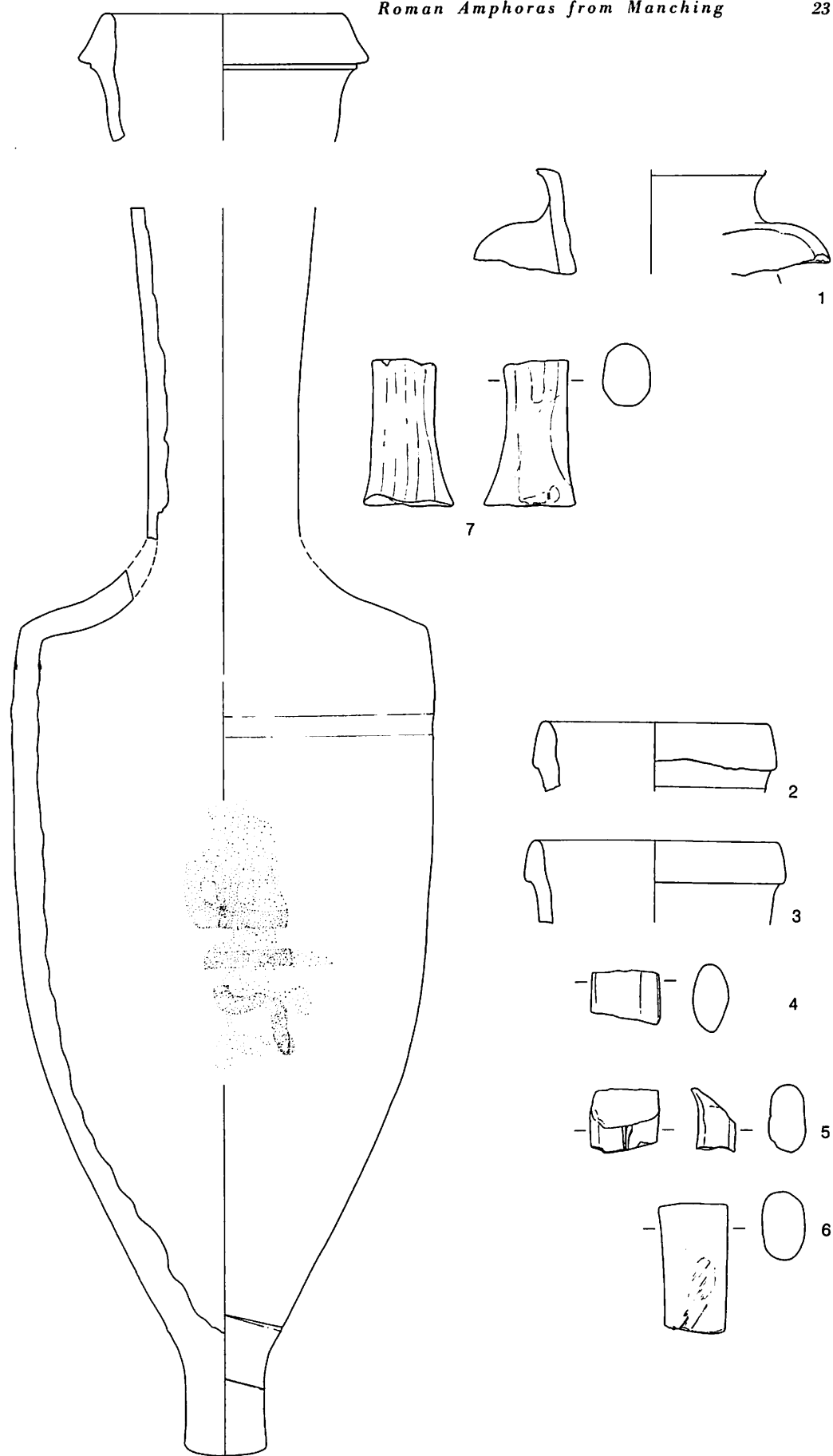
ferent shapes and types of amphoras now known to us accommodated a wide spectrum of variations in detail within each category. While two jars of the same type might look unmistakably alike, as far as their entireties were concerned, they might in spite of that fact show considerable variation with regard to details of shape, clay, surface color, and manufacturers' marks. Since amphoras, especially in excavations on land, are usually found broken, often into many pieces, the task of assigning fragments to type is therefore a matter of some difficulty, especially in view of the fact that several amphora shapes might share similar characteristics. A certain kind of rim or handle or toe might occur on amphoras that are in other respects quite dissimilar. The person who undertakes to assign amphora fragments to type must keep in mind a multitude of possible variations in form, fabric, trademarks, etc., among all the known types of amphoras before being able to make a decision about the category of jar from which a particular fragment comes. Even armed with such a mental "program", the specialist must still, in categorizing and dating amphoras, often make subjective judgments based on experience and probability.

I dwell on these difficulties and uncertainties by way of explaining the differing conclusions drawn by Stöckli and myself with regard to the Manching amphora fragments. The purpose of the present article is to describe the Manching collection as I see it, to note some of my differences with Stöckli, and, in doing so, to bring into clearer focus, on the basis of recent information, the dates to be assigned to that contact between Manching and the Roman world which the amphoras represent; and ultimately to throw light on the westward expansion of Roman commerce and on the history of Manching itself.

In reviewing the Manching amphora fragments, Stöckli had concluded, as I noted above, that most of them belonged to Lamboglia's "Dressel 1A", my Type 4a. My own findings indicate, however, that only about a fourth of the Manching pieces belong securely to that category, which can now be dated with some precision in the late second and early first centuries B.C. About half of the Manching fragments belong to two distinct earlier categories, both of them among the several types of early amphoras often loosely grouped together under the name "Greco-Italic". Stöckli, as I have mentioned, referred to such jars as "Lamboglia 4", and he was able to identify only five possible examples at Manching. On the contrary, Greco-Italic amphoras are abundantly represented at Manching, and the fragments in question can be assigned to two types, which I have termed 1c and 1d, the former datable about 200 B.C. (late third and early second centuries) and the latter datable in the first half of the second century (according to contexts at the Athenian Agora, before 166 B.C. and as early as the 180's B.C.; see discussion below under Type 1d) and perhaps in use as late as the third quarter of the second century<sup>5</sup>. About the origins of both types we have some information, though it is by no means complete, nor is the relationship

Fig. 1. Type 1c: 1 Handle and neck fragment (Inv. 1967. 306),  
Type 1d: 2 Rim fragment (Inv. 1974. 414), 3 Rim fragment (Inv. 1974. 507), 4 Handle fragment  
(Inv. 1974. 438), 5 Handle fragment (Inv. 1974. 1585), 6 Handle fragment (Inv. 1974. 1603).  
Type 4a: 7 Fragmentary amphora with painted inscription (not noticed by Stöckli; reading perhaps SIB,  
or SIIS, the second letter an archaic E with the S overlapping the second line) (Inv. 1963. 1035; Stöckli  
943). Scale 1 : 4.

<sup>5</sup> E.L. Will, "Greco-Italic Amphoras", *Hesperia* 51 (1982), 338-356. It was only after that article had been published that I had the opportunity to study the amphora fragments from Manching.



between the two types as yet clear. Type 1c was probably manufactured in Campania and possibly also in Etruria, in the Aegean area, and elsewhere. Type 1d was manufactured, according to our present information, initially (as far as Italy is concerned) in Campania and later at the Port of Cosa, secondary areas of manufacture being Brindisi, Metaponto, and probably other centers as well. Some manufacture also occurred in the Aegean, but it is as yet unclear whether the Aegean examples of Types 1c and 1d antedated their western counterparts or were copies of them (or, in the case of Type 1c, imported from the west)<sup>6</sup>. In the Cosa area, chiefly, and probably secondarily in Campania, Type 1d developed, during the last half of the second century B.C., into Type 4a. Three-quarters of the Manching fragments belong to Types 1c, 1d, and 4a.

Most of the remaining pieces at Manching (Stöckli, again, found few of them, citing just four possible examples) are early representatives of my Type 4b (Lamboglia's "Dressel 1B"), which developed out of Type 4a as early as the 80's B.C., though the majority of examples belongs to the last half of the first century B.C. This type was primarily Campanian in origin, though early examples are found in the Cosa area, where the evolution of Type 4a into Type 4b may have taken place.

To summarize, my finds indicate that four distinct types of Roman amphoras were being imported into Manching over a period of about a century and a quarter, from about 200 B.C. to the 80's or the 70's B.C. The four categories, clearly different in shape and in date, are represented at Manching in about equal numbers. It should be understood, of course, that we are dealing with a relatively small group of fragments (about 126, since Stöckli's group of 112 pieces did not include 14 studied by me in 1982). Those fragments represent perhaps about a hundred amphoras, since relatively few of them can be identified as coming from the same jars. With complete excavation of the site, the number of amphora finds would certainly be greatly enlarged. It has, in any case, been my observation over the years that even a small sampling of amphoras or fragments at a given site (whether on land or underwater) will tend to reflect the overall picture of amphora importation as a whole at that site. The types of amphoras represented in the sampling, unless it comes from a closed context, will generally be proportionate to the actual representation of those types over the site in its entirety.

Let us turn to a fuller examination of the earliest Roman amphoras at Manching, jars belonging to Types 1c and 1d. Some 24 of the Manching fragments, and perhaps as many as 32, belong to Type 1c, and about 17 belong to Type 1d. At the time Stöckli wrote, neither category had been differentiated from the great mass of early amphoras called "Greco-Italic". Subdivisions and dates are now available for that amorphous group, however, and

<sup>6</sup> See the discussion of the origins of Types 1c and 1d in the *Hesperia* article (note 5 above), 348 and 350-351, and in McCann et al. (note 3 above), 173, 178-179, 183. An example of Type 1c in the Aegean was discovered by Dr. Virginia R. Grace on Rhodes (Fernand Benoit, *L'épave du Grand Congloué à Marseille, Gallia*, supp. 14 [Paris, 1961], 35, fig. 32 [photo by V.R. Grace]), and the Rhodian finds of Type 1d are mentioned in A. Maiuri, "Una fabbrica di anfore rodie," *ASAtene* 4-5 (1921-1922), 261-262; cf. V.R. Grace and M. Savvatianou-Petropoulakou, "Les timbres amphoriques grecs," in P. Bruneau, et al., *L'îlot de la Maison des Comédiens (Exploration archéologique de Délos, 27)* (Paris: Éditions E. de Boccard, 1970), 294-295. The material from Brindisi and Metaponto is as yet, to my knowledge, largely unpublished. (I am indebted to J.C. Carter, director of the excavation of the kiln deposit at Pizzica/Metaponto, and to J. Brehob, who is studying the amphora material, for permitting me to see photographs, drawings, and clay samples of the finds.) My conclusions suggesting Brindisi and Metaponto as manufacturing-sites for Type 1d postdate my discussions of the topic in the *Hesperia* article and in the Port of Cosa chapter, which was sent to the publisher in 1982.

Handwritten notes and signatures at the bottom of the page, including "L. Will" and "J. Brehob".

every year brings advances in our understanding of them. Stöckli had described such early jars in terms of the imprecise attitude toward them that prevailed after Fernand Benoit first applied the name "Greco-Italic" to small, early amphoras in 1954<sup>7</sup>. It was a "catchall" category, sometimes thereafter called "Benoit Republican I" or "Lamboglia 4". In an article, "Greco-Italic Amphoras", in *Hesperia* for 1982<sup>8</sup>, however, I sought to isolate five chief subdivisions of such jars and thereby to help clarify a situation in which archaeologists and underwater divers had tried to put into one group amphoras which in reality could be as much as 200 years apart in date. While superficially resembling each other, they were in reality several distinct types. Stöckli had not recognized those distinctions and had, as a result, confused amphoras of my Types 1c, 1d, and 2 (Forms c, d, and e in the *Hesperia* study). While Type 2 is not represented at Manching, Types 1c and 1d, as I have noted above, account for about half of the amphora finds there. Stöckli did not distinguish the two types, or know their dates. In addition, and perhaps more importantly, he confused many examples of both types with Type 4a. And finally, he did not, apparently by error, publish in his book 14 important pieces, several of which are, as it happens, fragments of Types 1c or 1d.

In the following four sections, I will summarize the four types of Roman amphoras represented at Manching. Types 1c and 1d will be examined more closely than Types 4a and 4b, since less has been published about the earlier types and it is therefore important to be as specific as possible about their chief features.

#### Amphoras of Type 1c at Manching (fig. 1, 1-2)

On the basis of shape, dimensions, and fabric, the following 24 fragments should be assigned to Type 1c: Stöckli no's. 952, 953, 954, 955, 974, 978, 979, 980, 984, 985, 1004, 1012, 1018, 1022, 1030, 1033, 1035, 1038, 1047, 1048, 1051, and the following three pieces not included by Stöckli: Manching inventory numbers 1967.306 and 1974.2196, as well as an apparently uninventoried piece from a drawer marked "1967". To it, I gave the study number 65. In addition, these eight pieces are possibly to be assigned to Type 1c: Stöckli no's. 947, 951, 957, 971, 972, 986, 987, and 1041.

Type 1c is an amphora form of which we have few examples from excavations on land but many examples from underwater excavations. Of some amphora types, unbroken specimens are so rare that general descriptions based on the study of a few jars do not necessarily encompass the wide spectrum of variations in detail possible within those categories. Not so with Type 1c. We have hundreds of examples of the type, more than for any other Greco-Italic shape. Two large Roman shipwrecks in the western Mediterranean provide the information. Over 400 examples of Type 1c were in the cargo of the lower Grand Congloué wreck off Marseilles<sup>9</sup>, and hundreds more come from the wreck of El

<sup>7</sup> Fernand Benoit, "Amphores et céramique de l'épave de Marseille," *Gallia* 12 (1954), 34-41; cf. *id.*, "Typologie et épigraphie amphoriques: les marques de Sestius," *RSILig* 23 (1957), 251-256.

<sup>8</sup> See note 5 above.

<sup>9</sup> See most recently Luc Long, "The Grand Congloué Site: A Reassessment," in McCann, et al. (above, note 3), 164-167.

Fig. 1, 2 is called 1d  
in caption of Fig. 1  
but in caption of Fig. 2  
it is called 1c  
different from 1c  
— is this  
Manching (fig. 1)  
See also notes p. 165  
The Marseilles Green  
has a small class  
as this class  
from 1041  
(Lamboglia)

Lazareto (Puerto de Mahón), Minorca<sup>10</sup>. These two wrecks permit us to understand the shape more clearly than would be the case if we had only the few finds from excavations on land.

Full-size jars of Type 1c from the lower Grand Congloué wreck ("Grand Congloué 1") have an average height of 0.88–0.90 m., and a capacity of 25 to 26 liters; half-size jars from the same site are 0.63 m. in height and have a capacity of 12 liters<sup>11</sup>. At El Lazareto, full-size jars vary in height from 0.82 to 0.90 m., with a capacity of about 27 liters; half-size jars measure between 0.65 and 0.70 m. in height, with capacity of 12/13 liters; and even smaller jars, 0.535–0.565 m. tall, have a capacity of about 9 liters. Such uniform dimensions indicate, then, that Type 1c was mass-produced, and in graded sizes.

The shape of Type 1c is both practical and aesthetically pleasing. The long neck, concave in profile, balances the long, rather heart-shaped belly, the greatest diameter of which is about 0.35 m. on the average. As far as details of shape are concerned, the large amount of material at our disposal permits us to point to certain distinctive features found on most examples of this type of amphora, though it must be remembered that some features might be lacking in the case of individual jars. The handles of Type 1c are regularly triangular in section, with a marked dorsal ridge or rib down the center. Placed well out from the neck and somewhat S-shaped in profile, the handles often show fingertip impressions at the base, at the attachment to the shoulder. The average width of the handles is about 0.050 m., and the average thickness is 0.028 m. The rim of Type 1c is distinctive in that it regularly touches the handles, or is only two to three millimeters from them. Low, outflaring, and sometimes concave in profile, its average height is 0.030–0.35 m., and its average diameter is about 0.18 m. The rather delicate toe of this type of amphora often ends in a knob that can be four to seven centimeters in width, though it should be noted that the knob is often broken off and missing. As to the clay of Type 1c, it is coarse in texture, varying in color from light to dark pinkish buff, depending on the amount of firing. It contains a distinctive number of red bits and mineral assemblages that cannot yet be associated with any particular area. It is often quite micaceous, and on the surface the fabric has a definite yellow color, where the surface is undamaged. These four marked and characteristic features (ribbed handles, triangular in section; low rim, wide in diameter, close to or touching handles;

<sup>10</sup> J.C. Nicolás Mascaró, *La nave romana de edad republicana del Puerto de Mahón (Menorca, Baleares)* (Mahón, 1979), 13–14, and figs. 6–12, 14–16. A more recent publication assigns, apparently by error, several of the same profiles published by Nicolás Mascaró as from El Lazareto to a different site, Cales Coves, on the other side of Minorca. See J.M. Blázquez Martínez, "Últimas aportaciones a los problemas de la producción y comercio del aceite en la Antigüedad," *Producción y comercio del aceite en la Antigüedad, Segundo Congreso Internacional* (Madrid: Universidad Complutense, 1983), 57–58 and fig. 11.

<sup>11</sup> Fernand Benoît, op. cit. in note 6 above, p. 36. Two amphoras of Type 1c from the lower Grand Congloué wreck are in collections in the United States, and I have studied them in detail on several occasions. One of them, which is illustrated in the *Hesperia* article (above, note 5), plate 85: d, is in the collection of the College of Earth and Mineral Sciences at the Pennsylvania State University, and the other, known to me since 1982, is in the collection of Harold Edgerton and is now on display at the Massachusetts Institute of Technology. I would like to take this occasion to thank both Dr. Edgerton of M.I.T. and Dr. Frederick Matson of the Pennsylvania State University for their kindness in making the amphoras available for study. In addition to studying those two jars, I visited the Borély Museum in Marseilles in 1955 and saw the amphoras from the Grand Congloué wreck that were on display there.

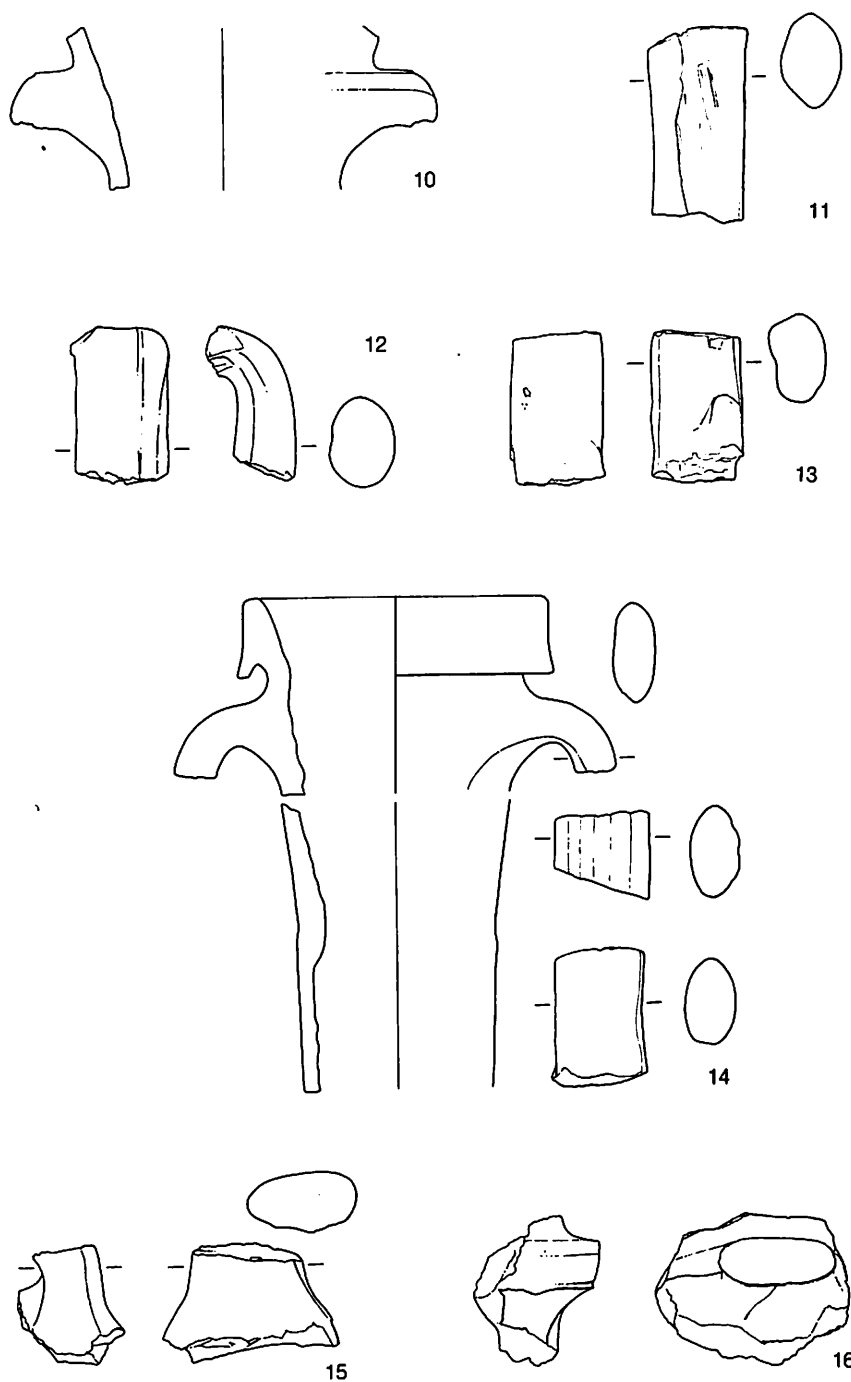


Fig. 2. Type 4 a: 10 Neck fragment (Inv. 1956. 16), 11 Handle fragment (Inv. 1974. 9), 12 Handle fragment (Inv. 1974. 59), 13 Handle fragment (Inv. 1974. 198). Type 4 b: 14 Rim, neck and handle fragment (Inv. 1967. 607; Stöckli 944). Uncertain local (?) type: 15 Handle fragment (Inv. 1974. 352), 16 Neck and handle fragment (Inv. 1974. 394). Scale 1 : 4.

small toe that is frequently knobbed; yellow surface color) are critical to an understanding of Type 1c. They are the norm, though variations and exceptions exist, as with all norms.

To turn now to the Manching finds, Stöckli had observed (pp. 136—137) that three handle fragments (his no's. 1012, 1033, 1051) could belong to Lamboglia's Type 4 since they had the ridge down the center and the relatively small dimensions which he had seen on jars from the lower Grand Congloué wreck, but he did not note the distinctive yellowish surface color of many of those jars or indeed recognize their other unique features or see them as different from other Greco-Italic amphoras. Other Manching amphora handles that are also triangular in section he dismissed as too large to be classed as Lamboglia 4. That such a criterion is open to question, however, is suggested by two factors. The handles of Grand Congloué 1 jars vary considerably in width and thickness. Although average handle dimensions are cited above, two Grand Congloué jars which I have measured in detail have handles varying in width at the upper attachment from 0.047 m. to 0.052 m.<sup>12</sup>. Secondly, handles belonging to the other types of amphoras found at Manching (Types 1d, 4a, and 4b) are regularly not triangular in section. On the basis of shape and fabric, the following Manching handles should be assigned to Type 1c: Stöckli no's. 1012, 1018, 1022, 1030, 1033, 1038, 1047, 1048, 1051. In addition, no. 1035, slightly ridged, has the same clay and seems to be from the same jar as a toe (no. 979) which I assign to Type 1c on the basis of shape (see discussion below).

Two further pieces, neither of them catalogued by Stöckli, belong to Type 1c even though the handles as preserved are not triangular in section. One of them is a fragment of handle and neck which has neither a Stöckli number nor a Manching inventory number (referred to above as given my study number 65)\*. It can be assigned to Type 1c by reason of its yellowish surface color and its dimensions. The other piece bears the inventory number 1967.306. It is a handle fragment above which is preserved a piece of neck that was originally under and contiguous to the rim. The rim was deeply undercut and apparently attached to the neck only at its (the rim's) top. A deep channel marks the spot where the bottom of the rim rested on the upper part of the handle, a characteristic feature of Type 1c. The dimensions of the handle at the upper attachment (width, 0.051 m.; thickness, 0.026 m.) are close to the average for Type 1c. The clay is micaceous, sandy peach in color, tan at the surface.

Part of the same jar from which came no. 1047, referred to above as a handle fragment triangular in section, are two other fragments, Stöckli no's. 978 and 1004. All three pieces have the same inventory number (1963.1038) and are of the same fine tannish buff clay, yellowish at the surface, but Stöckli did not connect them with each other. No. 978 is a neck fragment preserving a piece of rim and the upper attachment of one handle. The damaged rim, broken at the bottom, is close to, and probably once touched, the handle. No. 1004 is a piece of shoulder and upper belly. Some indeterminate body pieces, not inventoried, probably came from the same amphora.

<sup>12</sup> See note 11 above.

\* Unfortunately not to be traced at Ingolstadt at the moment (editor's note).

feature  
not ill.

Four additional rims should be assigned to Type 1c on the basis of shape and surface color: Stöckli no's. 952, 953, 954, 955, and 974. No. 953 is of the same fabric, and has the same inventory number, as a knobbed toe fragment to which Stöckli gave the number 985. Such knobbed toes, which vary in width at the base from 0.040 to 0.070 m., are, as I have noted above, frequent on Type 1c, and there are several other examples at Manching. A second toe of the same shape, and with a yellowish surface, is not included in Stöckli's catalogue, but it bears the inventory number 1974.2196. A third toe, Stöckli no. 984, identical to the other two just described, is confusingly stored at Ingolstadt with, and bears the same inventory number (1963.1035) as, a group of fragments, including another toe, belonging to a jar of Type 4a (Stöckli no. 943; see below under Type 4a).

Stöckli (p. 132) assigns all knobbed toes to "Dressel 1A" (Type 4a), but in my view knobbed toes like the three just described are much more likely to occur on Type 1c than on Type 4a. That is to say, they are frequent on Type 1c and very rare on Type 4a. Of the dozens of toes on Type 4a jars at Cosa and the Port of Cosa, a center for the manufacture of the type, I can recall none that is knobbed. Toes of Type 4a often flare out at the very bottom, but no actual knob is formed. Three knobbed toes found in the Port of Cosa all come from amphoras of Type 1c<sup>13</sup>. Stöckli illustrates (fig. 20:5) a Type 4a jar with such a toe from the upper Grand Congloué wreck, but the jar pictured in that drawing is unlike the other amphoras from the wreck with respect to rim and upper neck. Its uniqueness could suggest that it is an experimental shape, or the drawing might be inaccurate. To my knowledge, the existence of the jar in question has never been corroborated by a photograph, and as a result it is difficult to be sure about the accuracy of the details given in the drawing. The only other knob-toed amphora of Type 4a known to me is from the wreck variously called Anthéor A and La Chrétienne A (illustrated by Stöckli in fig. 20:2). From the wreck, Benoît mentioned a group of about 15 amphoras of Type 4a, the toes of which he described as sometimes knobbed ("parfois en bouton"; cf. Benoît 1957, p. 266 and fig. 14: left)<sup>14</sup>. Again, we lack photos, although Joncheray's first edition<sup>15</sup> gives a photo of a jar with an unknobbed toe from the same wreck (4th plate following p. 20, jar on upper left; cf. his drawing on pl. III: 2c). There is surely a possibility that rather flat knobs occasionally occur at the bases of toes of Type 4a, and it is certain, as I noted above, that toes of Type 4a often flare out at the bottom. It is also possible that two knobbed toes at Manching (Stöckli no's. 986 and 987; the drawing he gives of no. 986 on plate 74 is in error, as the piece is identical in shape with no. 987) should be thought of as belonging to Type 4a. On the other hand, however, the two toes could also be rather massive examples of Type 1c. The diameter of no. 986 is 0.072 m. and that of no. 987 is 0.070 m., whereas the three toes assigned to Type 1c above (Stöckli no's. 984, 985, and the toe bearing the inventory number 1974.2196) have diameters of 0.060m., 0.063 m., and 0.050 m., respectively. A toe

<sup>13</sup> McCann, et al. (note 3 above), p. 179, no's. A3-A5.

<sup>14</sup> See note 7 above for the full citation of this article.

<sup>15</sup> J.-P. Joncheray, *Classification des amphores découvertes lors de fouilles sous-marines* (Gap: Imprimerie Louis-Jean, 1970). The second edition of this work (Fréjus, 1976) may show a photo of the same jar on p. 27, fifth jar from bottom, on left, but the toe is not visible.

on an amphora from Grau-Neuf at the mouth of the Rhône-vif, however, has a diameter of about 0.070 m.<sup>16</sup>, and since there is no doubt that that jar belongs to Type 1c it may be that Stöckli no's. 986 and 987 should also be assigned to the type, given the rarity of knobbed toes on Type 4a.

Stöckli, then, in addition to failing to see Type 1c as a separate type, did not recognize the presence of knobbed toes within the group he called Lamboglia 4. Toes of that group, he felt (p. 127), were elongated and slender, and he found only no. 979 comparable. Toes, like it, without knobs do occur on Type 1c, and I would agree that that toe is an unknobbed example of the type, and, as noted above, probably from the same jar as the slightly ridged handle, no. 1035. A less elongated unknobbed toe (no. 980) with yellowish surface color should also be assigned to Type 1c. It is probably from the same amphora as the handle fragment referred to above, no. 1033.

Stöckli assigns a small shoulder fragment (p. 133; cf. fig. 21:1, pl. 75:991) to Lamboglia 4, but the difficulty of identifying the types of small shoulder and body fragments is such that I have decided to confine my discussion in the present article to rims, handles, and toes, fragments which are more readily classifiable. Only the shoulder fragment no. 1004, noted above, which is clearly part of the same jar as two other fragments of Type 1c, has been included here in the totals for Type 1c.

In summary, my findings indicate that Type 1c is represented at Manching by the 24 pieces referred to above. In addition, I think it possible that the two large toes also described (Stöckli no's. 986 and 987) may belong to Type 1c. With regard to no. 986, it should be added that a small rim fragment of Type 1c (Stöckli no. 955, listed above) has the same micaceous tannish clay as the toe. Since the two pieces bear inventory numbers suggesting that they were found in close proximity, I incline to the feeling that both are from the same jar and that the jar belonged to Type 1c, although, as noted above, the toe is quite large for the type. A further group of fragments is possibly to be assigned to Type 1c, although the characteristic features of the type are less marked than in the case of the other pieces described. This group includes five rims (Stöckli no's. 947, 951, 957, 971, and 972) and a handle (Stöckli no. 1041).

#### Amphoras of Type 1d at Manching (fig. 1,3-7)

On the basis of shape, dimensions, and fabric, the following 17 fragments should be assigned to Type 1d: Stöckli no's. 950, 960, 965, 969, 976, 1017, 1023, 1024, 1025, 1029, 1046, 1052, and Manching inventory no's. 1974.414, 438, 507, 1585, and 1603.

Every year brings advances in our understanding of this type of amphora, which, like Type 1c, Benoît and Lamboglia, and with them Stöckli, considered to be part of an undifferentiated "Greco-Italic" group. Type 1d is actually quite distinct from Type 1c. As noted above, we do not yet know its relationship to Type 1c, but typologically and chronologically, if not also in terms of geographical origin, Type 1d seems to fall between Type 1c and

<sup>16</sup> J. Granier, „Trouvailles fortuites sur le littoral gardois,” *RSILig* 31 (1965), 257-259 and fig. 5: 2.

Acc. to capl  
8/10/1 2/10/2  
and 2/10/10  
Type 1d

several late Republican amphora types, one of which, Type 4a, also occurs at Manching and will be discussed below. Types 1c and 1d, then, are of importance not just as examples of very early Roman amphoras but also (and we are quite sure of this in the case of Type 1d) as ancestors of the wide variety of shipping containers in which Italian products were exported during the late Republic, the period of Italy's domination of Mediterranean trade.

Type 1d can be dated, as has already been explained, a little later than Type 1c, although we do not yet know whether the former type is descended from the latter. A general date in the first half of the second century B.C. seems certain for Type 1d, and the type probably lasted into the third quarter of the century. By the last quarter of the century it had evolved into the late Republican types referred to above. The earliest examples of jars like, and perhaps ancestral to, Type 1d come from Villanova, on the island of Rhodes. Six jars were found in a pottery factory there, along with 186 Rhodian amphoras datable to the early second century B.C.<sup>17</sup> At the Agora Excavations in Athens, a fractional jar (P 17046) similar in shape comes from a context (B 20:2) datable from the 180's to no later than 166 B.C. Perhaps Type 1d developed in Rhodes, or at least in the Aegean area, and it could have been a descendant of Type 1c, an example of which has been found on Rhodes. Or Types 1c and 1d could both have developed independently in the East and in the West. At this time, our data are not complete enough to permit us to speculate. As I have pointed out above, the earliest western examples of Type 1d seem to come from Campania, probably from the area of Pompeii, but soon an amphora factory owned by the Sestius family had developed (or possibly revived) at or near the Port of Cosa, and there is also evidence of the manufacture of Type 1d near Brindisi and Metaponto, in addition to Rhodes. It is even possible that Italian manufacture of the type began in the Brindisi and Metaponto areas, and spread from there to Campania. Up to the present time, finds at Cosa or finds of Cosan manufacture make up far the largest group of known representatives of Type 1d, but recent exploration of kiln-sites in northern Campania and southern Latium is sure to add greatly to the number of known examples of the type<sup>18</sup>.

Type 1d is much more frequently found in excavations on land than is Type 1c, a result perhaps of the more widespread manufacture and distribution of the former type. We are just beginning to appreciate the extent of the spread of Type 1d, but it is already clear that it was the chief, indeed the standard, variety of amphora in the western, and perhaps in the eastern, Mediterranean in the first half of the second century B.C. Although, in contrast

<sup>17</sup> See above, note 6.

<sup>18</sup> See text above, and note 6, for additional details about the present (temporary) state of our knowledge of the origins of Types 1c and 1d. On exploration of kiln-sites in the Falernian area of southern Latium and northern Campania, see O. Uenze, *Frühromische Amphoren als Zeitmarken im Spälatène* (Marburg/Lahn: N.G. Elwert Verlag, 1958), 7, 14–15; D.P.S. Peacock, „Recent Discoveries of Roman Amphora Kilns in Italy,” *AntJ* 57 (1977), 262–265; W. Johannowsky, „Problemi archeologici campani,” *RendNap* 1977, 3–38; C. Panella, „Retroterra, porti e mercati: l'esempio dell'Ager Falernus,” in J.H. D'Arms and E.C. Kopff, eds., *The Seaborne Commerce of Ancient Rome: Studies in Archaeology and History* (American Academy in Rome, 1980; *MAAR* 36), 251–259; A. Hesnard and C. Lemoine, „Les amphores du Cécube et du Falerne: prospections, typologie, analyses,” *MelRome* 93 (1981), 243–295.

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to Type 1c, no great numbers of Type 1d occur underwater, the large number of finds on land permits us to analyze the type's chief characteristics.

Perhaps because Type 1d was manufactured in various centers, and over a long period of time, examples show some differences in details of clay and shape, particularly shape of belly. Shorter and taller varieties of Type 1d are known, the shorter examples being an average of 0.75–0.80 m. in height and 0.35 m. in greatest diameter, with heart-shaped bellies resembling those of Type 1c. The taller examples of Type 1d are about 0.85–0.90 m. in height, with bellies tending to be of the same greatest diameter as those of the other group, but somewhat longer and more ovoid in shape. Because the rims, handles, necks, and toes, always important chronological indicators, of both shorter and longer versions of Type 1d are identical, there may be little or no significance to the variations in length and shape of belly.

Further finds will help to clarify the question of the origins of the sub-types, if any, of the Type 1d category as a whole. If there is a significance to belly-length, we need to know, also, whether long-bellied and short-bellied versions of the type coexisted or were of different dates. According to our present information, it seems likely that it was the longer-bellied varieties that evolved directly into Type 4a. On the other hand, the finds, mentioned above, from Rhodes have longer bellies and seem to be datable to the early second century B.C. It is unfortunate that we have at Cosa and the Port of Cosa nothing but fragmentary amphoras with which to work. No complete amphora of Type 1d has been found in the area except for a short-bellied jar said to have been discovered at Porto Ercole<sup>19</sup>, but an abundance of evidence from Cosa and vicinity points to it as a manufacturing center for amphoras from the first half of the second century B.C., and perhaps earlier. Research at kiln-sites in Campania is in progress, as noted above, and increasingly useful evidence is awaited from that source, as well as from Brindisi, Metaponto, Rhodes, and manufacturing centers as yet unidentified.

We have noted that the longer and shorter varieties of Type 1d are, except for length of belly, indistinguishable. The low, outflaring rims (average height, 0.030 m.) are placed well above the handles, unlike the rims of Type 1c, and are about 0.14 m. in diameter, whereas rims of Type 1c measure about 0.18 m. in diameter, as noted above. As far as handles are concerned, those of Type 1d are long and thin, S-shaped in profile, and oval in section (average width and thickness is about 0.045 m. by 0.023 m.), whereas the wider, ridged handles of Type 1c are regularly triangular in section. Toes of Type 1d are solid and about 0.045 m. in diameter at the base. They lack the knob that is often found on the bottoms of the toes of Type 1c. The clay of Type 1d varies in character, depending on place of manufacture and conditions of firing. The clay of the examples of Type 1d found at Man-  
ching is the characteristic "Sestius" clay of amphoras shown by mineralogical, petrographic,

<sup>19</sup> See illustrations in my *Hesperia* article (above, note 5), plate 85:f, and in McCann, et al. (above, note 3), p. 170:1d and fig. IX-3.

and geochemical tests to have originated in the area of Cosa and the Port of Cosa<sup>20</sup>. It is a distinctive, coarse pinkish buff fabric, with many black, white, and red bits, and a lighter wash on the surface. It is indistinguishable from the clay of the the examples found at Manching of Types 4a and early 4b, to be discussed below.

The Manching collection of Type 1d includes seven rim fragments (Stöckli no's. 950, 960, 965, 969, 976, and Manching inventory no's. 1974.414 and 507) and ten handle fragments (Stöckli no's. 1017, 1023, 1024, 1025, 1029, 1046, 1052, and Manching inventory no's. 1974.438, 1585, and 1603).

#### Amphoras of Type 4a (Dressel 1A) at Manching (*fig. 1,8-9; 2,10-13*)

The following 27 fragments at Manching should be assigned to Type 4a: Stöckli no's. 943 (including 990), 946, 948, 949, 956, 963, 964, 966, 970, 973, 977, 981, 982, 983, 1014, 1015, 1020, 1037, 1039, 1040, 1043, 1044, 1050, and Manching inventory no's. 1956.16, 1974.9, 59, and 198. The group includes one fragmentary amphora (Stöckli no. 943, with toe no. 990), two neck fragments (Stöckli no. 946 and Manching inventory no. 1956.16), nine rim fragments (Stöckli no's. 948, 949, 956, 963, 964, 966, 970, 973, 977), twelve handle fragments (Stöckli no's. 1014, 1015, 1020, 1037, 1039, 1040, 1043, 1044, 1050, and Manching inventory no's. 1974.9, 59, and 198), and three toes (Stöckli no's. 981, 982, and 983).

While this is a long-recognized type of amphora, the chief characteristics of which have been well-known since the discovery of several hundred amphoras in the upper Grand Con-  
gloué wreck, it may be desirable to reemphasize here the distinctive features of the type and to point out the importance of attending closely to those features, especially in the cases of fragments which may need to be distinguished from other fragments of different type and date but of similar clay. Such is the case, at Manching, with Types 1d, 4a, and 4b. The majority of examples of those types found there appears under magnification to be made of the typical Cosan "Sestius" clay, discussed above.

Type 4a, indeed, as far as our present information goes, seems to have originated chiefly in the vicinity of Cosa and the Port of Cosa and to have evolved there from Type 1d. A secondary area in which Type 4a evolved may also have been Campania, unless the type moved from Etruria to Campania, as Type 1d had moved from Campania to Etruria. The need for larger shipping containers for wine was felt throughout the Mediterranean toward the middle of the second century B.C. Two events, the making of Delos a free port in 166 B.C. and the end of the Third Punic War in 146 B.C., seem to have contributed to the atmosphere of commercial confidence and activity which the enlarged amphoras reflect. The "Cosan" evolution and enlargement of Type 1d into Type 4a was paralleled at other sites at which Type 1d was manufactured by its evolution into still other shapes. I address

<sup>20</sup> See *Hesperia* article (above, note 5), notes 11, 15, 27, and McCann, et al. (above, note 3), chapter 16 (by D. Cozzupoli, J. de Boer, and R. Trigila).

elsewhere the variety of types into which Type 1d evolved<sup>21</sup>. We are concerned here only with Type 4a, which, like its descendant, Type 4b, was for its era in the western Mediterranean the chief Roman shipping container for wine in the late Republic. It was in the third quarter of the second century B.C. that the enlargement of Type 1d into Type 4a seems to have taken place. We do not yet know when that evolution was complete, but we have good evidence that it was essentially at an end by 121 B.C. The elder Pliny tells us (*NH* 14.94) that the Romans began to date wine in 121 B.C., in the consulship of L. Opimius and Q. Fabius Maximus Allobrogicus. The practice of dating wine would logically accompany expanded exportation, and it may well be that Type 4a was the first Roman amphora to bear consular dates. A rather archaic-looking neck fragment of Type 4a from the excavations of Fiesole bears, in fact, a *titulus pictus* naming the consuls of 121. If the painted inscription is genuine, that neck would seem to prove that the first recognizable examples of Type 4a can be dated as early as 121<sup>22</sup>. Closely-dated contexts at the Athenian Agora prove that the type was being exported to the Aegean as early as the late second century B.C., and it survived as a distinct type well into the first century B.C. By the 80's and 70's B.C., it was evolving into Type 4b<sup>23</sup>.

Let us now summarize the chief typological features of Type 4a and note the ways in which it can be distinguished from Type 1d, even when, as at Manching, the fabrics of the two types are the same. Jars of Type 4a are longer and narrower than those of Type 1d, averaging over a meter in height. Greatest diameters of Type 4a vary on the average from 0.28 m. to 0.30 m. Both belly and neck of Type 4a have been elongated in comparison to Type 1d. The neck of Type 4a is quite narrow, and the handles have been lengthened to correspond to the longer neck. Usually straight and set close to the neck, unlike the S-shaped handles of Type 1d, the handles of Type 4a are also both wider and thicker, while still thin in section (average width and thickness about 0.060 m. by 0.030 m.). The outflaring rims of Type 4a are higher than those of Type 1d, averaging about 0.044 m. in height, and the average diameters of mouth and of rim are 0.14–0.16 m. and 0.18 m. respectively. As far as toes are concerned, the average diameter at the base in Type 4a is 0.050–0.060 m. The toes, which are generally rather short and squat, sometimes flare out at the bottom, possibly on occasion into a flattish knob, as was discussed above under Type 1c. The process of distinguishing Type 4a from Type 1d is thus not a difficult one. The much greater average mouth and rim diameters and rim height provide an easy means of distinguishing rim fragments of the two types, even though, as far as the flare of the rim is concerned,

<sup>21</sup> See E.L. Will, „Relazioni mutue tra le anfore romane: i ritrovamenti in Oriente, alla luce dei dati ottenuti dell'Occidente,” forthcoming in *Anfore romane e storia economica: un decennio di ricerche. Atti del Convegno 22–24 maggio 1986*.

<sup>22</sup> CIL I<sup>2</sup>. 659b; cf. XI.6697.1. The fragment is now in the museum at Fiesole. See my discussion of it in McCann, et al. (above, note 3), 182–183.

<sup>23</sup> The chief Agora context in question is C 9:7, datable to the last years of the second century B.C. See my discussion in McCann, et al. (above, note 3), 176, where I suggest the possibility (with the reservations expressed in notes 10 and 12) that Type 4a might have lasted down into the middle of the first century B.C. That chapter was completed in 1982. Since that time, the weight of the evidence, summarized in the text below under Type 4b, suggests that Type 4a was evolving into Type 4b by the 80's and 70's B.C.

the two types of rims are similar. The handles and toes of Type 4a are also conspicuously more massive than those of Type 1d. And, as we have noted, the shapes of unbroken examples of the two types of amphoras are also readily distinguishable.

Amphoras of Type 4b (Dressel 1B) at Manching (fig. 2,14)

The following 27 fragments at Manching should be assigned to Type 4b: Stöckli no's. 944, 945, 958, 959, 961, 962, 967, 968, 975, 988, 989, 1009, 1013, 1016, 1019, 1021, 1026, 1027, 1028, 1031, 1032, 1034, 1036, 1042, 1045, 1049, 1053. Of these pieces, three are fragments of necks (Stöckli no's. 944, 945, 959), six are rim fragments (Stöckli no's. 958, 961, 962, 967, 968, 975), 15 are handles or handle fragments (Stöckli no's. 1013, 1016, 1019, 1021, 1026, 1027, 1028, 1031, 1032, 1034, 1036, 1042, 1045, 1049, 1053), one is a shoulder fragment (Stöckli no. 1009), and two are fragments of toes (Stöckli no's. 988 and 989).

Type 4b, the chief shipping container for Italian wine in the last half of the first century B.C., probably evolved in the Cosa area as early as the second decade of the century. Up to the present time, the earliest examples of Type 4b are found in the port and on the hill of Cosa, but the current exploration of kiln-sites in Campania and southern Latium is expected to increase and clarify our knowledge of the history of the type in those areas. At this time, it is clear that Type 4b was manufactured in massive quantities in southern Latium and Campania as a container chiefly for Falernian wine, and that such manufacture was of particular importance during the last half of the first century B.C., which we may term the *floruit* of the type. But typologically earlier examples, dating back to at least the second quarter of the first century B.C., are very frequent finds at Cosa and the Port of Cosa, where they are second in number only to Type 4a. These Cosa jars of early Type 4b have the slightly outflaring rims and comparatively delicate lines which set them apart from later examples and parallel the finds from Manching and from the Albenga wreck, which apparently dates from the second quarter of the first century B.C., from the Spargi wreck, datable about 75 B.C., perhaps as early as the mid-80's B.C., and from Delos. The earliest example of Type 4b from a dated context comes from the Athenian Agora, a jar-fragment, apparently of Cosan clay, found in a Sullan destruction context (86 B.C.; SS 6814, from Deposit M 20:1)<sup>24</sup>. Whether the Latin/Campanian examples of Type 4b evolved from the earlier amphoras of the same type manufactured at Cosa, or developed independently out of Type 4a in Latium and Campania is a question as yet unanswered, though at present the weight of the evidence inclines toward the Cosa area as the original "home" of the type.

In shape, Type 4b is easily distinguishable from Types 1d and 4a, though the closely similar fabrics of the Manching examples of all three types suggest manufacture in the area

<sup>24</sup> For documentation of the chronological evidence cited here, see McCann, et al. (above, note 3), 184. The important fragmentary jar from the Athenian Agora is illustrated in E.L. Will, "Les amphores de Sestius," *RAECE* 7 (1956), fig. 83: right. A recent discussion of the amphoras from the Spargi wreck is contained in E.L. Will, "Amphoras and Trade in Roman Sardinia," in M.S. Balmuth, ed., *Studies in Sardinian Archaeology*, II: *Sardinia in the Mediterranean* (Ann Arbor: University of Michigan Press, 1986), 215-217.

of Cosa and the Port of Cosa. In height, Type 4b is a bit taller on the average (1.10 m.) than Type 4a, with a greatest diameter that is also larger (0.30–0.32 m.) on the average. The neck is somewhat wider than that of Type 4a, and the handles are thicker and more rounded in section (average width and thickness are about 0.050 m. by 0.040 m.). The rim, which, in the later, "classic" examples of the type, is vertical in profile (in contrast to the slightly outflaring profile of the earlier representatives of the type) has, like Type 4a, an average diameter of 0.18 m. and an average height of 0.046 m. Since the rim of later Type 4b is vertical, the mouth opening of the type is correspondingly wider than that of Type 4a (0.15–0.18 m.). In the early jars of Type 4b, however, which have slightly outflaring rims, similar to those of Type 4a, the mouth diameter is closer to that of Type 4a. (The rims of Type 4b at Manching belong, as I have already noted, to early Type 4b). Toes of Type 4b are quite long and thick, averaging 0.070 m. to 0.080 m. in diameter at the base. The massive toes of Type 4b, like the thick handles, are easily distinguished from those of Types 1d and 4a. In early examples of Type 4b, however, like the two very small toe fragments at Manching, the diameters are smaller.

The fact that the rim and toe fragments of Type 4b at Manching have characteristics of the earliest known examples of the type permits us, I believe, to date the Manching pieces of Type 4b in the 70's, perhaps as early as the 80's, B.C. If we exclude from discussion here two coarse-clayed fragments, apparently from the same amphora and belonging to a (local?) type with which I am not familiar (pieces not in Stöckli's catalogue but bearing Manching inventory no's. 1974.352 and 394), the amphoras at Manching thus set clear chronological limits to the importation of Roman wine at the site. The earliest amphoras go back to about 200 B.C., and the latest jars are datable to the 80's or 70's B.C. Stöckli's beginning and ending dates of 150 and 50 B.C. can thus be seen to be too late for the amphora evidence.

We have at Manching, then, a situation in which, at about the time of the end of the Second Punic War in 201 B.C., the Romans were exporting wine to one of the farthest east of the Celtic *oppida*. The amphoras at Manching thus add to the growing body of evidence suggesting that the successful conclusion of the First and Second Punic Wars provided a strong stimulus to Roman trade in the western Mediterranean and permitted the Rhône, the Rhine, and the Danube to become arteries for heavy, bulky containers, like amphoras, which were suitable only for water transport. Roman products were reaching far down the Danube by the beginning of the second century B.C.<sup>25</sup> While the earliest amphoras may have originated in Campania, most of the examples of Types 1d, 4a, and 4b indicate clear connections with the coast of Etruria, especially the area around Cosa. The economic histories of those areas are thus illuminated by study of the Manching amphoras, which also throw light on the chronology of Manching itself and help us to see more clearly the ties which that remote town had developed with the Roman world a century and a half before the end of the Roman Republic.

<sup>25</sup> See also my chapter, "Celtic Importation of Roman Wine During the Second and First Centuries B.C.," in R. Ross Holloway, ed., *Rome's Alpine Frontier*, forthcoming in the *Archaeologia Transatlantica* series.

AGORA EXCAVATIONS  
AMERICAN SCHOOL OF CLASSICAL STUDIES  
ATHENS, XX GREECE  
196 76



July 14, 1987

Dr. Antoinette Hesnard  
CNRS C.C.J.  
Universite de Provence  
29 Av. Robert Schuman  
13621 Aix-en-Provence  
France

Dear Mlle. Hesnard,

Thank you for your letter of June 28, which I received yesterday.

With regard to the stamp types  $\Phi$ .Aristo and  $\Gamma\Lambda\text{IO}\Sigma \text{API}\Sigma\text{T}\Omega\text{N}$ , I do not know of any examples in Delos. You might ask M. Empereur. He might know recent finds that I have not seen. He has also copies of our records of the earlier finds. However, examples of both your types were found I believe in excavations in Elis by Dr. Veronica Mitsopoulou-Leon. Do you think you may have seen those? Her address:

Dr. Veronica Mitsopoulou-Leon  
Director. Austrian Archaeological Institute  
Alexandras 26  
Athens 10683

Please be sure not to mention these stamped fragments without asking for, and receiving, her permission. She is very nice. I have of course no authority to give permission for this material.

I have not been thorough in collecting Greek names from stamps published for instance in the Notizie degli Scavi (unless I recognized the stamps as Rhodian, etc.). So I am glad if you are doing it, and will perhaps publish them with references.

Yours sincerely,

Virginia R. Grace

Antoinette Hesnard  
CNRS C.C.J.  
Université de Provence  
29 Av. Robert Schuman  
13621 AIX-en-Provence  
tel: 42.59.99.30 p.337

GRECO-ITALIC

10.01

Marseille, le 28.6.87

Chère Mademoiselle,

Il y a bien longtemps, depuis le colloque d'Athènes sur les amphores grecques, que je n'ai pas eu le plaisir de venir vous saluer, mais mes séjours grecs se font rares. Aussi est-ce par écrit que je viens solliciter de vous une autorisation de mentionner dans un article que nous faisons A.Tchernia, M.Picon et moi-même, un timbre grec de Délos.

Je vous joins des copies de passages d'un article à paraître, bien que écrit en 1983 et du dernier livre d'A.Tchernia pour que vous puissiez comprendre notre intérêt pour ce timbre, et aussi parce qu'il permettra peut-être de reconsidérer certains timbres grecs.

En travaillant sur les amphores gréco-italiques, j'ai dépouillé de vieilles publications siciliennes, persuadée qu'il fallait chercher un peu mieux de ce côté : mon idée de base était de trouver le moment et le lieu du passage du timbrage grec au timbrage latin. J'ai trouvé un unique timbre sur gréco-italique connu soit sous sa forme grecque : TAIOC APICTON, soit sous sa forme latine : C.ARISTO, publié en de nombreux exemplaires en Sicile, à Erice et a priori inconnu ailleurs. Cette information est d'ailleurs reprise par D.Manacorda dans son article du colloque : je le lui avait donné l'information au cours de la discussion (!). Malheureusement, ce jour-là vous n'étiez pas présente car votre santé vous avait empêchée d'être parmi nous : vous auriez pu m'en signaler au moins un autre exemplaire en grec. En effet, j'ai longtemps cherché dans ma mémoire où j'avais déjà vu ce timbre grec (je n'ai pas de fichier des timbres grecs puisque ce n'est vraiment pas ma spécialité), et j'ai fini par me souvenir ces jours-ci en mettant la dernière main à un article concernant les productions d'amphores Dr.1 et gréco-italiques : j'ai vu une anse portant ce timbre à Délos. Ce serait l'unique exemplaire connu (en grec ou en latin) hors de la Sicile. Puis-je vous demander l'autorisation de signaler en note, sans dessin ni photo (que je n'ai pas d'ailleurs, je n'ai qu'une mention sur un carnet de travail), l'existence de ce timbre à Délos? Si vous-même êtes intéressée par ce problème des ateliers (siciliens probablement) à timbrage mixte, je me ferai une joie de vous envoyer listes et

références sur ce sujet : je suis certaine que vous leur  
trouverez des exemplaires en Méditerranée orientale.

Je vous remercie d'avance dans le cas où vous  
voudriez bien m'accorder une réponse favorable, et je vous  
souhaite la meilleure santé possible : j'ai su que vous vous  
étiez bien remise de la pénible crise que vous avez  
traversée.

Veuillez recevoir, chère mademoiselle,  
l'expression de mes sentiments respectueux



Antoinette Hesnard

C.N.R.S. - UNIVERSITE DE PROVENCE

**CENTRE CAMILLE-JULLIAN**

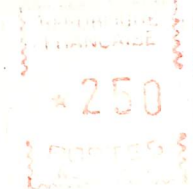
29, Avenue Robert-Schuman - 13621 Aix-en-Provence



Mlle V.GRACE  
American School of Athens  
Souidias 54  
ATHENES  
GRECE



41



16  
13  
12

31. III. 88

Now it looks to  
me as if I had  
now answered  
this long letter.

?



? like King's  
Jr.

at - 18

discussions:

0.67

0.027

0.13

0.18

HT, 0.04

HT, 0.023

And say. There  
are very small  
finger - prints of  
bones of hands.

31. III. 88

Now it looks to  
me as if I had  
now answered  
this long letter.

?

3 Unstamped

Barcelona Museum no. 2614 (from Ampurias)

Greco-Italic prototype?  
Related to Corinthians? *like Kensington*

*Jan.*

Nolla, Fig. 1:3 and p. 148. *the given list is 68*  
*centimetres; C.D., 0.395.*

*Each dimension:*

H, 0.67

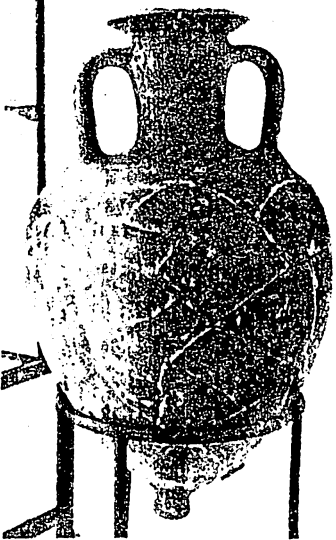
R.H., 0.027

M.D., 0.13

R.D., 0.18

W.D., 0.04

H.T., 0.023



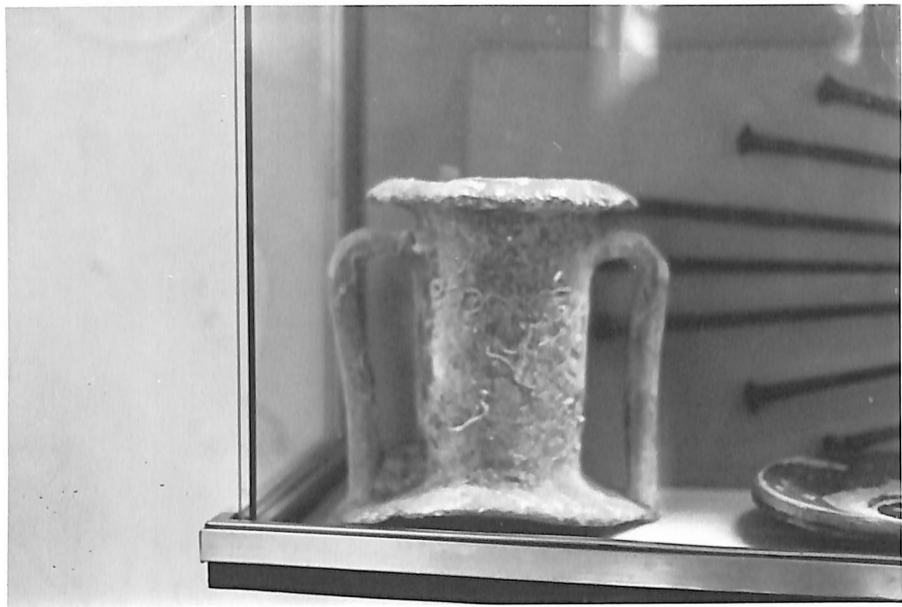
*Dark clay. The a  
convex surface.  
Figures - prints of  
green of handles.*



See wreck, Majorca, now in the museum at Lluç  
Majorca

PH, ca. 0.21

1:4.4

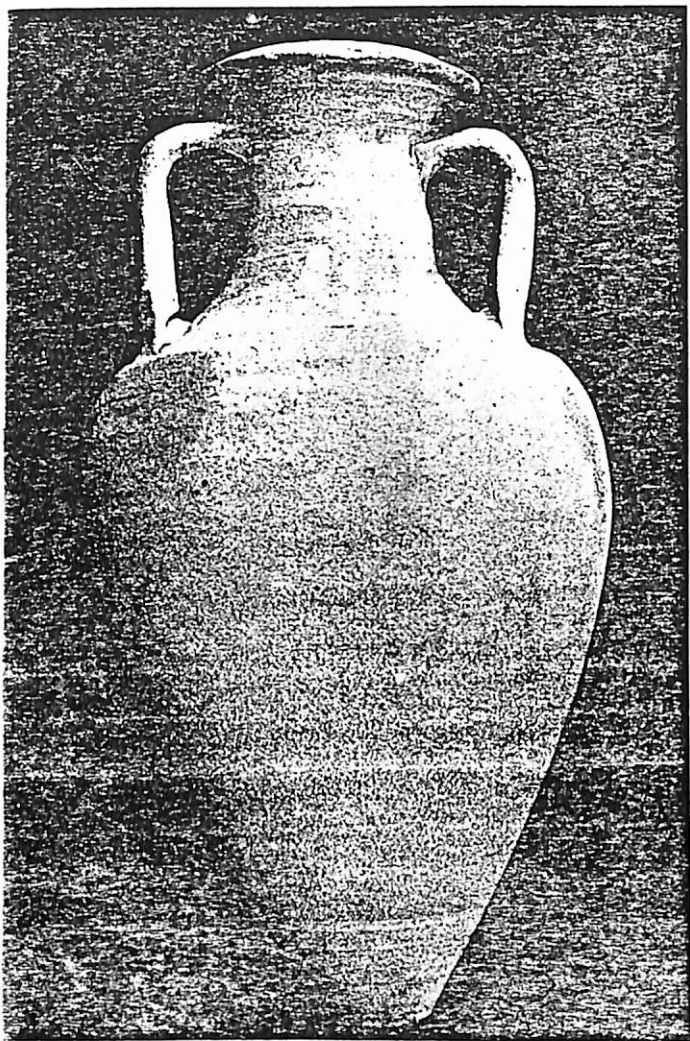


Sec wrech, Majorca, now in the museum at Llac,  
Majorca

PH, ca. 0.21

1:4.4

Piero Orlandini, Archeologia Classica  
9(1957), pl. LXXIV : 3. Serponte Gela.



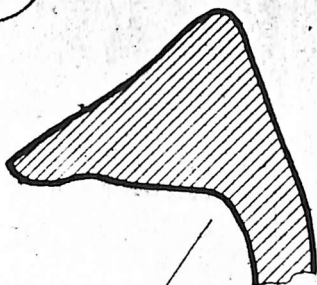
17d



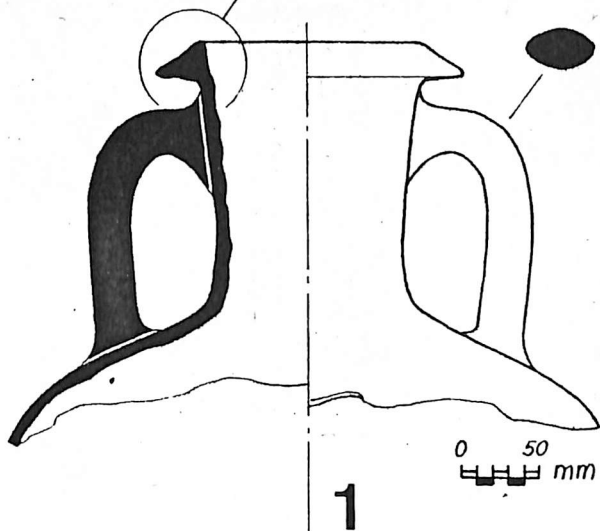
Grand Cayman lower wreck.  
tar stamped T1. Q. IVENTI  
on both handles.

A little under 1:10

**M**



0 10 mm



0 50 mm

**1**

SICILIOTA (?)

186

Sec wreck, Majorca. Neck seen  
in Palma in summer 1981.

PA - ca. 0.25

RH - 0.026

MD - 0.13

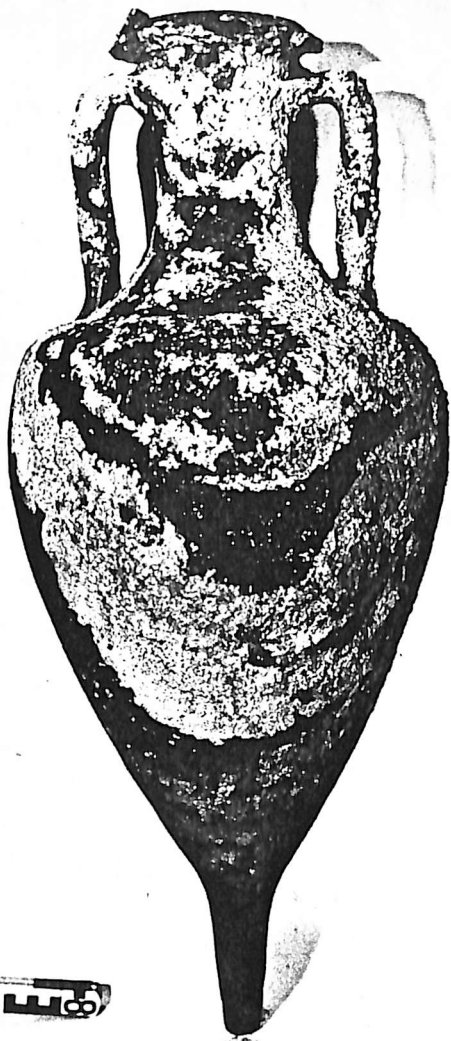
RD - 0.19

HW - 0.046

HT - 0.03

Fine, slightly micaceous deep  
tannish-buff clay, grey at core.  
Looks Punic!

194



1946  
Épave de la Tour d'Agnello (Cap  
Éorse)

with Campanian pottery of  
mid-3rd BC

To be published in Archaeonautica  
no. 5.

Sent to ELW by Luc Long, 18.II.82.



*The Commonwealth of Massachusetts*  
*University of Massachusetts*  
*Amherst 01003*

DEPARTMENT OF CLASSICS  
 HERTER HALL 528

Telephone: Area Code 413  
 545-0512/545-2024

June 23, 1982  
 (completed June 27)

Dear Virginia,

I have "thought" many letters to you since your detailed and most helpful response to my Greco-Italic piece arrived. I was and am more grateful to you than I can say for taking the time to go over the article, especially since that meant interrupting your work. I'm all the more sorry about having delayed this reply. I did incorporate almost all the changes you suggested. Some resulted from your having misunderstood what I had said, and I clarified those passages (for example, I did in fact see the Sec necks at Lluc, Majorca, last summer. Photos enclosed of the only two on display, unfortunately in a locked case to which the key had been lost; thus the glass-reflections and the approximate preserved heights. A third Sec neck, of which I enclose a copy of a drawing, I saw and measured in Cerdà's extensive amphora establishment in his frozen food factory in Palma [he produces about half of Majorca's frozen food and has a large factory]. I did not see, at Palma or at Lluc, the possibly imaginary jars of which you sent xeroxed profiles, so I can't comment on them). It was especially useful to learn from your letter about the revised dates of certain Agora contexts. I enclose here too my Deposit List as it presently stands. But it's probably best to comment on the points in your letter in the order in which you raise them.

1. The Villanova jars. We had not discussed these recently, and I was not up to date on your current thinking. What I said seemed to me to accord with my own observations, with what Maiuri said, and with your remarks in Delos 27. I was clearly relying too heavily on Maiuri's statement (p. 262) that one of the six jars (4568) was stamped Diskou at the lower attachment and that many stamps of Diskos were found on the 200 jars in the deposit as a whole. It was my feeling, therefore, that the deposit as a whole needed to be taken into account that led me to give a reference to inclusive pagination (on p. 6 of your letter, you incorrectly cited that as an unchecked reference. I reread the article at the IAS a couple of years ago). In the end, in any case, I decided to omit the discussion of "eastern" Form d's and to remove the photo (no. 5) which so many found offensive. I of course realized it was not good. I had made it only for study, while a taxi waited to take me back to Barcelona. I put it on the plate because I thought the article would be going to press immediately, and I had no other convenient illustration without bothering you or Mrs. Papachristodoulou. (In place of the bad photo I put on the plate a photo given me by Luc Long, who is republishing the Grand Congloué site, a picture of a Form c jar stamped TI.Q.IVENTI. So two Form c jars are illustrated).

Bad xerox of photo  
 enclosed.

Check the  
 whole article  
 for missing  
 20 with 18

*except for a recent finding by geologist de Boer of Wesleyan that a Form c jar from Carthage contains mineral assemblage similar to those of Cosa Form d*

2. Production center of the Form c Greco-Italics (Grand Congloué). I don't yet know of any helpful evidence, but my guess would be Campania rather than Etruria. I have been able to identify only a few pieces at Cosa, in contrast to the masses of Form d there. Since it seems likely that the upper, Sestius wreck at the G.C. was from the Port of Cosa, it is almost too much to think that the lower wreck, a century earlier, would also have come from there. Clay-analysis would be helpful if enough pieces were tested and the results interpreted in the light of other evidence, but as time goes on I am less and less struck by the usefulness of clay-analyses. The temperature during firing, and the amount of air used, can change the composition of clay dramatically, just as different levels of the same clay-bed can show different chemical composition.
3. Production center of "eastern" Form d's. Most of the long-bellied Form d's I know are from Rhodes (Villanova and Kalythies 4) or from other areas of Greece. Certainly the largest number is from Rhodes. From the West, I know of only scattered examples, like the jar from Ampurias, the jar from Lattes, and one from the wreck called "La Chrétienne C." I do not know of any Villanova-like jars from Italy or Sicily. Given your feeling that such jars can't have been made in Rhodes, it seems best to me at this stage to combine the short- and long-bellied Form d's into one unit, to assume that they must be Italian, and to describe them together.
4. I changed "offset" to "ridge" throughout the article. Thank you!
5. Need for identification of Greco-Italics as a whole. That is what the article seeks to do, to point out the chief shapes that have been called Greco-Italic and to show how they are like and different from each other. It isn't one shape but is a variety of shapes, to all of which the term has been loosely, and rather carelessly, applied. I don't know how one could come up with a brief overall definition. The article is the result of my having thought about the term for two years and having finally decided that it was being applied to five chief classes of jars. It all began when I tried to write the introduction to Type 1 which, you rightly point out, I said I would send you in 1980. I found I could not write the introduction without thinking through the various jar-types that had been called Greco-Italic. I feel now that most of the pieces in the Agora catalogue are Form d, but the road to that realization has been agonizingly slow. (Form e Greco-Italics are Type 2 in the Agora catalogue, as I note in the final version of the Hesperia article.)
6. On the picture of the Latin-stamped Form c jar, see above. On the Spina-type and Gela-type (now called Form a<sub>1</sub> and Form a<sub>2</sub>, respectively) pictures: the photos themselves seem to me to illustrate the points I made, though admittedly the xeroxes leave something to be desired. I have not seen for study the jars from Spina, Motya, and Alexandria, and I prefer to show jars I have seen. I greatly regret the fact that I could not get into the Gela Museum last summer, but the Capo Graziano F jars seem to me to show well the Gela shape, or the chief Gela shape, just as the Secca di Capistello jars illustrate the Spina shape. To jump for a moment from p. 3 to p. 11 of your letter: I knew of course about the jar

*Push  
man*

possibly of Form a<sub>1</sub> (Spina-type) from Gela, though I am very glad to have the photo you sent (Benoit 1961, fig. 36) in place of the xeroxes with which I have been working. I refer to this jar in footnote 6 of the article, to which I have recently added the remark that Orlandini, in his 1957 Archeologia Classica article, Plate LXXIV (xerox enclosed herewith) probably shows the other side of the same jar. Or would you agree? Anyway, it is not possible to confuse Forms a and d. Form a (both varieties) has a hollow toe and fine clay, and it is smaller than Form d, which has a solid toe and coarse clay. See pp. 15 and 16 of the typescript. *Newly-published Form a at Orbetello also enclosed.*

7. Capacities. I cited the figures where I had them. This is a preliminary article, and as I point out at the end much work remains to be done. I organized and commented on, to the best of my ability, a vast and chaotic body of material. At this stage, I could do no better. I needed to "digest" Greco-Italics before I could go on to make final statements about Roman amphoras in the Agora book and elsewhere.

8. The Pech-Maho jar. When I was in Seville in February, speaking at a congress on Roman trade, I tried to make arrangements to see this jar, but was unable to do so in the few days I had available. I did talk by telephone, however, with M. Solier of the Narbonne Museum, who told me that the jar is now in pieces and was in his view poorly reconstructed. It ~~seems~~ to be published in a recent article by him, one of which I have only just received a copy (Yves Solier, "Découverte d'inscriptions sur plombs en écriture ibérique dans un entrepôt de Pech Maho (Sigeon)," Revue archéologique de Narbonnaise 12 (1979), 55-123). On p. 119, footnote 144, he repeats his verbal reservations about the reconstruction given by Lamboglia and says the model was less tall and less pot-bellied. A better reconstruction ~~is~~ apparently given in Fig. 23:2 on p. 94, and it shows the same long, awkward belly. I will try to enclose a xerox with this. It's hard to know whom to believe, since Solier seems as careless as Lamboglia, but my essential point in the article remains the same. What is really interesting about Solier's article is his publication of recent finds at Pech-Maho: 51 Greco-Italics, apparently mostly Spinās, but some longer-bellied like Form b. Several jars bear Iberian graffiti, and one thinks immediately of Ensérune. This is not a very good article, but I will hope to get a statement about it into the Hesp. piece.

9. Date of Form d. The epigraphical evidence (pp. 16-20 of the typescript) and the date of P 17046 suggest the second century date. When it came to putting it down in writing, I could not accept P 17046 as a shrunken Type 3. It seems clearly a fractional long-bellied Form d. I do remember of course that in 1974 in Athens you argued that P 17046 and P 6761, formerly Type 2 and then Type 1, were early fractional examples of Types 3 and 7 respectively, and I agreed, changing the catalogue accordingly. Last summer, however, when writing the Greco-Italic article, I reverted to the previous theory, which made the more sense since I did not know that the date of F 13:3 had meanwhile been changed from "2nd c. B.C. into early 1st c., use filling of 2nd c., etc." to "second half of second into 1st B.C.," the date given in your letter. If that date is now firm, P 6761 will have to be considered a fractional PASI and therefore

\* on a similar jar

see point 97

\* of it on a similar jar  
Figs 22 and 23 enclosed, showing "older" (small) and "more recent" (large) jars.

Does Solier illustrate a Latin stamp on his Pech-Maho jar?

??

100000

ancestral to Type 7. In any case, it has seemed best to omit P 6761 from this article, since broaching the subject of Type 7 does not seem appropriate here.

10. Form e contexts at the Agora. I revised the bottom of p. 21 to read: "Three pieces have been found at the Athenian Agora, two of them in contexts of the first quarter of the second century B.C. and one of them (P 25797, from Deposit A 16:4) to be dated no later than 146 B.C." The accompanying footnote (now, I believe, 35) gives the numbers of the other jars. My original statement was based less on the Deposit List than on notes on my catalogue cards. For P 25797, I say, "VG, ca. 140 BC," and for P 20196 I have the note, "LT and HAT - Stoa of Attalos, construction filling of ca. 150 BC; HAT - just preceding building of Stoa." It seemed to me that the Delos and Mykonos pieces were also likely to be third quarter of the century. That still seems probable, but the shape apparently developed in the first half of the century.
11. Long footnotes. It seemed necessary to list the chief occurrences of each form so that readers would know what jars I had in mind in reaching my conclusions. For footnote 29, which you mention in particular, I wanted to be sure to answer Laubenheimer's mixed-up article, in which she confuses Form e and Type 5. But I am in any case addicted to long footnotes, finding the bare bones approach a frustration. I am too much a student, it becomes increasingly clear, of Taylor and Broughton (I couldn't force myself, for example, in spite of your suggestion, to insert the dates of the Punic Wars), and one purpose of this article, in any case, is to bring most of the scattered bibliography under one roof.
12. Centers of production. I suspect much more will be known soon about them. For the Cosa material, the Form d's and the Type 4's, as well as the other types made there, chemical and geological tests made here at UMass as well as at the University of Rome and most recently at Wesleyan University all show a close connection between the fabrics of the types thought to be from Cosa and the clay and sand samples tested from the Port of Cosa. I referred to those tests in the revised version of the article, and they will be published in the forthcoming Port of Cosa volume. I believe, yes, that I have found a "missing link" between Form d and Type 4a. It is in the museum at Fiesole, a jar with the S-curve handles of Form d but the height of Type 4a. I believe that the famous neck at Fiesole, the one with the painted inscription of 121 BC, is of the same shape, or from the same shape of jar. I have gone to see it twice now, most recently in the mid-70's. Most of the Greco-Italic shapes will turn out, I believe, to be pan-Mediterranean, manufactured all over, though clearly there were great centers as well as smaller ones.
13. Greco-Italic prototypes. This is a most interesting question, and I was very glad for your views on Barcelona 2614. I enclose a xerox of my catalogue card, giving the dimensions about which you asked. You will see that the phot. I sent you is in fact 1:10. More on "Attic (?)" jars has come to me from Mary Lou Zimmerman Munn, who wrote to ask me whether certain pieces at Corinth, and I enclose a copy of what she sent, are Greco-Italic. I replied

20.05

→ I told her to ask you.

that I felt they were "Attic (?)", C-37-297 and C-47-925 looking close to the Ampurias jar (Barcelona 2614) and to the Peiraeus jar which you date about 400 BC, and the later C-71-580 resembling SS 4568, which you wrote me you now date 3rd-last qu. 4th. The Sec necks might be of the same period, though they seem to combine features of "Attic (?) and Samian. I wonder if you would go on to make P 14180, which used to be in my catalogue, a late version of "Attic (?) along with the coquette-amphora on pl. 32 of Mr. Benaki's Mykonos. Or do you still feel it has something to do with Corinthians ?

14. Corinthians. Hard for me to work around them diplomatically, since there are so many of them in the West. At Ampurias and Seville, both varieties are called Greco-Italic. That isn't right, of course, but the error suggests the complexity of the topic and the possibility of more than one center of production. I assume that Carolyn has by now added the Spanish and African examples to her map.
15. On Spaniards like Cerdá. I think we should take them seriously. They know about the material in their area, and they are awfully nice. Cerdá has a series of rooms, arranged much like the store-rooms at the Stoa, in his frozen food factory, where there is also a large library and at least one assistant. Cerdá does all the drawings himself, late at night. I judge that his day goes mostly to amphoras, the factory being run by a woman he counts on heavily. Majorca is a really big place, as you may know, with many amphoras, and he has a lot to do. He also works on Ibiza, which had an active industry of imitations of well-known types of amphoras. Kilns have been found. I met several other Spanish amphorists at the congress in Seville, which was concerned chiefly with Type 20 (Dressel 20). Perhaps the nicest person at the congress was Beltrán, quite a young man. We spoke in German. He was apologetic about the book, which was his dissertation. He is now revising it. Remesal, who wrote you in 1980, is equally pleasant, and very intelligent. He and Emilio Rodríguez are close friends and seemed to be the brains of the congress. I assume you have been aware of Rodríguez' many recent publications. I know him by now quite well, since not only did we have that Monte Testaccio encounter but he was at the meetings in San Francisco this past Christmas. He now maintains an apt. in Beverly Hills, in addition to his residence in Rome, and said he will be lecturing at Berkeley next year.
16. Pitch. Apparently it was used for wine and garum. But Cato the Elder suggests amurca for oil jars. I have read somewhere that pitch harms the taste of olive oil.
17. Double-handled Greco-Italics. See Beltrán, fig. 116 on p. 342, a jar from Saint-Gence (Hte.-Vienne), and the 1977 Minorca publication by Fernández-Miranda and Belén (footnote 3 of the article), fig. 30:1, a neck from Cales Coves, Minorca (to judge from Cerdá's publications, this is an Ibizan imitation of a Greco-Italic). By the way, several of the references that are missing from the article are explained by my statement in footnote 5 that I do not intend to repeat references provided in the works by Grace, Benoît, Beltrán, and Blanck. My footnotes would have been twice as long if I had made those repetitions !

Photo of another new form of jar enclosed (Dressel 20 & Agnello are ch). But it's much too long for 3rd BC.

Why not ask him for info.?

Many things still to say, and I will send a follow-up shortly. All well here, personally, and otherwise. Homer says you work really well. With love, Betty

(2nd half of the  
Pach Mar? jar)

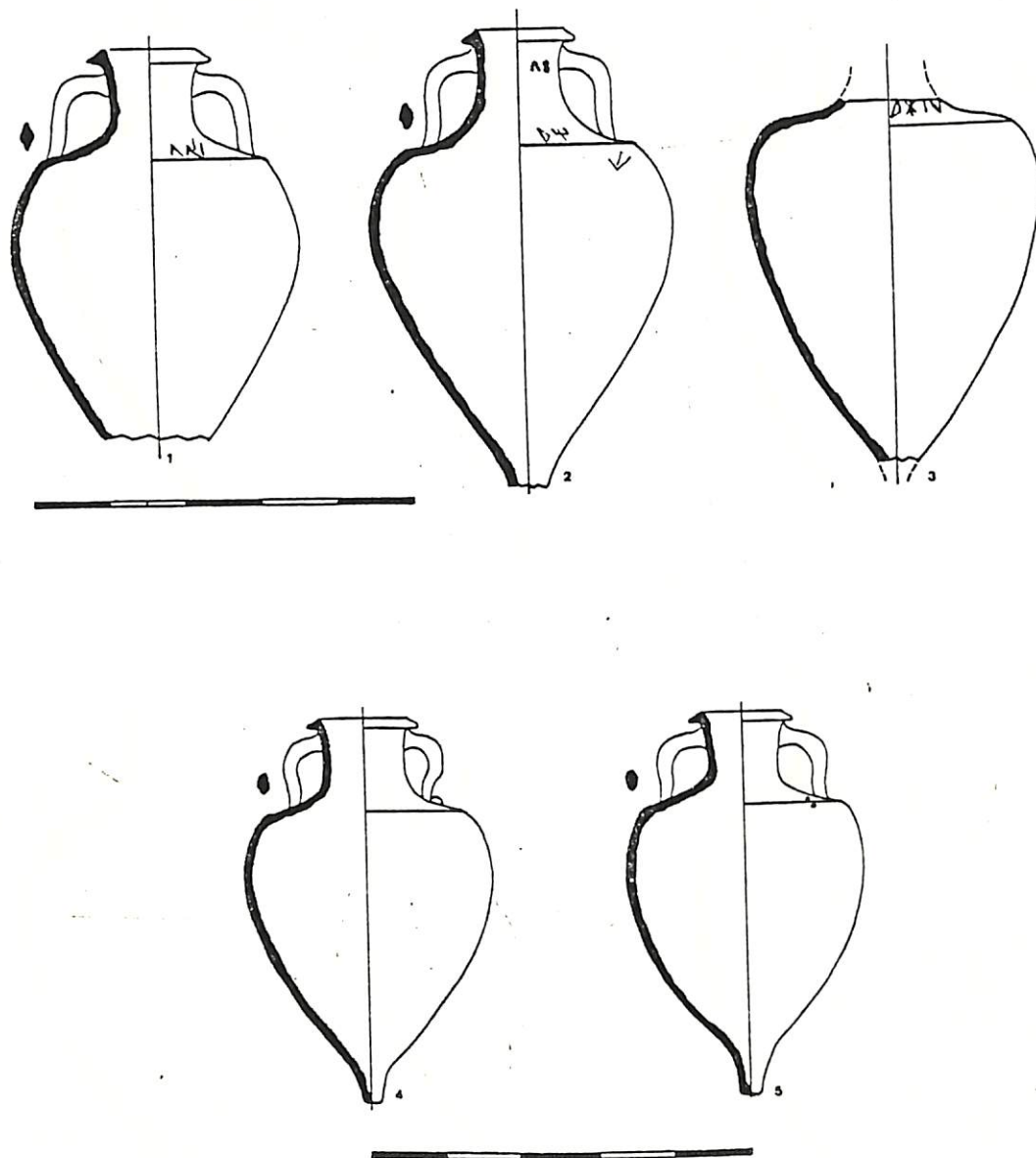


Fig. 22. - Amphores et demi-amphores gréco-italiques.

2102  
 Su ELW  
 23.11.82, p. 3.  
 Pack-Mao ju 77  
 ↓

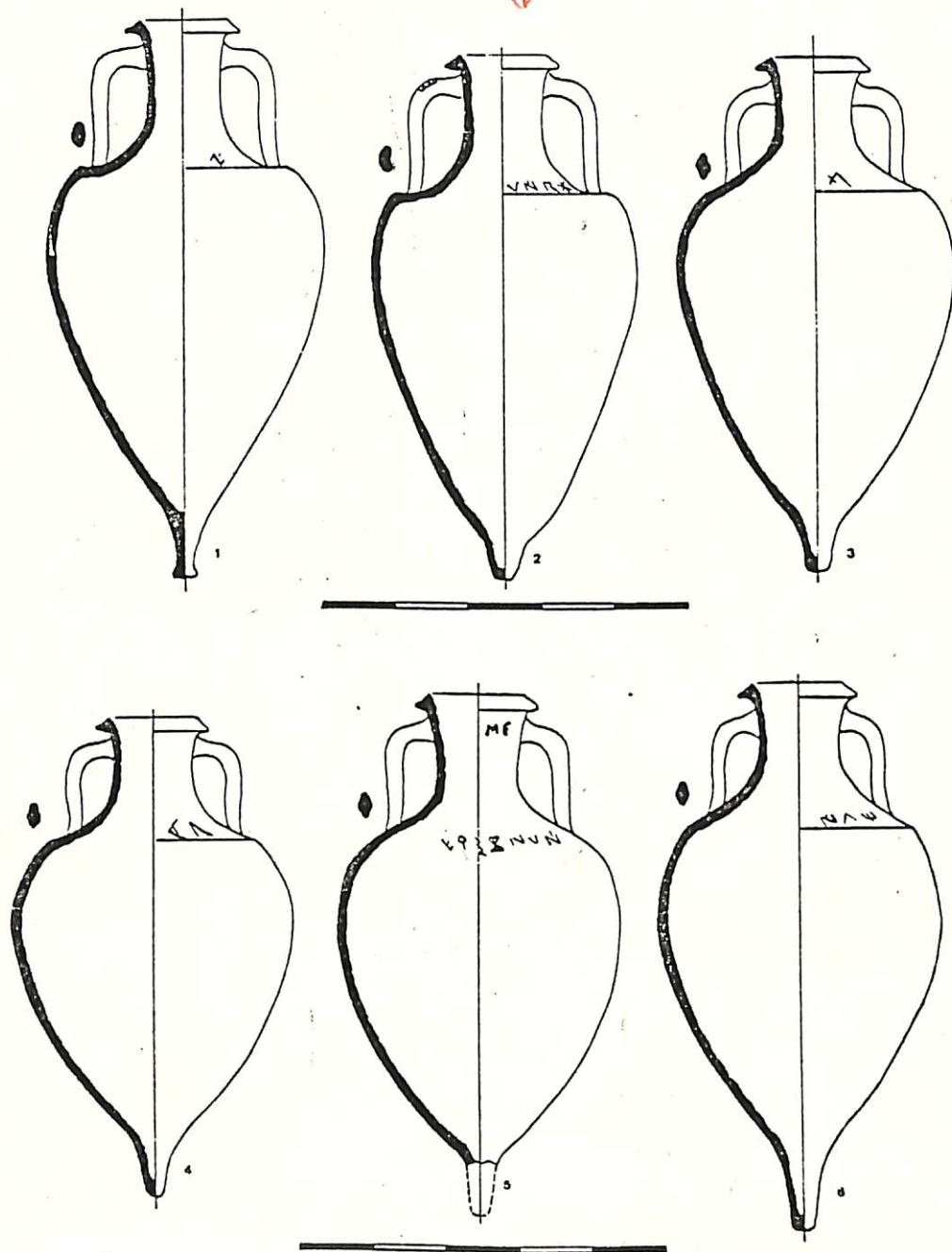


Fig. 23. - Amphores gréco-italiques.



C-71-580

① C-71-580

From Drain 1971-1 Pottery Deposit

Date of Deposit: 3<sup>rd</sup> qtr 4<sup>th</sup> c. B.C.

Fine buff clay, darker where break shows section, pink at core. Small black inclusions.

Surface: 7.5 YR 8/2 to 8/4

Core: Varies from 5YR 8/3 to 7/4 (darkest)

Max Preserved Height - .648

Neck Diam. - .104 Neck Height - .160

Ext. Diam. Mouth - .181 (rim)

Handle Height - .180

Corinthian

From HL2 Runway, Jan. 82

② C-47-925

From Well 1947-2

Date of Deposit: 1<sup>st</sup>-2<sup>nd</sup> qtr. 4<sup>th</sup> c. B.C.

Hand fired clay with fine grits, tan to pale brown surface, gray core, though pink at very center in some places. Some small calcareous particles, also small <sup>black</sup> gray inclusions. Buff slip on surface.

Surface: 5YR 8/2

Core: 5YR 7/1 to 6/1 (gray), 5YR 8/4-7/4 (pink)

Max Preserved Height - .183

Neck Diam. - .105 Neck Height - .148

Ext. Diam. Mouth - .170

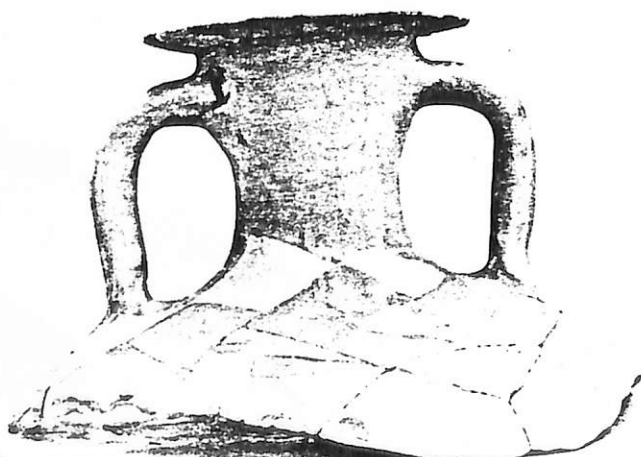
Dipinto in red:



rough sketch

C-47-925

C-37-297



③ C-37-297

Drain 1937-1

Date of Deposit: 1<sup>st</sup>-2<sup>nd</sup> qtr 4<sup>th</sup> c. B.C.

Light red clay. Sandy to touch, some fine white inclusions, also gray, moderate amount of mica, fired pinkish-tan at surface, possible fine surface slip.

Red close to 2.5YR 6/4-6/6

Max Preserved Height - .246

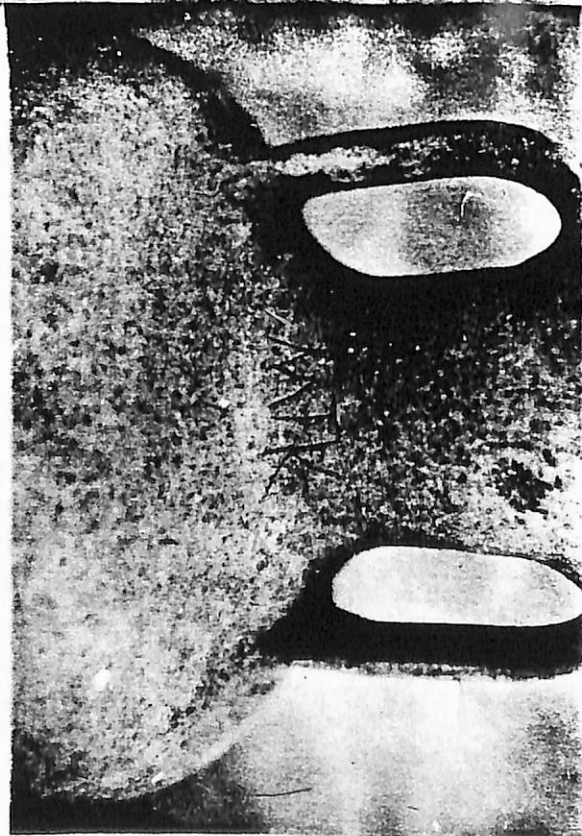
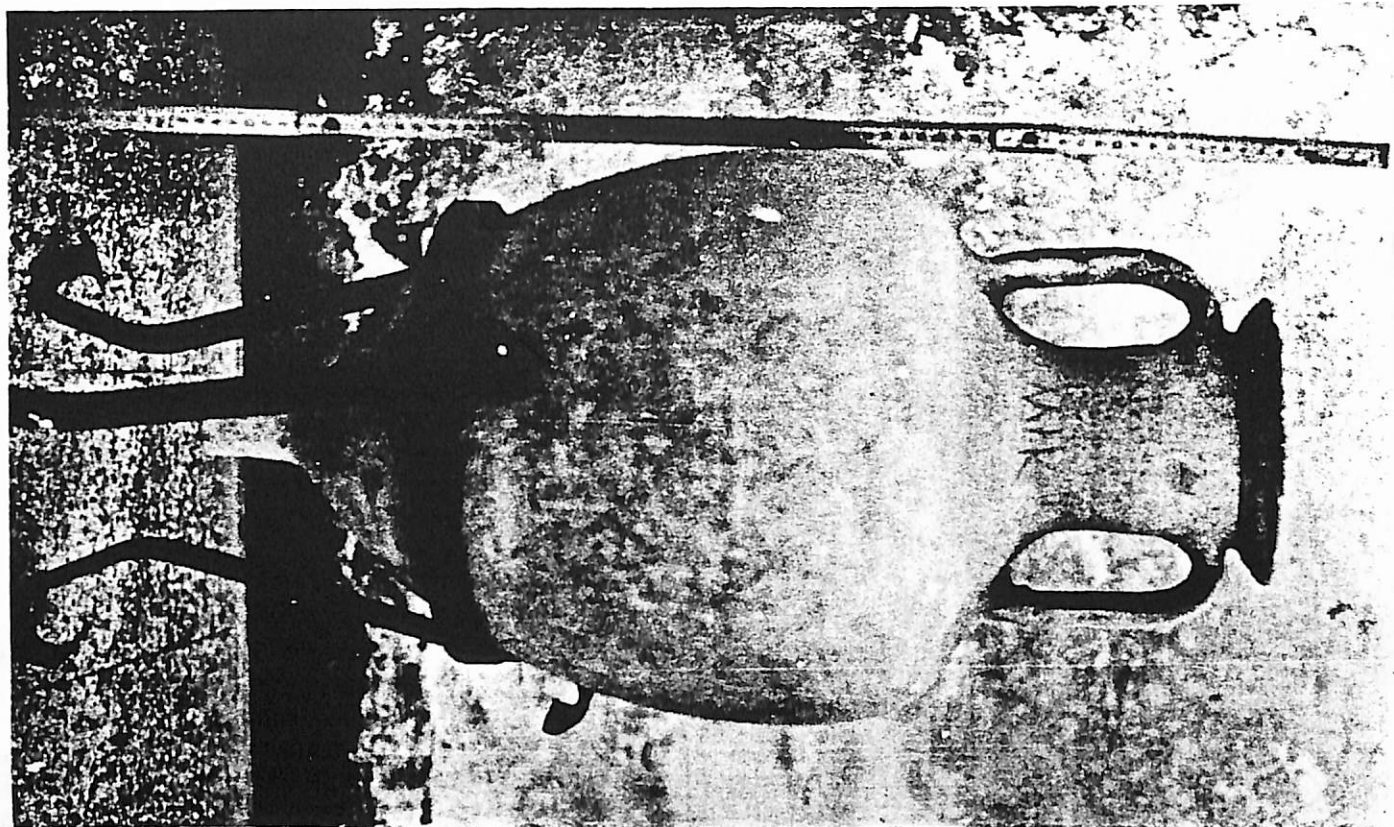
Ext. Diam. Mouth - .200 (rim)

Handle Height - .144

From HL2 Runway, Jan. 82

23

Daniele Manacorda, "Produzione agricola, produzione ceramica e proprietari nell'ager Cosanus nel I a.C.," Società romana e produzione schiavistica, II, Merci, mercati e scambi nel Mediterraneo, A. Giardina and A. Schiavone edd., Bari 1981, pp. 20-21. This jar is one of three found by Manacorda in Orbetello.



Tav. VI. Anfora c.d. greco-italica, di tipologia antica, conservata presso l'Antiquarium di Orbetello. Questo tipo di anfore è diffuso in contesti archeologici mediterranei in età medio-repubblicana: la loro area di produzione non è stata ancora individuata con certezza. È necessario distinguere con chiarezza questi contenitori di tipologia antica, che presentano spesso bolli in lingua e lettere greche, da quelli di tipologia più evoluta diffusi in particolare nel II secolo a.C. Questi secondi — che in realtà non dovrebbero essere indicati come « greco-italici » — sono alla base dei prototipi che nel corso del II secolo avanzato daranno origine alla Dressel 1: la loro area di produzione (come indicano anche i forni di Albina) coincide con l'area centrale tirrenica, intesa come luogo di massimo sviluppo del modo di produzione schiavistico legato al sistema della villa e capace di produrre notevoli quantità di merci destinate all'esportazione transmarina.

*Virginia: I noted in red different dates  
in Agora XXI, as well as your change of  
F 13:3. Are the Agora XXI dates preferable?*

March 1975

24.01

Agora Excavations

DATED CONTEXTS OF STAMPED ROMAN AMPHORAS

A 14:2. Cistern filling. 1st c. B.C.-1st c. A.D. (Agora VI, p. 98; VII, p. 224).

SS 7539

A 16:4. Packing in a cistern. To about mid-2nd c. B.C. (Grace, Delos XXVII, p. 381).

P 25797

A-B 19-20:1. Sand filling in the west branch of the Great Drain. Filled up probably shortly after 86 B.C. but containing much material of 4th to 2nd cents. B.C., especially 3rd quarter of 2nd c. B.C. (Agora X, p. 135; Hesp. XX (1951), pp. 262-3).

SS 9000      SS 9129

B 20:2. Cistern filling. 2nd c. B.C., first half, possibly first quarter, the latest Greek amphora stamps being no later than 188-166 B.C. (Grace, Delos XXVII, p. 381 and under E53; Hesp. XX (1951), pp. 263, 266).

P 17046

B 21:1. Cistern filling. Late 1st-early 2nd c. A.D. (Agora IV, p. 235; V, p. 124; VI, p. 98; VII, p. 224; Hesp. XX (1951), pp. 263-4).

SS 9638

B-C 10-11:1. Fill connected with leveling operations. Post-86 B.C. to late 1st c. B.C. (Grace, Delos XXVII, p. 381; M.J. Price, Numismatic Chronicle, 7th Ser., IV (1964), p. 33).

SS 5141      SS 5298

C 9:7. Packing in a cistern around the shaft of a well dug through the cistern; construction filling. Late 2nd c. B.C. (Grace, Delos XXVII, p. 381 and under E88).

P 6867      P 8105-8108

C 14:4. Construction packing of a well. 1st c. A.D. (Agora IV, p. 235; VII, p. 224).

P 10757

C 17:5. Pit filling. Early Roman.

SS 10896      P 20021

D 11:1. Filling in an unfinished well. To middle of 1st c. A.D. (Agora IV, p. 236; V, p. 124; VI, p. 98; VII, p. 225).

P 7403      P 9138      P 9140

D 11:4. Cistern filling (middle fill). Late 2nd-early 1st c. B.C. (Agora IV, p. 236; Grace, Delos XXVII, p. 381).

SS 5447      SS 5541

D 18:2. Dumped filling. First half of 3rd c. A.D.

P 18254

D-E 15:1. Filling in west branch of Great Drain, northern part. Last quarter of 2nd c. B.C. (Agora IV, p. 237).

SS 9305      SS 9396

E 17:1. Use filling in a well. 2nd c. A.D.

P 19398

E 18:7. Filling in a well. Late 2nd-early 1st c. B.C.

P 28115

F 11:1. Dumped filling in a well. 1st and early 2nd c. A.D. (Agora V, p. 125; VI, p. 98; VII, p. 225).

SS 2475      P 4500      P 4501

*change to "second half of" ?*  
F 13:3. Filling in a well. 2nd c. B.C. into early 1st c., use filling of 2nd c., dumped filling consisting of debris from Sullan destruction. Jar noted here is from unspecified level. (Agora IV, p. 238; XII, p. 389).

P 6761

F 15:3. Filling in a well constructed in Early Roman times, in use into the 3rd c. A.D. Early Roman (?). Fragment listed here comes from well filling but may have fallen in from construction packing.

P 3189

F 19:3. Well filling. Early 1st c. B.C. (Sullan destruction). (Grace, Delos XXVII, p. 381 and under E40, E95).

*But Agora XXI: 1st c. B.C.*

P 16394

G 8:1. Construction packing behind the tiles of a well. Augustan period. (Agora IV, p. 239; VII, p. 226).

P 3464-3465

G 14:2. Filling in a well in use from the 4th c. B.C. to slightly after Sullan destruction; from the upper filling. (Agora IV, p. 240; XII, p. 389).

P 498-500

*But Agora XXI: early 4th into 2nd BC*

G 19-20:1. Herulian destruction debris over the floors of a house, 267 A.D.

P 14618

I 16:5. Cistern filling. 2nd c. B.C., with some later intrusions. (Agora IV, p. 242).

P 770

J 12:2. Dump. End 2nd-early 3rd c. A.D. (Agora VI, p. 99; VII, p. 226).

SS 1714

M 18:1. Well; construction packing behind the tiles. Early 1st c. B.C. (somewhat before Sullan destruction). Use filling of 2nd c. A.D. (Agora V, p. 125; VII, p. 226; Grace, Delos XXVII, p. 381).

SS 7004, SS 7217-7447 (except 7356), SS 11094-11106, P 21114-21134. Use filling: P 11691.

M 20:1. Dumped filling in a cistern. 1st quarter of 1st c. B.C., debris of Sullan destruction. (Agora IV, p. 242; V, p. 125; Grace, Delos XXVII, p. 381 and under E81; Hesp. XVIII (1949), p. 110).

SS 6807      SS 6814

M 20:2. Construction packing behind the tiles of a well. 2nd c. A.D. (?)

P 18000

*But Agora XXI: 3rd c. A.D.*

M 23:1. Cistern filling. 1st quarter of 1st c. B.C. (shortly after Sullan destruction). (Grace, Delos XXVII, p. 381 and under E96 and E132; Nessana I, p. 126; B.C.H., Suppl. I, p. 194 and note 15).

S 3203

N 19:1. Upper filling in a cistern. First quarter to end of 1st c. B.C. (Agora IV, pp. 242-3; V, pp. 10, 126; VII, p. 227; Price, Num. Chron., 7th Ser., IV (1964), p. 33; Grace, Delos XXVII, p. 381).

*But Agora XXI: 2nd qu. to end of 1st c. B.C.*

P 11880 (Agora V, Group F, 93)

N 20:1. Use filling in a well. First half of 1st c. A.D. (Agora IV, p. 243; V, p. 126).

SS 9471

N 20:4. Use filling in a cistern. Late 2nd to early 1st c. B.C. (to 86 B.C. but with some pottery datable to the second quarter of the century). (Agora IV, p. 243; V, p. 126; Price, Num. Chron., 7th Ser., IV (1964), p. 33; Grace, Delos XXVII, pp. 336, 381 and under E106; Hesp. XXXV (1966), pp. 252-9.

*But Agora XXI: 2nd qu. - 1st c. B.C.*

SS 7930

N 20:5. Use filling in a well. Second half of 1st to early 2nd c. A.D. (Agora IV, p. 243; V, p. 126; VI, p. 99; VII, p. 227).

*But Agora XXI: 1st half of 1st to early 2nd c. A.D.*

SS 11107

N 21:1. Accumulated use filling in a well. Early 1st to 5th c. A.D. One of the pieces listed here, SS 9468, from the upper, post-Herulian filling but probably fallen in from the original construction filling behind the well-tiles; SS 9608, a fragment of the early 1st c., from the upper part of the lower filling. (Agora, V, p. 126; VI, p. 99; VII, p. 227; Grace, Delos XXVII, p. 381).

SS 9468

SS 9608

O-P 6:1. Destruction fill. Second half of 1st c. A.D.

P 28553

Q 8-9. Fill over floor of Square Peristyle. Late 3rd or early 2nd c. B.C. (Grace, Delos XXVII, p. 381 and under E89).

P 20196

Q 13:1. Dumped filling in a manhole. Early 1st c. A.D. (Agora IV, p. 244; V, p. 126; VI, p. 100; VII, p. 227).

SS 1890-1891

P 8484

Q 15:1. Dumped filling in a water-system. Mid-3rd c. A.D. (Agora V, p. 127; VII, p. 228).

SS 1865 (Agora V, Group K, 116)

SS 6817 (Agora V, Group K, 117)

Q 17:4. Well. Use fillings of early 1st to 6th cents. and 8th c. A.D.

P 25216

Q 17:7. Late Roman filling in a well. 3rd-6th cents. A.D. (Agora VI, p. 100).

SS 14384

R 10:1. Dumped filling in a well. Late 1st c. B.C. to early 1st c. A.D. (Augustan).  
(Agora IV, p. 244; V, p. 127; VII, p. 228).

*But Agora XXI: early 1st c. A.D.*

SS 11228      P 21786      P 21788      P 21792

R 13:1. Dumped filling in a well: upper fill. Late 1st c. B.C. to mid-1st c. A.D.  
(Agora IV, p. 244; V, p. 127; VII, p. 228).

SS 5945      SS 6179      P 25734

R 13:2. Dumped filling in a well. Late 1st c. B.C. to early 1st c. A.D. (Agora IV, p. 244; VII, p. 228).

SS 11012

R 14:2. Herulian destruction debris over the Library of Pantainos. Mid-3rd c. A.D.  
(Agora VI, p. 100).

P 21203

R 19:2. Drain. Early Roman.

P 11992      P 12991      P 25722-25724.

T 17:3. Filling in the bottom of a cutting for a water channel. Late 1st c. B.C. with a little of the 1st c. A.D.

P 26449      P 26728

U 22:2. Dumped filling in a well. Second half of 2nd c. A.D.

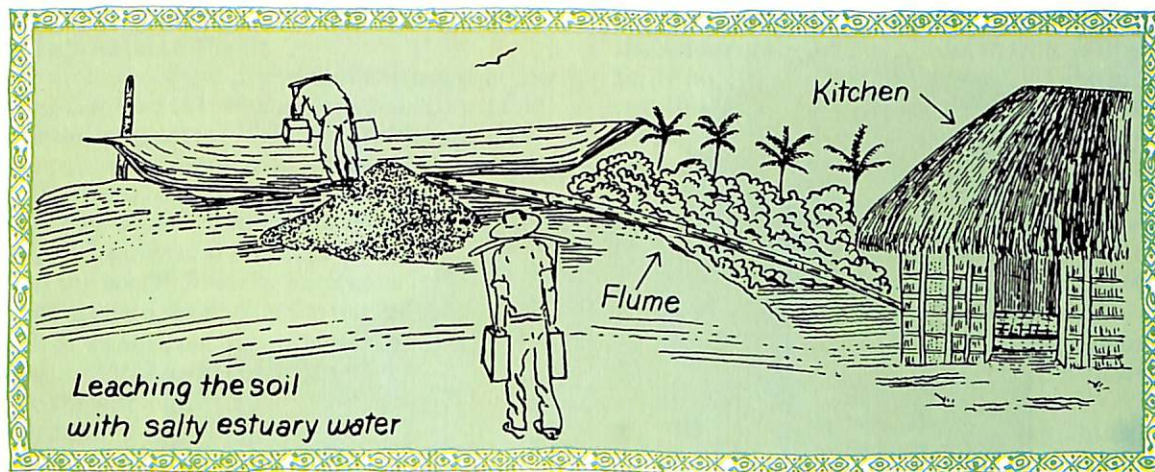
P 21493

see page 42

The early salt trade routes and their related logistics may have provided the foundations for the complex long-distance trading networks that carried the bulk of Maya commerce. Once developed, the pervasive networks played a powerful role in the economic and political history of the entire Maya area, influencing urban growth and state formation. Ultimately, disruptions and changes in trade contributed to the decline of the Classic Maya civilization and the rise of powerful regional post-classic states.

Today salt continues to be an important resource in the industrial economies of the modern Middle American nations. The salt industries of

Yucatan, Guatemala and El Salvador have evolved into stable entrepreneurial concerns, contributing to their national self-sufficiency and economic growth. El Salvador has become a major exporter of salt to neighboring Central American countries, and the salt profits make a substantial contribution to the nation's balance of trade. The recent petroleum boom in Mexico and the concurrent demand for salt in the petrochemical industries will have tremendous growth potential for the Mexican, and in particular, Yucatecan salt industries. This demand for salt in Middle America shows no signs of abating and it would appear that salt will continue to be a crucial resource for a long time to come.



FOR FURTHER READING on salt in general: Marc R. Bloch, "The Social Influence of Salt," *Scientific American* 209 (1963): 88-98 and Robert P. Multhauf, *Neptune's Gift: A History of Common Salt* (John Hopkins University Press, Baltimore, Maryland 1978), both provide an overview of the worldwide historical importance of salt.

On Prehispanic Maya trade: Frans Blom, "Commerce, Trade and Monetary Units of the Maya," *Middle American Research Institute*, Publ. 4 (Tulane University, New Orleans, Louisiana 1932): 531-36, this pioneer study of Maya trade is still an informative introduction to the topic; Thomas A. Lee, Jr. and Carlos Navarrete, editors, "Mesoamerican Communication Routes and Culture Contacts," *Papers of the New World Archaeological Foundation* 40 (Brigham Young University, Provo, Utah 1978), contains a very useful collection of studies on past Maya trade patterns; Miguel Othón de Mendizábel, *Influencia de la sal en la Distribución Geográfica de los Grupos Indígenas de México* (Imprenta del Museo Nacional, Mexico, 1929), this ethnohistoric survey of Mexican salt sources remains the basic reference on the subject, but unfortunately the Maya area is treated in a peripheral and fragmentary manner; William L. Rathje, "The Origins and Development of Lowland Classic Maya Civilization," *American An-*

*tiquity* 36 (1971): 275-85, offers an insightful and controversial theoretical model, exploring the role of long-distance trade in the rise of Classic Maya civilization in the southern lowlands; Ralph L. Roys, "The Indian Background of Colonial Yucatan," *Carnegie Institution of Washington*, Publ. 548 (1943) and J. Eric S. Thompson, *Maya History and Religion* (University of Oklahoma Press, Norman, Oklahoma 1970), two studies providing an excellent account of Maya trade at the time of the Spanish conquest, based on a wide array of ethnohistoric sources.

On Maya salt production: Jack D. Eaton, "Archaeological Survey of the Yucatan-Campeche Coast," *Middle American Research Institute*, Publ. 46 (Tulane University, New Orleans, Louisiana 1978): 1-67, includes a broad survey of Prehispanic, colonial and modern salt production on the north coast of Yucatan; Moises de la Peña, *Chiapas Económico* (Departamento de Prensa y Turismo, Tuxtla Gutiérrez, Chiapas, Mexico 1951), is the best source on the now almost extinct salt industry of Chiapas; Felix W. McBryde, "Cultural and Historical Geography of Southwest Guatemala," *Smithsonian Institution, Institute of Social Anthropology*, Publ. 4 (Washington, D.C. 1947), includes a detailed account of the primitive saltworks located on the Pacific coast of Guatemala.

# Exploring the Gulf of Talamone

by VINCENT J. BRUNO, ELIZABETH  
LYDING WILL and JOSEPH SCHWARZER



For centuries, the restless sands of the Italian coastline have shifted under the action of winds and currents causing major changes. Rivers have deposited silt in complex patterns and sandbars have been thrown across entrances to coastal lagoons and bays. A region that during the Etruscan period had been teeming with fish and water birds, providing a rich and scenic environment for the populations of the Etruscan city-states, had turned into a deadly malarial swamp by the fall of the Roman Empire. Today the swamps are drained, the lagoons again are breeding grounds where thousands of tons of fish are harvested annually and, after long inactivity, are used by fishermen, yachtsmen and coastal traders. But unrecorded changes that occurred in the configuration of the coastline during the intervening period of almost 1,500 years make the search for archaeological materials difficult.

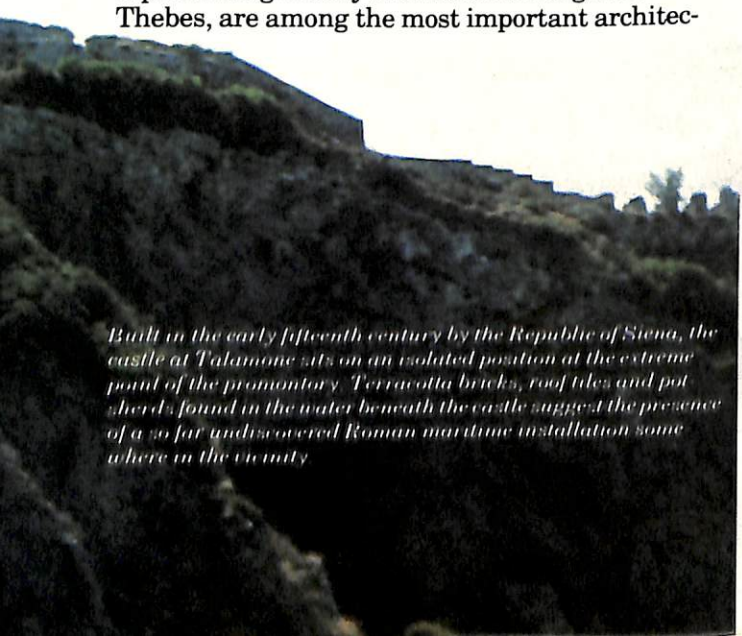
One archaeological problem of Etruria that has never been solved is the exact location of one of its most historic seaports—Telamon. Archaeologists link the port of Telamon with a number of Etruscan city-states from the great fortress city of Rusellae on the north, whose circuit walls of huge polygonal blocks are the oldest and best preserved in Italy, to Vulci on the south. Modern Talamone is located on the promontory dominating the northern reaches of the Gulf of Talamone, roughly halfway between Rusellae and Vulci, and may correspond in a larger sense to the ancient port city of Telamon, as the Italian archaeologist G. Caputo has noted. Since the nineteenth century, however, the loaf-shaped hill of Talamonaccio, across the gulf from Talamone, has been widely accepted as the site of the ancient city although the evidence, according to Caputo, is so far not entirely convincing. The evidence rests on the accidental discovery of "burned ruins" reported by the builders of a coastal fortification at Talamonaccio in 1888, and on a Roman coin with an uncertain inscription *tla*, corresponding to the name of the city. More recent excavations have revealed the foundations of a late Etruscan temple belonging to the fourth or third century B.C., whose pedimental terracotta reliefs representing the myth of the Seven Against Thebes, are among the most important architec-

tural sculptures discovered in Etruria. But so far no modern scientifically controlled excavation has confirmed the existence of an Etruscan town site in the vicinity.

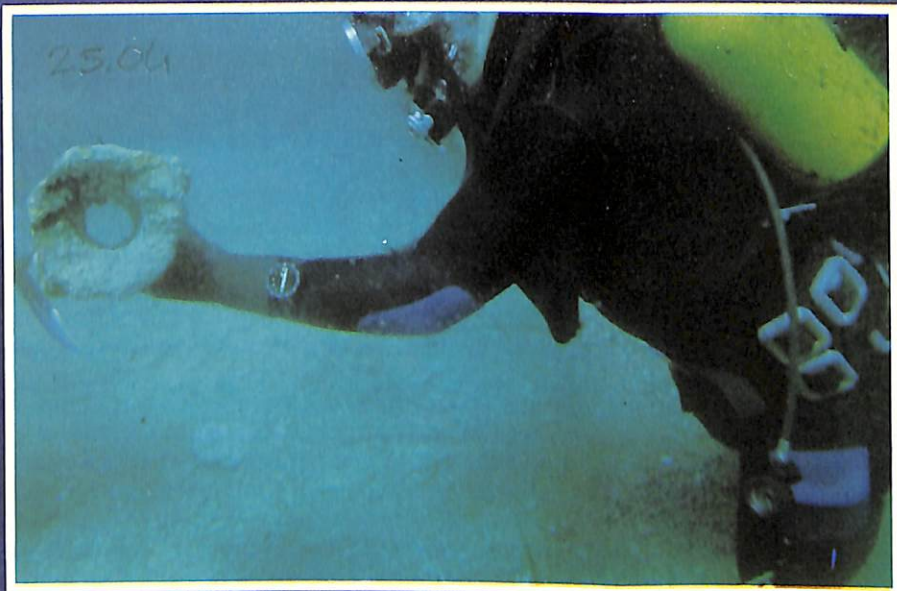
In antiquity, the city of Telamon became famous as the site of a crucial battle against the Gauls. In 225 B.C., the Roman Consuls L. Aemilius Papus and C. Atilius Regulus defeated the invading barbarian army at Telamon, thereby preventing an attack on Rome itself which might have changed the course of history. Indeed, to this day the name of Regolo is commonly used among the families around the gulf in commemoration of the ancient hero and savior of Rome. During the civil wars which were later to ravage the Italian peninsula, Telamon was once again the site of a major conflict when a Roman consul named Marius disembarked with an army in the Gulf of Talamone to mount a surprise attack on the forces of the general Sulla in 87 B.C. In 82 B.C. Sulla supposedly burned the city of Telamon in retaliation for its support of his enemy. In reality, Telamon had probably ceased to function as the preeminent seaport of the south Etruscan states at a considerably earlier date, having been supplanted by the Roman colony at Cosa during the third century B.C. after the Roman defeat of Vulci. The excavations by the American Academy in Rome at Cosa, located a few kilometers to the south, clearly show that the Romans had developed a flourishing new town and a major port there well before the end of the second century B.C.

It was during the course of the recent excavations at Cosa that the plan for an archaeological survey of the Gulf of Talamone took shape. Apart from the continuing controversy over the location of the city of Telamon, more information on the existing ancient remains along the gulf's shores and environs would be useful in developing a more coherent picture of the region during the Etruscan and Roman periods. Few details are provided by the literary sources so the interpretation of history in this region rests almost entirely on archaeology. The goal of the expedition, therefore, was to locate and record any archaeological remains in the waters or along the beaches of the Gulf of Talamone that might shed new light on the maritime history of the region north of Cosa. At the same time it hoped to accumulate data on the currents, wind patterns and other coastal phenomena that might offer clues to the changes which evidently obscured traces of the ancient port of Telamon.

A general description of the Gulf of Talamone must begin with the high, hook-shaped promontory forming a natural protection for the northern part of the gulf from the winds of the west and northwest which in certain seasons are frequently capable of reaching gale force. Today a small yacht harbor lies within the shelter of this promontory. Crowning its heights are the ruins of a castle, one of the most important landmarks on the Tyrrhenian coast, built by the Republic of Siena in the early fifteenth



*Built in the early fifteenth century by the Republic of Siena, the castle at Talamone sits on an isolated position at the extreme point of the promontory. Terracotta bricks, roof tiles and pot sherds found in the water beneath the castle suggest the presence of a so far undiscovered Roman maritime installation some where in the vicinity.*

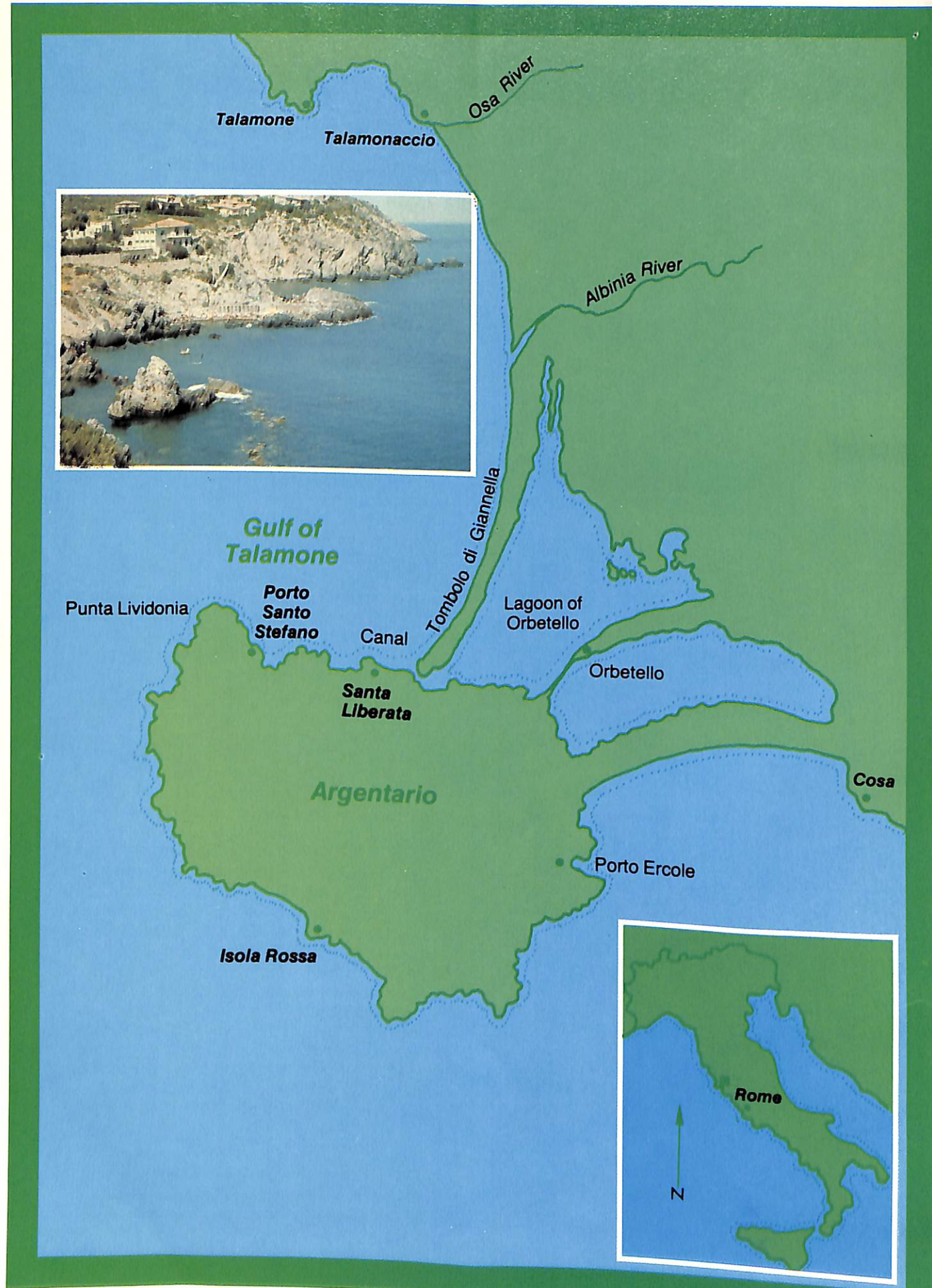


century. From the castle the mountain continues northward forming precipitous cliffs along the coast for several miles, while a beach curves away from it to the east in an arc across the head of the gulf. On the eastern shore, this arc of beach meets the long, low loaf-shaped hill of Talamonaccio.

South of Talamonaccio, the landward flank of the gulf forms a single curving sweep of sandy beach and low dunes, backed by dense and aromatic pine groves, until the beach encounters the next in the series of rocky spurs that punctuate the coast. This long, continuous line of beach is broken by three channels. Just beneath the hill of Talamonaccio on its southern end, the Osa River noisily empties into the sea over a bed of rocks. This mouth could never have been navigable, but in ancient times may have been approachable some distance down the beach away from this rocky ledge. It is not inconceivable that the docking area for Telamon lay in the Osa River. Halfway down the curve of beach, the Albinia River slowly winds its way, finally managing to reach the sea around the barrier of a sandbar evidently created by its own silt. There an artificial canal connects the waters of the gulf with the Lagoon of Orbetello where the beach meets the promontory of the Argentario further to the south. This lagoon is the largest of the tidal saltwater basins that survive along the Tyrrhenian coast, providing natural fish-breeding grounds today as it did in antiquity. The town of Orbetello lies on a peninsula, a finger of land that reaches out from shore behind the Argentario extending outward to divide the waters of the lagoon in half. Today this peninsula with its town is connected by a causeway to the Argentario, thus dividing the lagoon into two separate parts. In ancient times, the peninsula ended in the middle of the lagoon. At its tip lay an ancient town, as yet unidentified, marked by considerable stretches of ancient polygonal walls that have been said to date to the end of the fourth century B.C. P. Bocci Pacini has recently suggested that a portion of the sandbar between the Albinia River and the Argentario that encloses the Orbetello lagoon may have been partially unformed in ancient times, in which case the polygonal walls at Orbetello may have protected a major ancient seaport.

On the southern shore of the Gulf of Talamone along the cliffs of the Argentario is an ancient Roman villa that serves as the foundation for a great modern house which effectively obscures most of the ancient structure. Beyond the villa, known as Santa Liberata, the headland of the Argentario extends seaward to enclose the south-

*Aerial view of the fishtank and pier off the villa at Santa Liberata. The pier, a section of which has broken free of its root on the rocky shore, is made of Roman concrete consisting of tufa rubble stones and sherds from heavy storage pots mixed in a sandy mortar. (Inset) A diver holds up the neck of an ancient amphora found elsewhere during the survey in a cove behind the Isola Rossa.*



*The Gulf of Talamone was the site of multiple underwater explorations in search of Etruscan and Roman remains. The rocky cliffs outside the northern entrance to the gulf form tiny coves where a variety of ancient structural materials were trapped when they fell from the heights of Talamone as a result of erosion.*



*Roman amphora fragment which traveled from present-day Algeria was discovered underwater near the villa at Santa Liberata. Height, 54 centimeters.*

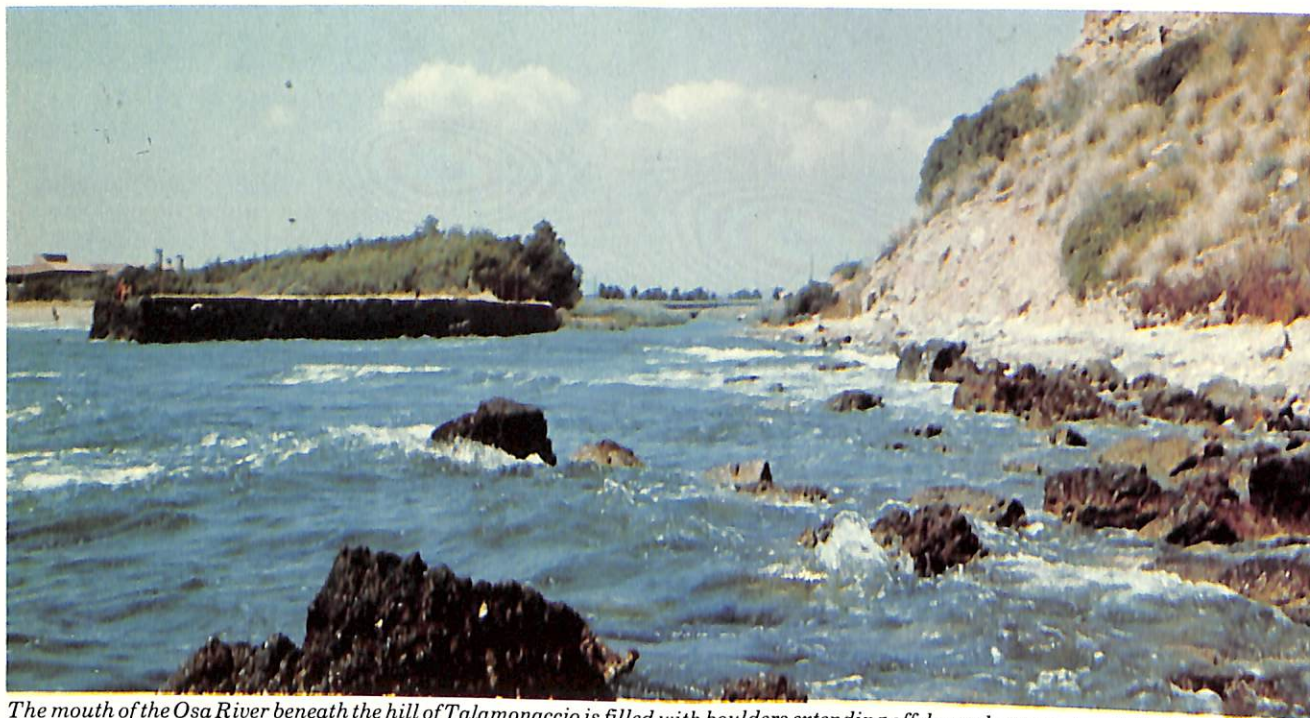
ern reaches of the gulf. Near the seaward end of the Argentario lies the modern port town of Porto Santo Stefano. By its mass, the Argentario protects most of the Gulf of Talamone against the sirocco—gales from the southeast that strike the Tyrrhenian coast with disturbing regularity. This, then, was the zone to be surveyed, a clear geographical region defined by the Gulf of Talamone, within whose boundaries we are able to count at least three major ancient structures: the Etruscan temple at Talamonaccio, the ancient walls at Orbetello (perhaps Etruscan, perhaps Roman), and a large Roman villa at Santa Liberata. The task was to put the archaeological pieces together—the purpose to achieve a better sense of future possibilities and priorities, providing a basis on which to design a program for exploration and archaeological research.

In order to accomplish these goals, the survey team divided the Gulf of Talamone into three main research areas—Zones A, B, and C—each determined by its relation to a known archaeological site or some feature that seemed to indicate a position of special significance to ancient mariners. A fourth zone, D, just outside the gulf at Isola Rossa was added because the anchorage behind this tiny island in the approaches to the gulf suggested a likely shelter for ancient ships that might have been caught in a sudden gale. Many difficult conditions were encountered by the divers at the northern end of the gulf in Zone A, inside the headland of Talamone. Visibility was normally under four meters; bottom conditions generally consisted of a

variegated composite of thick, heavy mud or shifting, loosely packed silt and sand, partially covered by deep patches of eel grass. Evidently a continuous silting process had taken place in this area. Currents, winds and wave patterns seem to have lifted the silt from the two river mouths, particularly the Albina, forcing it northward and dropping it at the head of the gulf between the rock cliffs of Talamone on one side and the hill of Talamonaccio on the other. Even today, this silt is being continuously deposited against the low northern beach, gradually shrinking the northward reaches of the gulf. This process, caused mainly by the steady two-knot south-to-north current that affects the entire Tyrrhenian coast of Italy, resulted in the diminution of the gulf in late antiquity and the creation of a marsh where the sea had once been. Just how far north the gulf may have extended in ancient times is unknown, but its shape is perhaps suggested by the contours of the malarial swamp that resulted as deforestation caused the silting of rivers and lagoons. According to a German authority, R. Naumann, the northern shore of the Gulf of Talamone might be placed as much as five kilometers farther to the north of the present location of the beach, creating a much deeper area of sheltered water between the Talamone promontory and the shore at Talamonaccio. Naumann suggests that a port serving the city of Rusellae may have been located in this northern part of the bay, which now lies beneath an area of fertile wheat fields created when the ancient swamps along the coasts of central Italy were drained and the land was reclaimed for agriculture under the dictatorship of Mussolini.

The survey team soon confirmed that the silting process described by Naumann continues to this day. Certain key positions were nevertheless checked to make sure that conclusions concerning the silting process were correct. After a number of dives in the vicinity of the modern port, a sweep was made on the inner side of the channel, along a line of yacht moorings that mark a sudden change in depth. All observations confirmed the fact that beyond a line drawn between the headland of Talamone and the hill of Talamonaccio, the entire northern end of the gulf is gradually filling up. Any ancient materials that might once have been located on the north end of the gulf now must be buried and unrecoverable except by major dredging and land excavation. Indeed, frequent dredging appears to be necessary to maintain access to the present harbor.

The seaward side of the promontory of Talamone, however, is unaffected by the silting process. As the current moves counterclockwise through the gulf, the hook-shaped headland evidently traps any remaining silt not already dropped along the beaches of the gulf by the slowly moving waters. The outer shores of the headland are therefore perfectly clean and underwater visibility is excellent. Here the irregular and jagged arms of rocky cliffs and coves hold ancient materials that might other-



*The mouth of the Osa River beneath the hill of Talamonaccio is filled with boulders extending offshore along a natural shelf of rock and is not navigable. The location of this mouth during antiquity is now lost but is believed to have been further south some distance behind the present beach.*

wise have been dispersed by the pounding seas. Under these cliffs divers found the bottom strewn with an assortment of ancient Roman building materials from structures that once must have risen along the heights above. Terracotta bricks and fragments of terracotta roof tiles were seen everywhere, together with potsherds representing a variety of household wares. In this area, the cliffs rise so steeply that such finds must be interpreted as fallen debris. Evidently an ancient Roman settlement or perhaps a Roman watchtower or military base was once situated along the heights of Talamone beneath the present Mediaeval castle. Since no tesserae or other Roman paving materials were found among the fallen objects at Talamone, it is possible that ancient floors are still *in situ* on the heights around the castle awaiting discovery.

Opposite the promontory with its castle, in the area designated Zone B, lies the hill of Talamonaccio believed to be the site of ancient Telamon by some archaeologists. This possible Etruscan port was evidently still in use when the ancient geographer Strabo, who traveled the Tyrrhenian coast in the early first century, composed his list of maritime settlements. Although the location of a burned city on Talamonaccio, described by nineteenth-century observers, has not been confirmed by more recent archaeological work, one place along the shore of Talamonaccio marked by a large rock known to locals as the "Scoglione" has been for decades a favorite hunting ground for skin divers in search of ancient sherds. Our survey divers found this area picked clean. Not a single fragment of ancient terracotta was to be seen in the shoals between Talamonaccio and the Scoglione, which lies some 50 meters out from the beach. Nevertheless,

the configuration of this shoal, which forms a long curving line connecting the Scoglione with the beach at Talamonaccio, suggests the shape of a type of mole seen elsewhere along the Tyrrhenian coast. This type usually consists of a line of piled-up rocks reaching outward from a landing place and turning parallel to the shore to provide protection from wave action. Such breakwaters are not necessarily uniquely ancient, but when the shoal was examined more closely underwater, it soon became clear that many of the boulders were, in fact, pieces of loose roughly-shaped limestone rock of the kind used in ancient rubble masonry. Apart from the island of Scoglione itself, the line of stones connecting the Scoglione with the shore is not natural but rather a fall of loose rubble that may very well have belonged to an ancient structure.

Mixed in with these rubble stones were a number of rectangular blocks worked on all six sides. Such blocks are used in ancient rubble walls at the corners of rooms, or at doorways to reinforce the ends of walls. One such block of white marble, more carefully worked, could have been a slab from a sarcophagus reused for some structural purpose. Something else becomes apparent in an aerial photograph taken with the aid of a balloon and suspended camera. The landward side of the Scoglione is almost perfectly straight and, moreover, is aligned with the shore. One might suspect that the stone was worked in order to produce such an alignment. It may also be significant that the Scoglione with its line of rubble connecting it to the beach occurs at the one point on the shore of Talamonaccio not backed by a sharply rising cliff. In other words, if there was indeed a landing place to serve a town on the crest of Talamonaccio, this is

the only point along the coast where the town could have been reached by a path from the sea. The rise of the hill is much too steep elsewhere.

**N**orth of Talamonaccio, the area at the head of the gulf has been so drastically transformed by silting that underwater activities were limited to individual dives to observe the present extent of the silting along the shore, where silt and grasses lie just below the surface for an average of 300 meters out from the northern beach. Then there is the first of a series of sudden drops, forming steps in the bottom until depths of about ten to fifteen meters are reached. These depths continue across the entire width of the gulf to the modern breakwater beneath the castle at Talamone.

While nothing ancient was found underwater in this sector, our efforts were rewarded on land. The once malarial mud flats lying north of the present beach, drained but not yet reclaimed as farmland, were literally strewn with ancient sherds. It is remarkable that all the sherds found sprinkled over this area are small, few larger than two or three centimeters. It is also surprising that few if any modern materials are mixed in with the ancient sherds that cover the flats stretching northward. Evidently these flats have remained entirely undisturbed except for the ditches dug by bulldozers when they were drained. Thus, the surface of this drained swamp forms a curious and interesting sight. The mud is hard and smooth but slightly rippled, exactly like the sea bed in certain areas. It is marked by miniature knolls and rises with rounded, sculptural profiles, also similar to the forms in an underwater scene. Thousands of potsherds all lie with their smooth, curved shapes upward and their rough, broken edges slightly buried in the sand, gripping the surface so that it takes a bit of a tug to get them up just as is the case when they are found underwater. All this seems to suggest that these sherds were floated onto the surface of the mud flats by the action of tides when the area was still open to the northern reaches of the gulf. On every side, drainage ditches about a meter-and-a-half deep, cut through like excavation trenches, afford a view of the stratification, only here there is no stratification. The ditches reveal a completely featureless deposit of pale sandy silt, with the majority of the sherds lying only on the surface.

The pottery found on the surface of the mud flats was carefully sampled. It shows a great variety of common ware and kitchen ware forms. The rim shapes and bases and the types of terracotta closely parallel the common ware fragments found in the excavation of houses at Cosa. Also typical of the Cosan context is the mixture of Roman types of pottery with late Etruscan pseudo-bucchero, a dark gray unglazed pottery that in its finish and in certain shapes follows in the tradition of bucchero. This type continued in use until about the end of the Roman Republican period, or about the middle of the first century B.C.

Because of the existence of a counterclockwise current in the gulf, the obvious conclusion to be drawn from the evidence of the northern flats is that the sherds found on the surface of the silt must have come there from a destroyed settlement lying further to the south, very likely in the vicinity of Talamonaccio. The fact that they can be found only on the surface of the flats and not in the walls of the bulldozer trenches suggests that they are not a gradual accumulation but the result of a single deposit. They may represent a dumping of refuse which could have entered the sea on one particular occasion. The sherds themselves suggest a date in the early first century B.C. All of these facts would seem to align themselves with Sulla's destruction of ancient Telamon; subsequently, parts of the ruins of Telamon must have been cleared and reoccupied, and large quantities of potsherds may then have been dumped into the gulf, the heavier pieces sinking to the bottom, the smaller and lighter fragments moving northward with the tides and currents and gradually coming to rest on the surface of a developing swamp. There they remained in plain sight ever since the draining of the swamp by Mussolini's engineers.

The survey team next turned its attention to the southern side of the Gulf of Talamone—Zone C—where a canal enters the Lagoon of Orbetello and the Roman villa of Santa Liberata is located close by the entrance to the canal. Although the bottom conditions and visibility were even worse here than in the north, a variety of ancient materials were discovered. The team worked in an area stretching from the canal and its seaward approaches to the villa of Santa Liberata, and then westward toward the breakwater protecting the modern harbor of Porto Santo Stefano. The present canal evidently follows the path of an older channel, for near the entrance to the lagoon of Orbetello remnants of ancient concrete were seen still adhering to an outcropping of bedrock. Ancient terracotta bricks and fragments of a *dolium*, one of the huge, globular vessels used by the Romans for underground storage of perishables, are embedded in the concrete. The rim of the *dolium* has a profile datable to the first century B.C., showing that at least here the sandbar separating the gulf from the lagoon was already present in antiquity. Then, as now, an artificial construction was evidently necessary to maintain an open seaway connecting the gulf and the waters of the lagoon.

Large quantities of Roman debris were found in the waters of the canal and along its banks. Among the sherds sampled were fragments of black-glazed tableware and two datable amphora fragments of the second century B.C. One, a rim fragment, comes from a narrow-mouthed type of wine jar that is now commonly called "Greco-Italic." The piece, with its rounded edges, shows the results of centuries of buffeting by tides after the jar from which it came was broken. The rim is flared, triangular in section; the amphora was manufactured in the second cen-

tury B.C. or perhaps as early as the late third century. The second amphora fragment is part of the handle of a jar belonging to a type often called "Dressel 1B" after the German scholar Heinrich Dressel who published a Roman amphora typology in 1899. Amphoras of this type were apparently manufactured both in central and southern Italy during the first century B.C., and were widely exported throughout the Mediterranean as shipping containers for wine. These amphora fragments confirm that the canal must have been in use during the Roman Republican period.

**T**he area of investigation was extended to the west along the southern coast of the gulf toward the villa at Santa Liberata. In addition to a masonry fishtank, one of the most important on the entire coast, we observed a large masonry pier, undoubtedly of ancient construction, just awash at the tip of the rocky point that separates the extant ruins of the villa from the fishtank. The basic structure of the pier is concrete made of rubble and mortar: the fairly uniform rubble stones are tufa, while the mortar is densely packed with black sand and large sherds. The height of the preserved portion of the pier is about 5.20 meters. A segment of this structure, 8.70 meters by 9.15 meters, has broken off from its root on the shore, while part of the concrete still adheres to the cliff where the pier once attached to the live rock. In an aerial photograph it is obvious that the two pieces of the pier fit together, although there is a 20-degree difference between the axis of the detached segment and the root of the pier on shore. This can be explained by the fact that the broken segment must have slid gradually down the slope as the sandy bottom underneath it shifted away.

Offshore in the vicinity of the villa of Santa Liberata about 20 meters out from the pier, the team found Roman amphora fragments dating from the late second century B.C. to the third century after Christ. One of them is a rim fragment from an amphora of "Dressel 1A," a type of shipping container for wine, dating from the late second and early first centuries B.C. Almost as early in date is the amphora toe from a type of jar sometimes referred to as "Apulian II." Jars of this type originated in southern Italy and apparently served as export containers for fine olive oil during the early first century B.C. Later amphora fragments found underwater off the villa included what was probably the lower part of a long, hollow toe that once belonged to an amphora of "Dressel Type 14." Such jars brought *garum*, the gourmet fish sauce of Roman times, to Italy from Spain in the first century after Christ. *Garum* amphoras regularly had hollow bases or toes for reasons we do not know. The lower part of an amphora neck, with a portion of the shoulder and the lower attachment of one handle still preserved, also dates to the first century. The handle, which was apparently bifurcated, and the clay, which contains conspicuous white bits, enabled us to classify this fragment as "Tarraconese,"



*Greco-Italic amphora said to have been found at Porto Ercole. Such jars were manufactured in various places in the Mediterranean area during the second century B.C. and many fragments have been found on ancient underwater wrecks. Preserved height, 69.8 centimeters.*



*Top of an amphora which may have come from Spain and was used for holding garum, a Roman gourmet fish sauce. Height, 17 centimeters.*

a term used to describe jars that brought cheap Spanish wine to Italy.

The four latest amphora fragments found near the Roman villa indicate that it may have been inhabited until the second and third centuries after Christ. A jar fragment lacking only the base and part of the lower belly belongs to a class of amphora manufactured during the late first century through the second century in the Roman province of Mauretania Caesariensis, present-day Algeria. Such jars often bore stamped impressions on their handle or rim naming the ancient province from which they came. Jars of similar shape but different clay were also apparently manufactured in France and elsewhere during the Roman period. Another piece found underwater may come from this same type of amphora, but it is such a small rim fragment that estimating mouth and rim diameters—a procedure essential for accurate typing of Roman amphora fragments—is hazardous. A third late piece small amphora of distinctively pinkish clay. It may have been another Spanish *garum* container. The last pottery piece from Santa Liberata is a rim fragment from an amphora belonging to the so-called Big African class, which was manufactured in great quantities in North Africa during the third

century, especially Tunisia, after Africa had succeeded Spain as the chief producer of olive oil in the Mediterranean. Altogether, this battered and outwardly nondescript group of amphora fragments helps date the period of occupancy of the villa at Santa Liberata and, by extension, throws light on the dates and far-flung trade in the area during the Roman period. Over half a millennium of economic activity is represented by these fragments found in the villa's waters and between the villa and the canal entrance to the lagoon.

The last area of exploration—Zone D, the Giglio Channel and the Isola Rossa—also proved fruitful. Although an initial series of dives in deep coves off the island of Giglio recovered no ancient materials, the opposite side of the Giglio Channel behind the Isola Rossa, a natural bay on the Argentario protected from both the mistral and the sirocco, contained numerous amphora fragments. One representative piece is so heavily encrusted with a multicolored marine deposit that it looks like an example of rococo sculpture. It is the upper part of a garum amphora dating to the first century after Christ. The natural protection afforded by the Isola Rossa and the sheltered position of the cove behind it suggest the possibility that this was the site of an ancient anchorage, a place where ships might have waited for storms to pass. The quantity of amphora fragments found here might also indicate a stop-over at some sort of coastal settlement before ships rounded the Argentario on their way into the Gulf of Talamone, or before beginning a journey out of the area toward the south.

The comprehensive land and water survey of the Gulf of Talamone has thus yielded more evidence about the Romans than about the Etruscans. Pottery sherds, perhaps from ancient Telamon, lie on the mud flats north of Talamonaccio. But they date from a period when control of the coast had already passed from the Etruscans to the Romans. Roman amphora fragments dating from at least the second century B.C. to the third century after Christ point to trading activity for over 500 years with Spain, Africa and other parts of Italy. The remains of a Roman structure on the headland of Talamone—as evidenced by the roof tiles and bricks found in the waters beneath its cliffs—the Roman villa of Santa Liberata, Roman construction in the canal of the Lagoon of Orbetello, and finally, the Roman anchorage at the Isola Rossa all illustrate the scope of Roman activity in and around the gulf. As for the location of the Etruscan port city of Telamon, nothing convincing was found. The alignment of the loose rubble stones behind the Scoglione off Talamonaccio, however, suggests the possibility of an ancient anchorage and underlines the need for systematic exploration of Talamonaccio to rediscover and restudy the "burned city" of the earliest archaeological reports. Our survey suggests more clearly than ever before the need for an archaeological project of even higher priority. The polygonal circuit walls of the town of Orbetello on its finger of land within the Orbetello lagoon still

constitute the most imposing ancient monument in the entire region of the gulf of Talamone. The evidence of the amphora fragments uncovered by the expedition from the waters of the canal into the lagoon and from its seaward approaches clearly point to a destination within the lagoon as the most important seaport and center of trade in the area, at least during Roman times. One would therefore wish to learn more than is presently known about the ancient city that was once protected by those enigmatic walls at Orbetello. What was its ancient name? What was its relationship to Telamon? A series of excavations inside the Orbetello lagoon might answer these questions and many others.

An expedition to explore the Gulf of Talamone was organized in 1973 by author Vincent Bruno under the auspices of State University of New York at Binghamton, with funding by the Atlantic Foundation sponsored by Seward Johnson, whose crew aboard the yacht *Basha*, then stationed at Porto Santo Stefano on the southern coast of the gulf, provided valuable support throughout the survey. Additional support came from Mrs. Solie Reinhardt and from the Marchese Corsini of Porto Ercole whose knowledge of the local waters enabled him to guide the survey diving team to an important find spot at Isola Rossa. Diving operations along the shores of the gulf, under the supervision of co-author Joseph Schwarzer, were supplemented by aerial photography carried out by Julian Whittlesey and the Whittlesey Foundation by means of a camera suspended from a balloon and controlled from a rubber dinghy. The interpretation of the fragments of pottery recovered from the sea during the course of the survey was undertaken by co-author Elizabeth Lyding Will in 1977 and 1978, whose research on the amphorae was of paramount importance in defining the overall results of the project.

**FOR FURTHER READING on Talamone and Telamon:** G. Caputo, "Talamone," *Enciclopedia dell'Arte Antica VII* (Rome 1966): 583-584; O.W. von Vacano, "Telamon," *Princeton Encyclopedia of Classical Sites* (Princeton University Press, Princeton, New Jersey 1976): 891; "Die Figurenanordnung im Giebelrelief von Telamon," *Mitteilungen des Deutschen Archäologischen Instituts: Römische Abteilung* 76 (1969): 141-161.

On underwater exploration of the west coast of Italy: V.J. Bruno, "The Mystery of the Etruscan Coastline," *ARCHAEOLOGY* 26 (1973): 198-212; "Pontia (Ponza, island of)" *Princeton Encyclopedia of Classical Sites* (Princeton University Press, Princeton, New Jersey 1976): 728; A.M. McCann and J.D. Lewis, "The Ancient Port of Cosa," *ARCHAEOLOGY* 23 (1970): 200-211; A.M. McCann, J. Bourgeois, E.L. Will, "Underwater Excavations at the Etruscan Port of Populonia," *Journal of Field Archaeology* 4 (1977): 275-296.

On ancient amphoras: V.R. Grace *Amphoras and the Ancient Wine Trade* (American School of Classical Studies, Princeton, New Jersey 1961); E.L. Will, "The Ancient Commercial Amphora," *ARCHAEOLOGY* 30 (1977): 264-270.

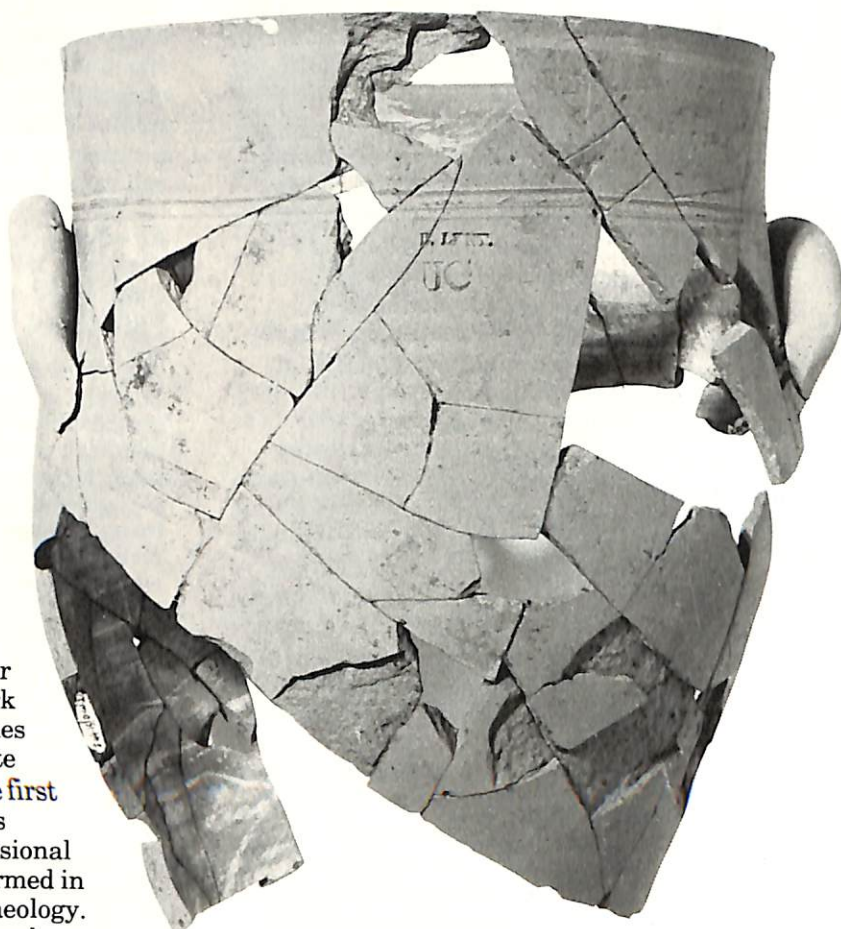
On Orbetello: M. Santangelo, "L'Antiquarium di Orbetello" (Rome 1954): 35-75, with earlier bibliography; R.C. Bronson and G. Uggeri, *Isola del Giglio, Isola di Giannutri, Monte Argentario, Laguna di Orbetello* (Florence 1970): 8-14.

# The Jordan Pottery Project: Grassroots Archaeology

by DAVID W. RUPP

In recent years there has been a growing debate among professional archaeologists over the role of amateur societies in serious archaeological work in North America. This discussion comes at a time when two apparently opposite movements are coming to the fore. The first is the certification of archaeologists as "professional" by the Society of Professional Archaeologists (SOPA), which was formed in 1977 to support the discipline of archaeology. The society has approximately 400 members in North America. The second is the growth in the number of nonprofessional people who are interested in learning about the past and participating in archaeological fieldwork. The ever-increasing use of sophisticated scientific methods and procedures in professional archaeology has limited what serious lay archaeologists can do both in the field on their own and in association with professionals. At the same time, the finite and nonrenewable cultural heritage from all periods is being relentlessly destroyed, often by untrained and unsupervised amateur diggers who are looking for artifacts to serve as souvenirs or salable merchandise.

Instead of educating the public to prevent these deprivations, archaeologists all too often dismiss this task as unworthy of their time and spurn amateur interest. In short, a potentially vast constituency has been regrettably overlooked. This folly occurs at a time when archaeological research is becoming more and more dependent on finite tax revenues, and the disgruntled taxpayer is demanding more basic services and lower taxes. If field



*Large bisque-fired storage vessel with interior white wash showing B. Lent UC stamp on the shoulder from the Benjamin Lent Pottery. Preserved height, 33 centimeters.*

archaeology is to survive under these conditions, a concerted effort must be made by professional archaeologists to enlist the public's support and assistance in their work whenever feasible. And indeed, such efforts are being made in various places in Canada and the United States. The work being done by Northwestern University in the area around Kampsville, Illinois, is perhaps the largest and best known. Equally worthy of mention is the annual training program conducted for amateur archaeologists by the Arkansas Archaeological Survey, which is a state-funded agency staffed by professional archaeologists.

A similar effort has been undertaken recently in the Niagara Peninsula of southern Ontario. Two related projects, the Jordan Pottery Excavation Project and the Jordan Pottery Project, have enlisted the aid of numerous volunteers, demonstrating the effectiveness of amateurs working on grassroots archaeological projects. The area is one

Athens, February 23, 1982

Dear Carolyn,

Here is for the urgent matters in your letter of January 30, and I hope not too late.

For the date of HISTOZ, I haven't anything very close and firm, but as the stamp has a month in it, it dates after ca. 240 B.C. It is 3rd century, by appearances and by anything else I know.

El-Ghariani's address:

Ghariani  
Docteur Youssef El-Ghariani  
Directeur General du Musee Greco-Romain d'Alexandrie  
1 rue du Musee  
Alexandrie

M. Emerseur wrote it out for me. Apparently ~~El-Ghariani~~ El-Ghariani (I seem to have a block about spelling that name) - apparently he was made Director-General of the whole Egyptian archaeological service, but after only a short time he was demoted back to Alexandria, nice for all of us but perhaps sad for him.

I feel sort of up on Egypt, as I have just read Hoving on Tutankhamun (how do you spell that with out the book). I thought I didn't want to read it, but all those people from the Met., Lythgoe and Winlock and Ambrose Lansing, were colleagues of the Met people we knew so well, and I went to Egypt (Bureau of University Travel) right after working at the Met. as a volunteer in Billy Ivins' Print Department, in fact I was <sup>in Luxor</sup> thereright in February 1923. We didn't get to go in the TOMB (very naturally, as I see after reading the book) but of course we were touched by the whole thing.

The Septuagint must be fine to spend time on. Have you read the description of Solomon's temple? No.

Haven't yet found time to look up your comments on Letty. Should.

ROMAN - GRECO-ITALIC

American School of Classical Studies  
64 Swedias Street, Athens 140, Greece

February 5, 1982

Dear Carolyn,

Great to have your letter of January 21, with news of your plans and applications, which all sound very promising. I'll let my nephew Nick Grace know about the possibility of an income problem for me - he gets my returns prepared at his law office. (It doesn't affect Social Security, at my age.) It now occurs to me as odd that Gladys Weinberg did not think of doing something like that with her NSH ~~grant~~ application, for her book on the glass from the Kakoula lot in Rhodes, very important from her point of view, and there is hardly anything to date it by except the quantities of Rhodian stamped handles. I've given her readings ages ago, and dates, and then revised dates, because they are 3rd century largely. Still, she can't publish them herself, and she recognizes that fact. She told me she had got \$50,000. She should have asked for a bit more, I see, specifically to compensate us here for our time, to support our efforts.

Of course, if you don't get the money, what with Reagan, not to worry about us, and I have a bit laid up in the Amphora Fund which it would be suitable for you to have, anyhow \$1000, really \$2000, to help fill out. Because I agree with you that (for various reasons) it will be good for you to come soon.

Does it make any difference to you, if I am away during the early part of your 13 months? I ought to pull myself together and get to the US, and it may work out that late May and June is when it has to be.

You will (I hope) have got on your return my letter to you enclosing a photocopy of mine to Letty about Greco-Italics. She has not let me know that she received the one to her, I only know it through you. I have written to her since then, about a French lady amphotist named Laubenheimer (pronounce in French) who found some examples of "Gauloises 4" in the Agora collection. They turned out to be Letty's Type 18. Her visit was during the New Year's holiday so I could not put her off

on Margot Camp, but I did afterward, for correspondence.

I'm sure you'll like working with Margot, we're lucky to have her. She likes the job, too, and has brought plants and a painting to make the catalogue room more pleasant.

I'm so glad you've had a real visit with your family and old friends. These are precious occasions. Thank you for your Christmas - New Year's - birthday card written in the midst of the gathering at home. I love having it. Also your telephone call. What exciting weather you've been having! Kephissia has snow, today for the first time this year, lying on the ground - reported by Maria.

I have been trying to read without spending time an article in Italian of which M. Empereur gave me a photogcopy: Serena de Luca de Marco, "Le anfore commerciali delle Necropoli di Spina," Melanges de l'Ecole française de Rome 91, 1979, pp. 571-600. It seems not to be cited by Letty, though it is hard to be sure in her long lists not in alphabetical order. (By hunting through, I find she cites my new friend Mme. Laubenheimer.) It does little good in ~~repxrx~~ reporting Spina, as it never gives dates for the individual tombs from which the amphoras are said to come. (Or are all the contexts thought to be the same.) Pp. 585-586 on Greco-Italics seems to have some sense. However, what she says about Chian does not, cf. p.584 and pl. III; you wd. think she might have looked a little further on in Picture Book 6, to figs. 44-49. And I doubt whether you will be much informed by the text on Corcyrean, pp.580-583, with all its Variants; still probably you ought to look at it. See pls. I-II. Numerous references to some text by C. Boulter.

January 30, 1982

Dear Miss Grace,

I found your good letter of the 11th waiting for me when I skittered my way on ice into my office Tuesday morning. Thank you for the copy of your comments on the Greco-Italic article: points well taken, indeed. I did not realize before I read them, the fundamental errors ~~which had~~ about the contexts, though I certainly complained about the lack of clarity ~~which~~ in the discussions of chronology. It is only fair that you have a copy of ~~my~~ my comments! Many merely concern clarity of style, but others address some of the concerns you mentioned. How relieved I am to learn that the Villanova jars were not made in Rhodes. And you are certainly correct about Greco-Italics not being related to Corinthian A. (I am still considering what might be the relationship of late Corinthian A and the Briddisi jars; I just haven't yet pondered sufficiently.) I agree about the photographs, and will see whether something can be done, through Marian I think. The criticism about long footnotes I have taken to heart for myself...

The day before yesterday I had a note from Marian which said that she had collated my comments on Letty's article with Susan's and sent them off, so in a little we may hear something. Yours are the ones which should be most paid attention to, and I hope they will be. What a job it was for you to track all that down. I'll ask Marian if I may read any new drafts, which I probably would be asked to do anyway, and so I can make direct use of your observations and suggestions.

I am now wrapping up odds and ends of my own article, and fear I must trouble you with two short questions. What is now the date of the Rhodian ~~Niots~~ whose stamps portray an earlier Rhodian jar (Samian article, p. 67 with note 41)? And what is the name and address of the Mr. G-2- in Alexandria from whom I should get permission to mention AT/7 and AT/9 in the Benaki Collection? I meant to find these things out last summer before I left, but in the last days failed to do so.

How nice it was to be with my family; recently we have met for such brief, hectic periods. It turns out that I should not have been complaining so much about the snow in Washington state, especially with my father to help with car chains and shovelling; here the ice and mush are so much worse, and often only me to cope. A good Samaritan helped push me out of my slick parking place yesterday evening, though, and another friend aided my attempts to de-ice my frozen little car. (Its motor is fine.) I am now working on the Septuagint for Greek class, and preparing for courses on Egypt and maritime commerce. The latter is rather broader than the nomenclature implies, and taught at a pretty basic level, and includes underwater archaeology: something for everyone. I do enjoy it. Classes begin Mon.

I have greetings to pass along from the Seviars, whom I saw just before Christmas and who are well; their daughter and my friend Candida has a  $1\frac{1}{2}$ -year old daughter. Leslie Richter and her husband also say hello; I see them every once in a while at the local AIA lectures. And hi ffrom Diana Buitron, ~~whix~~ with whom I had lunch yesterday.

I hope you are well, and warmer than Baltimore.

With love,  
Carolyn

17.11.82  
Types write  
amplified  
from mouth  
so of 240.  
3rd cut. after  
240.  
(and to have  
give as still  
300 B.C.)

Carolyn told me Letty had said,  
about my letter, "Am I not old  
enough to have an opinion  
of my own?"

American School of Classical Studies  
54 Swedias Street, Athens 140, Greece

January 11, 1982

Dear Carolyn,

Following our telephone conversation Saturday (Jan.9), it seems to me probably best for you to have a copy of my letter to Letty of Oct. 28 and later (posted on Nov.9). It is too long, and I can only say, like the clergyman about the too-long sermon, "Madam, I did not have time to make it short." Perhaps it sounds abrupt in places; this comes from pressure. It was meant to be constructive. And you will use it only in a constructive way. I am curious to know to what extent my reactions were like yours. Some corrigenda you would not have recognized, not having had occasion to concern yourself with the particular material, and that is especially the confusion of her contexts, which I think bad; the deposits should have been named, and ~~more~~ care taken about what was in each one; here as I indicate there was some backsliding from clarifications we had had here. For the pictures I take exceptions <sup>in her plates,</sup> to, I do suggest alternatives, anyhow for some. I'm sorry not to be able to enclose here other prints of some things I enclosed to her.

So I have done what I can about this, and will be glad to have you do what you think best. Whatever it is, I shall not, as B. Sparkes says, take umbrage!

Right now I have a great long ms. from Mme. Le Dinahet (Mlle. Couilloud) on stamps from M. Siebert's house in Delos, I mean the one he is publishing. Though she sends a lot, not all kinds are present, and I hope that is the reason there are no catalogue numbers, just TD numbers of items she has arranged of course in non-TD order. I am determined to stick to general directives, such as, Use the readings in our ~~dupes~~ duplicates, or know the reason why, and Read the article in Ath. Mitth. 1974, and use those dates for the 3rd century, and Do not take dates from articles by Zophia Sztetyllo - she is a nice lady but she makes up dates.

How lovely it was to hear from you right on my birthday, and with such good news about your plans to be here next year. I think the spring of 1983 is when the French School is laying on an Amphora Congress (pushed by Garlan).

with *amph* 30.1.12  
from C.G.K.  
[30.01]

Comments on Text

- p. 1, line 1 "coalesced" is unclear here
- lines 2ff. It is not necessarily the absence of strife that increases trade, but the growth of larger economic and political units which had greater capital and control over markets than had been possible earlier.
- lines 5-6 Standardization of what? There may already be standardization of size for transport amphoras by 300 B.C.; certainly there is standardization of shape long before then.
- ll. 13-14 In what sense are Greco-Italics Hellenistic Greek and Republican Roman? Distribution alone would not seem to justify the description.
- line 22 "Greco-Italic amphoras" instead of "Greco-Italics"
- line 10 Need footnote to establish terminology used since the 1950's, or at least a reference to discussion on p. 2.
- line 23 "such" for "Greco-Italic"
- p. 2, line 2 Explain "neither Greek nor Roman"-- in shape?
- line 4 footnote for "boatloads"?
- ll. 4-12 Could this be tightened?
- p. 3, line 13 How many boatloads? where?
- line 21 "rare appearance and nature of the stamps" instead of "lack of stamps"
- line 15 "opaque" is unclear
- lines 20ff. Can a more concise statement of the difficulties be made?
- p. 4, lines 5,6 "pivotal", "peaks" and "history" unclear as used
- line 12 "begun" for "been"
- ll. 20-21 Have capacities been taken of these 2 types of a?
- ll. 22,25 Key in to Plate.
- p. 5, line 3 But what of the capacities? The Spina-type has a broad body and might not hold so much less than the Gela-type.
- ll. 5-6ff. Why is the "belly" "disproportionately large"? Perhaps it would be better to describe that portion of the jar first as fully as necessary, if emphasis is being placed on it as a characteristic. Discussion of "belly" (how is that term preferable to "body"? and of shoulder could be condensed considerably.

E.L. Will: Greco-Italic Amphoras, Comments on text, p. 2

- p. 5, ll. 22-23 Conclusion about toe drawn from dearth of finds might be expressed more tentatively.
- line 24 Description of clay might better go at the beginning of paragraph.
- last line Latin stamps are mentioned above and might be ~~repeated~~ so again in this summary statement.
- p. 6, ll. 22-25 Sentence unclear
- p. 7, line 12 Omit "in fact". *Yes*
- line 18 Explain why the foundation date of Cosa is mentioned here.
- p. 8, ll. 5-8 Why might Gela-type have originated in Sicily and Spina-type in Greece? Evidence given does not seem sufficient for conclusion.
- line 13 "basically contemporary" is unclear; is "overlapping" more accurate?
- ll. 20-22 terminus ante quem? Sentence unclear.
- p. 9, 1st para. The reasonableness of these arguments could be further demonstrated. What is the capacity for Form b? How is its design "hurried"? It may be a shape resulting from a wish to increase capacity, but can we really say why? What does "Romanization" mean? Does this form show any evolution?
- 2nd para. Description unclear. What is the definition of "belly"? Features like those of the Spina-type could be defined to help the reader keep track better. How is the toe "undefined"? and "absorbed" by the body?
- line 21 Omit "from the vertical". *(No)*
- line 22 "Walls are thick" might be better, or at least simpler, but the conclusion does not necessarily follow (that they support the greater weight).
- last line Again, clay description perhaps better at the beginning of the description.
- p. 10, line 2 "intact" instead of "broken"? *un*
- lines 22ff. Put discussion in Footnote 12.
- p. 11, line 1 unclear
- lines 2-4 Other jars were as large and awkward, however; cf. Punic and Corinthian A.
- line 7 "Romanize"?
- ll. 13-14 Omit sentence.
- ll. 16-17 How is the neck stronger?
- line 19 "them" instead of "their strength". How the handles are continued by the neck is unclear.

E.L. Will: Greco-Italic Amphoras, Comments on text, p. 3

- p. 11, line 22 "dorsal"?
11. 21-23 Combine sentences and condense.
- line 24 How is the shorter belly stronger?
- p. 12, line 1 What does "quite emphatic" mean?
- line 5 Resistant to what? Has the join with the shoulder been strengthened also by thickening?
- line 8 "easier to handle" instead of "more practical"?
- line 9 What is meant by "mass-produced"?
11. 18ff. Need footnote on how measured, actual results, controls, etc.
- 11.24-26 How do fractionals show decision of bottler to cater to a wider market?
11. 26-28, But we don't have that much evidence, according to comments on p. 13.
- p. 13, line 6 "posthumous"?
- line 7 "obscure its position" could be more directly expressed.
11. 24-26 Can it be demonstrated that stamps show a guarantee of quality and an attempt to respond to buyers' demands?
- last line "and by the accompanying" instead of "as were"
- p. 14, line 1 might read "late in the 3rd century"
- line 14 "hunched posture"?
- p. 15 lines 15ff. Need more discussion and evidence of Rhodian manufacture of what was a western type. What are the "earliest examples coming from the eastern Mediterranean?" What is the distinction between later variations and "imitations"? A statement would be helpful of the difference that has taken place in the gradually evolving types of amphora associated with individual Greek city-states, and the new, sudden developments of jar types which the author is describing. Who is responsible for new organization of and additions to the "container industry" of Rhodes, for example, which still has its own flourishing series of jars under state control at this point?
- line 25 Where have double handles occurred? Does this change the classification?
- p. 16, line 2 Add "in diameter" after "35 cm."
- line 8 "also at variance"?

E.L. Will, Greco-Italic Amphoras, Comments on text, p. 4

- p. 16, 11. 12-13 Omit "Munsell's chart...equivalent; it is" and add "on the Munsell Soil Color Chart" after "10R 6/4".
- line 19 Is not "slip" rather than "surface" more precise?
11. 19-20 Suggest, "The walls are thin and rather brittle"
11. 25-26 Omit "stamps...to be".
- p. 17, 11. 1-3 unclear
- line 19 "hardly"?
- last line The reader cannot follow statements in which reference is made to the author's types and arguments which are not yet in print; can a summary statement or footnote be made which would make such references clear?
- p. 19, 11. 2-4 unclear
- p. 20, 11. 10ff. Arguments for change at Delos to larger jars are unconvincing, although if presented as a suggestion rather than a fact they would be appropriate here. The discussion concerning Trebios Loisios above is ingenious and well worth including as a theory, but the suggestions at the end of this paragraph are rather tenuous.
- p. 21, 11. 9-10 Measurements beyond the standard might best go in a footnote.
- 11 11ff. Could description be made to read more smoothly?
- 22 "short"?
- p. 22 11. 16-18 What is the justification for this final sentence?
- p. 23, line 6 Need a relative idea of how important; are there statistics on other amphora types to compare with Greco-Italics?

#### General Comments and Suggestions

Calling Form A sub-types Spina-type and Gela-type might lead to confusion in the future. Would a<sup>1</sup> and a<sup>2</sup> be better?

List scale and height of jars in plate.

Capacity is more important when comparing sizes than is height of jars.

A statement might be included about the need for clay analysis, physico-chemical or petrographical, to bear out assertions made about the similarity and difference of various fabrics. Is such analysis planned for the future?

Evidence for dating needs clearer presentation. For example, Form b, of which but a single complete example exists, can only be placed between 273 and 200, yet is said to have "developed during the last half of the 3rd century" (p.9). In fact, there does not seem to be evidence of development.

E.L. Will: Greco-Italic Amphoras, Comments on FootnotesNote, page

- 4 27, 1. 11 C. Koehler is not in agreement with the dating of the wreck at El Sec to the second quarter of the 4th c. "Late intrusions" include several intact Corinthian B jars which have to be at least third qu. if not 4th qu. of the 4th c.
1. 16 The similarity between Greco-Italics and Corinthian B is overstated here, although Form a (Spina-type) is relatively close in overall shape to Corinthian B. The rim is very different, however, and other stylistic details distinguish the two types clearly. The point about possible "international characteristics" is well-taken; cf. C. Koehler's remarks on archaic Corinthian Type B and other, probably western, amphoras in "Corinthian Developments in Trade in the 5th Century," Hesperia, 1982. More information is needed about "shares the same contexts" here.
- 5 27, 11.87 ff. It might help the reader to add a comments on references to footnotes 1-3 where those citations are first made (or at least in note 1).
- 6 27, 11.25, 27 "the Spina-type" might be smoother
- 7 28, 11. 9-10 Are the "marks" on Corinthian B stamps?
- 8 28 Add Herakleia reference?
- 9 29, 1. 16 Avoid "Spinas".
- 29, 1. 21 Why "probably facetiously"? Can the phrase be omitted?
- 13 31 Condense
- 15 31, 11.24-25 Photograph taken by V. Grace? or which she brought to the author's attention?
- 20 33 Omit last sentence and add number after "Form d at Cosa".
- 28 38, 11.24-26 How would Laubenheimer's analysis help?
- 38, 11. 26-28 How much variation is allowed within this typology? What is the nature of the "enormous variations" of the Lipari Greco-Italics? Does this paper account for all known jars within the large "Greco-Italic" group? Perhaps a statement describing the extent and/or limitations of this typology would clarify this point.

ELW : Green-Italics

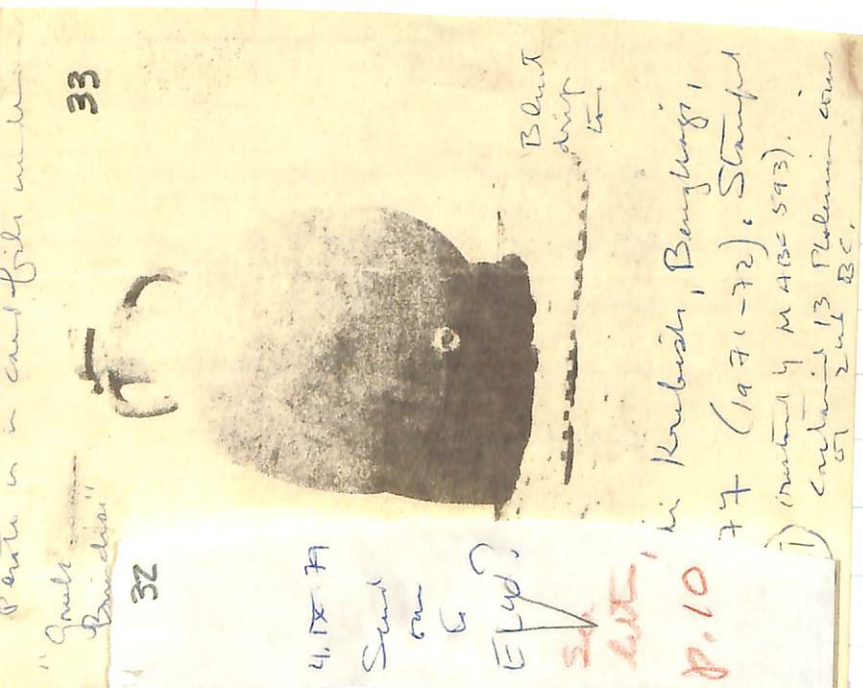
Today I posted my letter to him, dated as  
start 28.X.81. I forgot to put an end date  
at end.

Look to find how long I have been waiting  
on this comment. I leave Vernon away the  
typed draught. I see some annotations on the slaps  
cards, starting early in X.81

Ask ELW for a print of the Gr. Conf.  
Green-IT. was as him no. 4. Right now I  
have ~~not~~ no print of a Green Conf. Green-IT.

11. XI. 81

See summary in letter to Dr BW of today, folder  
STANDARDS  
CAPACITIES - WALLACE.



ELW : Green-Italics

Today I posted my letter to him, dated as  
start 28.X.81. I forgot to put an end date  
at end.

Look to find how long I have been working  
on this commentary. I have thrown away the  
typist draught. I see some annotations on the Slaps  
cards, starting early in X. 81

→ Ask ELW for a print of the Gr. Conf.  
Green-IT. was as in no. 4. Right now I  
have ~~not~~ no print of a Green Conf. Green-IT.

11. XI. 81

See summary in letter to ABW of today, folder  
STANDARDS  
CAPACITIES - WALLACE.

4. IX. 77

Send

on

G

Ely?

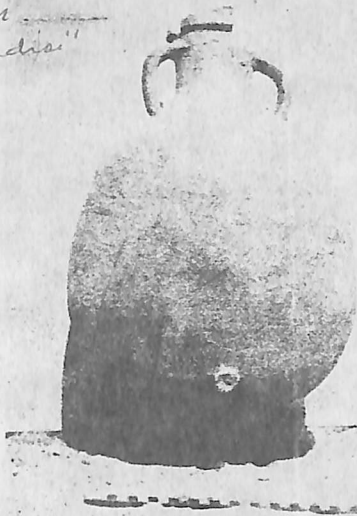
cut,

p. 10

Pewter in a cast file under

"Gault  
Brindisi"

33



Blunt  
drip  
line

Sidi Krubish, Bengkaji,  
C 277 (1971-72). Stamped



(marked by M ABC 593).

Contains 13 Phoenician coins  
51 2nd BC.

American School of Classical Studies  
54 Swedias Street, Athens 140, Greece

October 28, 1981

Dear Letty,

I have studied your paper on Greco-Italics, and find the material important enough so that perhaps you may wish to withdraw it from the Festschrift, and submit it a bit later as a regular Hesperia article, after getting it more in the shape you will want to have it. This is in fact just what I myself am doing (when not diverted) with my paper meant to go into the Thompson Festschrift. In the same way, my Samian article finally came out in Hesperia 1971, although it had been planned originally for the Carpenter volume. One hopes not to have to do such things, but sometimes a paper that is out of hand will be valuable if given more time.

I agree with you, of course, that many of your later shapes seem to have evolved from shapes included here among your "Greco-Italic" group. I also agree that these latter were made in various places (a view you cite as also Benoit's); and so as a result one can't be surprised to find two rather different shapes shown to be closely contemporary by two good contexts. I am thinking at the moment of 1) the Grand Congloue jars, e.g. your no.4, and the Villanove jar of which I sent you a photograph (Maiuri no. 4614, my photo 751.3, the only one of his 6 that we have been able to find). Of these two jars (of which one is your Form c, and the other early? d, see your p.14 and note 18), each has context very close to 200 B.C. Would you suggest a production center in or near Cosa for the Grand Congloue jars? and possibly agree with me in deriving the Villanove jar from one of the Greek colonies in Sicily or southern Italy? I do think it quite out of the question that these Villanove jars were made in Rhodes. I have seen nothing to suggest that any of the jars you discuss in this article come from a center in the Aegean. We have found the odd "Greco-Italic" jar about its shores, but not more than as in the course of trade, or ship supplies; never any such accumulation as of Thasian in Thasos, Chian in Chios,

② No point in citing Maiuri's illustration which is supposed to show an array of 6 jars and is very approp.

Rhodian in Rhodes, etc. So far as I know, no old Greek class has that concave (sagging) shoulder which ends in a ridge, features that I suppose may have originated in a technical difficulty, when colonial potters tried to produce Greek amphoras far from home. Perhaps later the resulting shape caught on and was made deliberately.

About that ridge, which I call a shoulder-stop: you may not like that expression, which is directly explained in my summary description of "Spanish?" jars (or Greco-Italics), see Hesperia 1963, p. 320, note 4. But a ridge is what we have, not an offset; I would take that word "offset" out all through.

My description above-mentioned identifies "Spanish?" jars as a "series with mushroom rim, shoulder stop, and rather long tapering toe; the toe may be hollow inside, etc." This may not cover all you want to cover. But I think we need to have, in a fairly prominent place, your identification of Greco-Italics as a whole, "the overall theme" as you like to use modern expressions, if they are to form Type 1 of your corpus. In January 1980 you sent me the section of your catalogue dealing with Type 1, and said you would send me in a few days the type-discussion of Type 1, but this piece of text never<sup>e</sup> did come. We need something short that will isolate and identify what you mean by Type 1.

I may make some suggestions, if you are recasting the article.

Illustration is basic to the construction of your argument, not just an ornament. Your no. 4 is excellently chosen, as well as technically a very adequate photo (I have to judge by the photocopy.) Can we not have all or most of the rest as good as that, i.e. complete examples, toes and all, shown in full profile, and independently dated by context? (Thank you for the reference to the article by J.-P. Morel; I had heard only that he was working on the ~~prognosis~~ subject.) It would of course be even more telling to represent the Grand Congloué jars by the one you tell us has Latin stamps, and of course also by one or both of its stamps. Then, as you wish to refer to "Spina-type" and "Gela-type", can you not get good photographs of jars actually from these deposits? Also, the toes of Form a in your plate do not show well, and you make a point of their shapes in your text, as indeed you should. If

you cannot get a good photo of one of the actual jars from the Spina tomb, it might be better to use the jar in Motya (of which Carolyn has a very good photo) or the one in Alexandria (Musée Gréco-Romain no. 27047; photo, my 608.7 or 608.16); these <sup>the</sup> are both complete, and resemble ~~the~~ ones in the Spina tomb, i.e. they are the big wide kind you describe on your p.5, whereas the one you illustrate shows less markedly the special features, the great width below the shoulder, and the long, tapering, hollow ~~hollow~~ toe. In these jars, one sees that your Form a is not essentially small (cf. top of your p.5) but short and wide (which often means earlier); the capacity of the Alexandria jar is probably as great as that of the larger Congloué like your 4; your present ~~no.1~~ no.1 would be an intentionally smaller size, as you cite smaller-sized examples of Form c, see your p.12. (Watch out for the arithmetic on this page: if 25 liters is full-size, 12 liters is about half-size, but 9 liters cannot be called quarter-size.) I do really think that if you do not illustrate one of the wide jars (Spina, Motya, or Alexandria), your presentation of Græco-Italic will be seriously incomplete, and some one finding a new one would not see where to match it up.

Certainly more capacity measurements are needed.

For the Pech-Maho jar (now no. 2), I would not use it unless you can see it and get a good photographer to photograph it, and not depend e.g. on reports as to its stamp, and a drawing as to its foot, which may really be incomplete. I don't think its large size <sup>on p.10</sup> would be a trend; certainly the Choremi jar (in Chios) which I think you mean to cite <sup>as</sup> the only parallel to the Pech-Maho one is not of this ~~oversize~~, but comes along normally, still a little shorter and wider than your no.4. (It is best to make some kind of specific reference to cited jars if you are not illustrating them. I use the photograph numbers, if there is nothing better; for the Choremi jar it is ~~VG 505.41~~ VG 505.41). The Choremi jar has also its toe, nice and long and stout. If the Pech-Maho jar is real, I expect its extra large size was for some special order. In a similar way, we have at the Agora one greatly enlarged Mendeian amphora (P 4422); it is shaped like others, but just very much larger, capacity 50,290 cc.

For Form c, see above. On the jar illustrated by Benoit in his fig. 32, see your p.13 and note 15, it should not be referred to as "Rhodian" but rather as "in Rhodes". This jar was one of 5 "Greco-Italic" jars found at Kalythies just outside Rhodes in or shortly before 1952; it was the only one that was complete with foot. With these jars were three more or less whole Rhodian jars, of which one had lost both tops of handles, another had one top with an unread rose stamp, and the other had both stamps, which have been read to name the fabricant ΑΘΑΝΟΔΟΤΟΣ, probably with device a cornucopia, and the eponym ΛΑΪΠΑΤΟΠΑΝΗΣ. No rubbings or photos were made of any of the stamps, as they needed cleaning. From the probable readings, plus the side-view photos, I place these Rhodian about 20 years later than the context of Villanova. The Greco-Italics from this provenance show variation and are not well made. In 1955 I gave you ~~an~~ a photo of one of them (neg.no.198.10; jar called Kallythies 4; foot missing; does it look more like your Form e?) In 1953, these were the only <sup>things like that</sup> ~~things like that~~ I knew of, and so I gave a photo to Daux who passed it on to Benoit, to compare with his from the Grand Congloue, of which Daux had shown me photos. In recent years, we have not succeeded in finding the Kallythies <sup>jar.</sup> ~~is~~

For Form d, I don't identify the evidence that makes you call 5 "eastern" and 6 "western". Also, could ~~xx~~ you perhaps find a better example (and a better photo) to replace 5? Perhaps one of the jars from the Epave C de la Chretienne, cargo of jars all one type, with silver coin of Rome, dated 187-175 B.C.? Or the Villanove jar of which you have the photo? (751.3); no toe, but good context. Or the Corinth jar in Picture Book 6, fig. 31 (as datable before 146). Or have I not got that last one typed properly? Your photo of 6 must be good, but the subject does not speak independently - no context. In fact, what evidence is there to date the jar in 6 as late as the 2nd century? *See also below, p. 11*

For Form e, the print you sent me shows the jar nicely in profile, but the photo is not really sharp enough for publication; also, as you tell us there are such a very large number of Form e in existence, one should illustrate a complete one, with toe included.

Context is something one wants to keep in mind, keep using as a control. So, when I ask (so often) for a copy of your Agora deposit list, it is partly because you ought to have it, in good order, with currently revised dates, always to hand when writing. In this paper, the context of ~~the~~ most of the Agora items is not right:

~~xxxx~~ P 6761 comes from deposit F 13 : 3, second half of second into 1st B.C. On p.14 and in note 17, you combine it with P 17046 from B 20 : 2, as from the same deposit of the "first half of the 2nd century"; B 20 : 2 is datable before 166, ok for P 17946 but certainly not for P 6761. These two jars are both fractional, and both sort of yellow on the surface to the naked eye, but their shapes are not alike. In 1974 you and I spent some time sorting them out, and in 1979 you put them into separate classes, your types 3 and 7 (see your letter of 8.VIII.79, p. 1). P 6761 looks like a (fractional) early pig jar; can you find its picture? Perhaps the two fractional jars are from the same producing center, but they would be at least 50 years apart; which goes with their contexts.

On p. 21 and in note 29 (top of p.39), P 20196, 23077, and P 25797, attributed to Form e, are listed as from contexts of the third quarter of the 2nd century (i.e. two of them are, unspecified which); whereas P 20196 is from Q 8-9 and P 23077 is from the Middle Stoa building fill, both contexts datable well before 180 B.C.; while P 25797 is from A 16 : 4, which is second quarter of 2nd. (A 16 : 4 has been dated as late as 140 B.C. but now there seems to be no reason to put it after 146 anyhow.)

A number of the footnotes I would say are much too long, not suitable for an article. This is a fault I have also, but it is a fault. Look at note 29. Can you not save much of this documentation for your corpus? Many readers of a journal (or a Festschrift) would not be informed by it, would not have accessible many of the sources if we did try to use the references. And you are stuck with a great deal of time-consuming checking of these references, to make sure you are listing what you

intend to. An unchecked reference that I can identify from my own "library" at the Agora is in note 18. The pages you cite for the Greco-Italics at Villanova are the pages for the whole article. This kind of citation will be particularly tiresome for the reader in this case, in that nothing in Maiuri's article is called "Greco-Italic", so how are the ones in question to be identified? Probably one needs the numbers as well as the right page. Note I provided you with <sup>a photo of</sup> only one of the Villanova Gr.-It.s, the only one we have found, and not the one said to have had a stamp, so the reading of the stamp could not be controlled.

About the centers of production, this is very important, and I hope you will find kilns, as you did for the Brindisi jars. Your identification of Cosa as the source of at least one kind of Form d (cf. p. 18) as well as of the Sestius jars will be very interesting if it can be confirmed. (I suppose analyses should be made.) What do you think they made at Cosa in the years between Form d and the Sestius jars? Can any of your types fill that gap? It would certainly be good if you could eventually present others of your groups as products of particular centers, shown each in its chronological development. One would not necessarily find stamps with the same names in use throughout the whole existence of a long-lasting pottery shop, would one? I refer to your SES. Very interesting remains of ancient pottery workshops for making stamped amphoras have been found in recent years in Thasos, including one or more actual kilns. The stamps found in them (in large numbers) are very illuminating as to the function of the persons named. Some articles about them have been published by Y. Garlan; <sup>what is</sup> but perhaps the most interesting of them was only cleared last summer.

For possible prototypes in the Aegean area of shapes made in the colonies, thank you very much for the photo of Barcelona Museum 2614. This is an interesting pot. It is closely like what I believe to be Attic jars of not much after 400 B.C., except only for its toe, which is wrong. For the kind of toe it ought to have, see Picture Book 6, fig.2. So I would guess that the Barcelona jar is already a local imitation of Attic; though I might feel happier if I could see it. On Aegean amphoras with mushroom rim, see Hesperia 40, 1971 (Samian article - you have it), p.67 and pp. 78-79,

to the end of note 65. This kind of rim<sup>x</sup> seems to be Attic, and I suggest it was introduced ~~by the Athenians~~ to Samos by the Athenians when they took over there in 365 B.C. Here too we need some clay analyses, especially in view of the vicissitudes of the Samians in the 4th century. In the Attic (?) series at the Agora, one sees the mushroom rim evolve from an earlier flat-topped rim; the outside edge gradually drops, in a series of jars from dated contexts; see Hesperia 22, 1953, p.102, upper left, under no. 147 (VG apud Boulter). You see in the Barcelona jar, how the handles stand away from the neck, as in your no.1; in Samian jars with mushroom rim, the handles are short-topped, and so are closer to the neck, more as in your no.2, so far as I can see that. Mushroom rims appear ~~in~~ other classes at the end of the 4th and early 3rd, e.g. the Rhodian in the Kyrenia wreck, and Mr. Benaki's early Rhodian jar, cf. Archaeology 19, 1966, p.287 - date this now first quarter of 3rd. (These Rhodians don't otherwise look like Greco-Italics.) For the toe of the early Greco-Italic, which you describe as a "wear toe", there is an earlier Samian toe that is something similar in its construction (though not in its appearance) in that in both cases if you knock off the toe you have breached the jar. See Hesp. 1971, p.72.

If we take the first - earliest - Greco-Italic<sup>shape</sup> we recognize as such (that of ~~that~~ the jars in the Spina tomb?) as dating in the last quarter of the 4th century, then it would not be the original of your Barcelona jar that they would be copying, but rather something at the stage of the Attic(?) jar to the right in Picture Book 6, fig.42, from a group <sup>D</sup> (15 : 3) datable <sup>this to</sup> about the last quarter of the 4th century. Whether they took inspiration from the Attic or Samian jars of that period - both has mushroom rim, neither had that long hollow toe - it was an oil jar they took as model. I believe the presence of the resinous smear does not require the contents to have been wine, because, without some smear, oil oozes through unglazed<sup>/</sup> clay walls, resulting in both loss and mess.

You refer to some necks in the El Sec wreck (your note 4, p.27) as possible prototypes of the Greco-Italics, but given the number of centers that made jars with

rims  
mushrooms at this period, necks in publications are not so much to hold on by. I am wondering if you have seen finds from this wreck, and in particular some jars reported from there in drawings sent to me by Damian Cerda in March 1975; not knowing how to refer to them, I enclose photocopies. If they are real, and not just imaginative restorations, they might be a link between, say, Samian as I know it and Greco-Italic. Note the drawings do not show a shoulder ridge. As remarked above, the Samians seem to have been away from home from 365 to 322 B.C. The Athenians would be packaging the oil in Samos; and perhaps the wandering Samians made amphoras in places of exile. But I doubt if the enclosed represent real jars. They seem to have appeared in some kind of publication, but not in the more serious ones of which I have seen offprints. Incidentally, since you name Damian Cerda as an amphora colleague, ask him whether he received from me, following his letter of March 1975, a long information reply and many offprints, apparently never acknowledged.

I don't see Greco-Italics as derived from any Corinthian. Can you show me what you mean? It is the Massaliote class that follows Corinthian B; and their light-colored clay strengthens the effect. (On the other hand, a late Corinthian A seems to have been copied at Brindisi, doesn't it.)

Some miscellaneous notes:

Your p.2. I had no file of Greco-Italics (by any name) before 1952. It might be best just to give references to my passages on Spanish (?) in Hesperia 1963 (and the Spina reference in Hesperia 1962, p.38, under no. 44, which they pretend they found for themselves!).

P. 14. Please give dates in figures, don't assume that Punic Wars are like 1066 to the rest of us. The only date I know in this connection, without first finding a book, is that of the end of the last of those wars. I think also if you give actual dates you will clear up some confusion in your text, which seems to state that Form d dates from 30 or 60 years after 201 B.C., which year, as research has now told me, is that of the end of the 2nd Punic War.

Also p.14. Improbably that something in the Grand Congloué wreck is ancestral to something in the Villanova deposit, as both date about 200 B.C.

P. 17. There is a funny sentence which very likely you have already fixed:  
"If the identification of the stamp with the inscription is correct, etc."

P. 19. We would like to have specific references to jars with double handles (don't find any in note 25).

P. 21. "NE corner of the Mediterranean" - NW I guess.

Note 25, p.34. What is "a standard Greco-Italic"? If Form d is meant here, which Form d?

Note 26. Photographs by Virginia and Judith Grace. Judy my niece made that trip for me to the Volo Museum, in 1957. I got there 20 years later, and could not find most of the jars by that time; but possibly that was because my friend the ephor was absent.

Since I started working on your material, I have learned from Empereur and from Lucia Criscuolo, another client of ours (she is publishing some stamped handles from the Fayum) that it is not very sure that the Spina jars were found in the same tomb with all that stuff illustrated with them in the publication. It seems the tomb (or tombs?) had been robbed in modern times, and the contents had later been assembled by the police. Too bad.

For some points in your covering letter of August 25, yes, the revised chronology (of. Ath. Mitth. 1974, pp. 193-200) does still seem to be right, to provide slots into which new evidence fits without strain. Not all agree, for instance Miss Knigge said last summer, in connection with a very interesting new deposit at the Kerameikos, "Here, we go by the old chronology." The deposit contains about 90 coins, which Jack Kroll is to publish, and he says they go down to just before 300. Susan Rotroff, a firm adherent of the new chronology, found herself in agreement with Miss Knigge in dating the masses of pottery in this deposit also before 300. Miss Knigge calls them 4th century because they are like what is in HAT's Group A; Susan is able to agree because the new Kerameikos pottery is like the part of Group A that is 4th century;

but other things in that Group, Susan dates in the 3rd century. (In Group A, there is only one stamped handle, a small piece of a Thasian that certainly is 4th cent. In the new deposit there are said to be 5 or 6 stamped handles which I have not yet seen.) What is it that troubles you? What do you want to date differently? You don't have anything as early as this?

So far as I know, the stamp on the Kea jar~~/~~ has not been deciphered. You might ask Jack or Miriam Caskey. Jack has not been well.

I enclose a dim photocopy of a photo of a Greek Brindisi jar. You can't see its bottom, but it has a blunt drip toe. Did I not send you word about this before? I certainly meant to. Documentation on it, "Sidi Krebish, Benghazi, C 277 ~~127172~~ (1971-72). Stamped (restored by M ABC 593). Contained 13 Ptolemaic coins of 2nd B.C." I assume it is a G. B. although I did not know they sometimes had stamps with just monograms.

### 3.XI.81

Philippa Wallace Matheson, who is helping me once more for a while, and has read the first part of this letter, points out to me that on p. 14 of your article you identify the "standard Greco-Italic" - it is Form d. One still wants to know which kind of d. is cited in note 25. Philippa and I both think it very desirable to have at the end a "catalogue<sup>of illustrated items</sup>" or "documentation of plates" such as I always have nowadays, which gives you directly anything you might want to know about the illustrated items, either right there, or by references to footnotes in other parts of the article, thus avoiding saying things twice, and also avoiding the need for hunts - e.g. to find that your no. 7 does have some context, see your note 29 on p. 37. See at the end of my Pamphylian article, which you have; also my articles in the Blanckenhagen and Dikaiois Festschrifts, both 1979. Philippa reminds me also that at the end of note 4, the mention of "Corinthian B" needs a reference to Carolyn Koehler. (Use also a capital B not a small b.) Reference to give: C.G. Koehler, "Evidence around the Mediterranean for Corinthian export of wine and oil," Beneath

the Waters of Time: Proceedings of the Ninth Conference of Underwater Archaeology  
[Texas Antiquities Committee No.6], Austin, Texas, 1978, pp. 231-239. Her Princeton  
dissertation, Corinthian A and B Transport Amphoras (1978) is to be published.

On Agora deposit D 15 : 3 (see above, p. 7), in her dissertation just cited, on  
p. 367 (in her Deposit list) <sup>CGK</sup> ~~she~~ cites Agora XII as dating this deposit 375-330 B.C.  
and then says that the date needs to be reexamined: "Corinthian B jar P 3695 does  
not seem on stylistic grounds to be earlier than the jars in the Via Polieno/ deposit  
at Gela (buried in 282) by more than a quarter-century." In connection with amphoras  
at Gela: I enclose for your convenience a reproduction (VG 585.37) from Gallia Suppl.  
14, p. 40, fig. 36 (the Grand Congloue publ.); this pot is said by Benoit to come  
from ~~the~~ Gela, and thus to date before 282. B. says that there were two sizes, and  
that there were long Greek stamps on the larger ones; he illustrates one (fig.36 bis).  
What is puzzling is that the jar in fig. 36 (repr. encl.) does not look much like your  
no.2 ("Form a, Gela type") but more like your no.6 (Form d, western type); note my  
reproduction is not to scale - in fact Benoit did not give any ht. But it should date  
before 282, and it has a Greek stamp. I feel that the Gela material needs a much  
better publication than I have seen of it. Perhaps after all not everything there  
is of the same date. However, I do suggest that you look again at your no. 6,  
and consider whether you are satisfied to have it represent Form d, western (i.e.  
Cosan?), in view of its quite considerable resemblance to this jar presented by  
Benoit as from Gela and as having a Greek stamp. The Porto Ercole jar (6) might be  
a little later than Benoit's Gela one, as apparently neck and handles are a little  
longer; but not by a century, I would say. It would be good if you could produce  
something whole or nearly so that actually came from Cosa, and use that for 6.

Further on D 15 : 3: as the amphoras in P.B. 6, fig. 42, could never be photo-  
graphed well in place (particularly bad light), I enclose separate <sup>photos</sup> of SS 4568  
which I suggested (again above, p.7) as later in the Attic(?) sequence than the original  
of your Barcelona jar. Here are 2 pictures of the same jar, and it is a warning what  
different impressions they can give. At the left is Alison's beautiful but distorted

version, taken much too close so that both top and bottom bend back - you can see the curves where there should be horizontals at rim and at bottom. At the right you see my version of the upper part, true and ugly. One has to see what is true, and that to me is the worst of the photo you have used for 5 : it gives a very distorted view of the neck and handles. (Others are more pained by the background, but the distortion matters more.)

(VG 419.43)

I enclose also a photo of the whole of the earlier Attic(?) jar for which I gave you a reference for ~~xxx~~ a picture of the toe, above, p. 6, bottom. Instructive to compare this with your picture of the Barcelona jar. As I do so, I see that in another way the Barcelona jar is "wrong": the neck is disproportionately large. This disproportion is the kind you get as between a full-size jar and a fractional one; but then the whole <sup>fractional</sup> jar would be smaller, so that the disproportionately large neck is not actually larger than that of the full-size jar. Your photo of the Barcelona Museum jar is marked 1 : 10. Are you sure this is so? Have you a height measurement? Unfortunately the jar in 419.43 has no context that I know of; we found it in the Peiraeus Museum. I place it not far from 400 B.C. by comparison with others, some fragmentary.

I hope you will find these pages helpful. Once you sent me the manuscript, I had to do what I could. You will understand that it meant focussing on a separate and large additional problem, and leaving my own work in heaps around me, and that I have given time that I could not spare. No doubt you have done this more than once yourself, and will again; and know how one is best thanked for such efforts.

I was of course sad to hear of the breakup of your family; and hope you will all go on severally in strength and interest; and come and see me if ever in Greece. Either of the young could stay upstairs, in the Room for Nephews; if allergic to oats, I would need to know beforehand.

2nd  
copy

American School of Classical Studies  
54 Swedias Street, Athens 140, Greece

October 28, 1981

Dear Letty,

I have studied your paper on Greco-Italics, and find the material important enough so that perhaps you may wish to withdraw it from the Festschrift, and submit it a bit later as a regular Hesperia article, after getting it more in the shape you will want to have it. This is in fact just what I myself am doing (when not diverted) with my paper meant to go into the Thompson Festschrift. In the same way, my Samian article finally came out in Hesperia 1971, although it had been planned originally for the Carpenter volume. One hopes not to have to do such things, but sometimes a paper that is out of hand will be valuable if given more time.

I agree with you, of course, that many of your later shapes seem to have evolved from shapes included here among your "Greco-Italic" group. I also agree that these latter were made in various places (a view you cite as also Benoit's); and so as a result one can't be surprised to find two rather different shapes shown to be closely contemporary by two good contexts. I am thinking at the moment of 1) the Grand Congloue jars, e.g. your no. 4, and <sup>2)</sup> the Villanove jar of which I sent you a photograph (Maiuri no. 4614, my photo 751.3, the only one of his 6 that we have been able to find). Of these two jars (of which one is your Form c, and the other early? d, see your p. 14 and note 18), each has context very close to 200 B.C. Would you suggest a production center in or near Cosa for the Grand Congloue jars? and possibly agree with me in deriving the Villanove jar from one of the Greek colonies in Sicily or southern Italy? I do think it quite out of the question that these Villanova jars were made in Rhodes. I have seen nothing to suggest that any of the jars you discuss in this article come from a center in the Aegean. We have found the odd "Greco-Italic" jar about its shores, but not more than as in the course of trade, or ship supplies; never any such accumulation as of Thasian in Thasos, Chian in Chios,

Rhodian in Rhodes, etc. So far as I know, no old Greek class has that concave (sagging) shoulder which ends in a ridge, features that I suppose may have originated in a technical difficulty, when colonial potters tried to produce Greek amphoras far from home. Perhaps later the resulting shape caught on and was made deliberately.

About that ridge, which I call a shoulder-stop: you may not like that expression, which is directly explained in my summary description of "Spanish?" jars (or Greco-Italics), see Hesperia 1963, p. 320, note 4. But a ridge is what we have, not an offset; I would take that word "offset" out all through.

My description above-mentioned identifies "Spanish?" jars as a "series with mushroom rim, shoulder stop, and rather long tapering toe; the toe may be hollow inside, etc." This may not cover all you want to cover. But I think we need to have, in a fairly prominent place, your identification of Greco-Italics as a whole, "the overall theme" as you like to use modern expressions, if they are to form Type 1 of your corpus. In January 1980 you sent me the section of your catalogue dealing with Type 1, and said you would send me in a few days the type-discussion of Type 1, but this piece of text never did come. We need something short that will isolate and identify what you mean by Type 1.

I may make some suggestions, if you are recasting the article.

Illustration is basic to the construction of your argument, not just an ornament. Your no. 4 is excellently chosen, as well as technically a very adequate photo (I have to judge by the photocopy.) Can we not have all or most of the rest as good as that, i.e. complete examples, toes and all, shown in full profile, and independently dated by context? (Thank you for the reference to the article by J.-P. Morel; I had heard only that he was working on the ~~proposed~~ subject.) It would of course be even more telling to represent the Grand Congloué jars by the one you tell us has Latin stamps, and of course also by one or both of its stamps. Then, as you wish to refer to "Spina-type" and "Ucla-type", can you not get good photographs of jars actually from these deposits? Also, the toes of Form a in your plate do not show well, and you make a point of their shapes in your text, as indeed you should. If

you cannot get a good photo of one of the actual jars from the Spina tomb, it might be better to use the jar in Motya (of which Carolyn has a very good photo) or the one in Alexandria (Musée Gréco-Romain no. 27047; photo, my 608.7 or 608.16); these are both complete, and resemble ~~the~~ <sup>the</sup> ones in the Spina tomb, i.e. they are the big wide kind you describe on your p.5, whereas the one you illustrate shows less markedly the special features, the great width below the shoulder, and the long, tapering, hollow ~~hollow~~ toe. In these jars, one sees that your Form a is not essentially small (cf. top of your p.5) but short and wide (which often means earlier); the capacity of the Alexandria jar is probably as great as that of the larger Congloué like your 4; your present ~~no.1~~ no.1 would be an intentionally smaller size, as you cite smaller-sized examples of Form c, see your p.12. (Watch out for the arithmetic on this page: if 25 liters is full-size, 12 liters is about half-size, but 9 liters cannot be called quarter-size.) I do really think that if you do not illustrate one of the wide jars (Spina, Motya, or Alexandria), your presentation of Gréco-Italic will be seriously incomplete, and some one finding a new one would not see where to match it up.

Certainly more capacity measurements are needed.

For the Pech-Maho jar (now no. 2), I would not use it unless you can see it and get a good photographer to photograph it, and not depend e.g. on reports as to its stamp, and a drawing as to its foot, which may really be incomplete. I don't think its large size would be a trend; certainly the Choremi jar (in Chios) which I think you mean to cite <sup>on p.10</sup> as the only parallel to the Pech-Maho one is not of this/ oversize, but comes along normally, still a little shorter and wider than your no.4. (It is best to make some kind of specific reference to cited jars if you are not illustrating them. I use the photograph numbers, if there is nothing better; for the Choremi jar it is ~~VG 505.41~~ VG 505.41). The Choremi jar has also its toe, nice and long and stout. If the Pech-Maho jar is real, I expect its extra large size was for some special order. In a similar way, we have at the Agora one greatly enlarged Mendean amphora (P 4422; , capacity 50,290 cc. it is shaped like others, but just very much larger,

For Form c, see above. On the jar illustrated by Benoit in his fig. 32, see your p.13 and note 15, it should not be referred to as "Rhodian" but rather as "in Rhodes". This jar was one of 5 "Greco-Italic" jars found at Kalythies just outside Rhodes in or shortly before 1952; it was the only one that was complete with foot. With these jars were three more or less whole Rhodian jars, of which one had lost both tops of handles, another had one top with an unread rose stamp, and the other had both stamps, which have been read to name the fabricant ΑΘΑΝΟΔΟΤΟΣ, probably with device a cornucopia, and the eponym [Α]ΠΑΤΟΔΑΝΗΣ. No rubbings or photos were made of any of the stamps, as they needed cleaning. From the probable readings, plus the side-view photos, I place these Rhodian about 20 years later than the context of Villanova. The Greco-Italics from this provenance show variation and are not well made. In 1955 I gave you ~~an~~ a photo of one of them (neg.no.198.10; jar called Kallythies 4; foot missing; does it look more like your Form e?) In 1953, these were the only <sup>things like that</sup> ~~things like that~~ I knew of, and so I gave a photo to Daux who passed it on to Benoit, to compare with his from the Grand Congloué, of which Daux had shown me photos. In recent years, we have not succeeded in finding the Kallythies jar

For Form d, I don't identify the evidence that makes you call 5 "eastern" and 6 "western". Also, could ~~xx~~ you perhaps find a better example (and a better photo) to replace 5? Perhaps one of the jars from the Epave C de la Chretienne, cargo of jars all one type, with silver coin of Rome, dated 187-175 B.C.? Or the Villanove jar of which you have the photo? (751.3); no toe, but good context. Or the Corinth jar in Picture Book 6, fig. 31 (as datable before 146). Or have I not got that last one typed properly? Your photo of 6 must be good, but the subject does not speak independently - no context. In fact, what evidence is there to date the jar in 6 as late as the 2nd century? *See also below, p. 12.*

For Form e, the print you sent me shows the jar nicely in profile, but the photo is not really sharp enough for publication; also, as you tell us there are such a very large number of Form e in existence, one should illustrate a complete one, with toe included.

Context is something one wants to keep in mind, keep using as a control. So, when I ask (so often) for a copy of your Agora deposit list, it is partly because you ought to have it, in good order, with currently revised dates, always to hand when writing. In this paper, the context of ~~the~~ most of the Agora items is not right:

~~P 6761~~ P 6761 comes from deposit F 13 : 3, second half of second into 1st B.C. On p.14 and in note 17, you combine it with P 17046 from B 20 : 2, as from the same deposit of the "first half of the 2nd century"; B 20 : 2 is datable before 166, ok for P 17946 but certainly not for P 6761. These two jars are both fractional, and both sort of yellow on the surface to the naked eye, but their shapes are not alike. In 1974 you and I spent some time sorting them out, and in 1979 you put them into separate classes, your types 3 and 7 (see your letter of 8.VIII.79, p. 1). P 6761 looks like a (fractional) early pig jar; can you find its picture? Perhaps the two fractional jars are from the same producing center, but they would be at least 50 years apart; which goes with their contexts.

On p. 21 and in note 29 (top of p.39), P 20196, 23077, and P 25797, attributed to Form e, are listed as from contexts of the third quarter of the 2nd century (i.e. two of them are, unspecified which); whereas P 20196 is from Q 8-9 and P 23077 is from the Middle Stoa building fill, both contexts datable well before 180 B.C.; while P 25797 is from A 16 : 4, which is second quarter of 2nd. (A 16 : 4 has been dated as late as 140 B.C. but now there seems to be no reason to put it after 146 anyhow.)

A number of the footnotes I would say are much too long, not suitable for an article. This is a fault I have also, but it is a fault. Look at note 29. Can you not save much of this documentation for your corpus? Many readers of a journal (or a Festschrift) would not be informed by it, would not have accessible many of the sources if we did try to use the references. And you are stuck with a great deal of time-consuming checking of these references, to make sure you are listing what you

intend to. An unchecked reference that I can identify from my own "library" at the Agora is in note 18. The pages you cite for the Greco-Italics at Villanova are the pages for the whole article. This kind of citation will be particularly tiresome for the reader in this case, in that nothing in Maiuri's article is called "Greco-Italic", so how are the ones in question to be identified? Probably one needs the numbers as well as the right page. Note I provided you with <sup>a photo of</sup> only one of the Villanova Gr.-It.s, the only one we have found, and not the one said to have had a stamp, so the reading of the stamp could not be controlled.

About the centers of production, this is very important, and I hope you will find kilns, as you did for the Brindisi jars. Your identification of Cosa as the source of at least one kind of Form d (cf. p. 18) as well as of the Sestius jars will be very interesting if it can be confirmed. (I suppose analyses should be made.) What do you think they made at Cosa in the years between Form d and the Sestius jars? Can any of your types fill that gap? It would certainly be good if you could eventually present others of your groups as products of particular centers, shown each in its chronological development. One would not necessarily find stamps with the same names in use throughout the whole existence of a long-lasting pottery shop, would one? I refer to your SES. Very interesting remains of ancient pottery workshops for making stamped amphoras have been found in recent years in Thasos, including one or more actual kilns. The stamps found in them (in large numbers) are very illuminating as to the function of the persons named. Some articles about them have been published by Y. Garlan; <sup>what is</sup> but perhaps the most interesting of them was only cleared last summer.

For possible prototypes in the Aegean area of shapes made in the colonies, thank you very much for the photo of Barcelona Museum 2614. This is an interesting pot. It is closely like what I believe to be Attic jars of not much after 400 B.C., except only for its toe, which is wrong. For the kind of toe it ought to have, see Picture Book 6, fig.2. So I would guess that the Barcelona jar is already a local imitation of Attic; though I might feel happier if I could see it. On Aegean amphoras with mushroom rim, see Hesperia 40, 1971 (Samian article - you have it), p.67 and pp. 78-79,

to the end of note 65. This kind of rim<sup>1</sup> seems to be Attic, and I suggest it was introduced ~~by the Athenians~~ to Samos by the Athenians when they took over there in 365 B.C. Here too we need some clay analyses, especially in view of the vicissitudes of the Samians in the 4th century. In the Attic (?) series at the Agora, one sees the mushroom rim evolve from an earlier flat-topped rim; the outside edge gradually drops, in a series of jars from dated contexts; see Hesperia 22, 1953, p.102, upper left, under no. 147 (VG apud Boulter). You see in the Barcelona jar, how the handles stand away from the neck, as in your no.1; in Samian jars with mushroom rim, the handles are short-topped, and so are closer to the neck, more as in your no.2, so far as I can see that. Mushroom rims appear ~~in~~ other classes at the end of the 4th and early 3rd, e.g. the Rhodian in the Kyrenia wreck, and Mr. Benaki's early Rhodian jar, cf. Archaeology 19, 1966, p.287 - date this now first quarter of 3rd. (These Rhodians don't otherwise look like Greco-Italics.) For the toe of the early Greco-Italic, which you describe as a "weak toe", there is an earlier Samian toe that is something similar in its construction (though not in its appearance) in that in both cases if you knock off the toe you have breached the jar. See Hesp. 1971, p.72.

If we take the first - earliest - <sup>shape</sup> Greco-Italic ~~we~~ recognize as such (that of ~~that~~ the jars in the Spina tomb?) as dating in the last quarter of the 4th century, then it would not be the original of your Barcelona jar that they would be copying, but rather something at the stage of the Attic(?) jar to the right in Picture Book 6, fig.42, from a group <sup>D</sup> (15 : 3) datable <sup>plus 6</sup> about the last quarter of the 4th century. Whether they took inspiration from the Attic or Samian jars of that period - both has mushroom rim, neither had that long hollow toe - it was an oil jar they took as model. I believe the presence of the resinous smear does not require the contents to have been wine, because, without some smear, oil oozes through unglazed clay walls, resulting in both loss and mass.

You refer to some necks in the El Sec wreck (your note 4, p.27) as possible prototypes of the Greco-Italics, but given the number of centers that made jars with

<sup>rims</sup>  
 mushrooms/ at this period, necks in publications are not so much to hold on by. I am wondering if you have seen finds from this wreck, and in particular some jars reported from there in drawings sent to me by Damian Cerda in March 1975; not knowing how to refer to them, I enclose photocopies. If they are real, and not just imaginative restorations, they might be a link between, say, Samian as I know it and Greco-Italic. Note the drawings do not show a shoulder ridge. As remarked above, the Samians seem to have been away from home from 365 to 322 B.C. The Athenians would be packaging the oil in Samos; and perhaps the wandering Samians made amphoras in places of exile. But I doubt if the enclosed represent real jars. They seem to have appeared in some kind of publication, but not in the more serious ones of which I have seen offprints. Incidentally, since you name Damian Cerda as an amphora colleague, ask him whether he received from me, following his letter of March 1975, a long information reply and many offprints, apparently never acknowledged.

I don't see Greco-Italics as derived from any Corinthian. Can you show me what you mean? It is the Massaliote class that follows Corinthian B; and their light-colored clay strengthens the effect. (On the other hand, a late Corinthian A seems to have been copied at Brindisi, doesn't it.)

Some miscellaneous notes:

Your p.2. I had no file of Greco-Italics (by any name) before 1952. It might be best just to give references to my passages on Spanish (?) in Hesperia 1963 (and the Spina reference in Hesperia 1962, p.38, under no. 44, which they pretend they found for themselves!).

P. 14. Please give dates in figures, don't assume that Punic Wars are like 1066 to the rest of us. The only date I know in this connection, without first finding a book, is that of the end of the last of those wars. I think also if you give actual dates you will clear up some confusion in your text, which seems to state that Form d dates from 30 or 60 years after 201 B.C., which yearas research has now told me, is that of the end of the 2nd Punic War.

Also p.14. Improbably that something in the Grand Congloué wreck is ancestral to something in the Villanova deposit, as both date about 200 B.C.

P. 17. There is a funny sentence which very likely you have already fixed: "If the identification of the stamp with the inscription is correct, etc."

P. 19. We would like to have specific references to jars with double handles (don't find any in note 25).

P. 21. "NE corner of the Mediterranean" - NW I guess.

Note 26, p.34. What is "a standard Greco-Italic"? If Form d is meant here, which Form d?

Note 26. Photographs by Virginia and Judith Grace. Judy my niece made that trip for me to the Volo Museum, in 1957. I got there 20 years later, and could not find most of the jars by that time; but possibly that was because my friend the epher was absent.

Since I started working on your material, I have learned from Empereur and from Lucia Criscuolo, another client of ours (she is publishing some stamped handles from the Fayum) that it is not very sure that the Spina jars were found in the same tomb with all that stuff illustrated with them in the publication. It seems the tomb (or tombs?) had been rebbed in modern times, and the contents had later been assembled by the police. Too bad.

For some points in your covering letter of August 26, yes, the revised chronology (cf. Ath. Mitth. 1974, pp. 193-200) does still seem to be right, to provide slots into which new evidence fits without strain. Not all agree, for instance Miss Knigge said last summer, in connection with a very interesting new deposit at the Kerameikos, "Here, we go by the old chronology." The deposit contains about 90 coins, which Jack Kroll is to publish, and he says they go down to just before 300. Susan Rotroff, a firm adherent of the new chronology, found herself in agreement with Miss Knigge in dating the masses of pottery in this deposit also before 300. Miss Knigge calls them 4th century because they are like what is in MAT's Group A; Susan is able to agree because the new Kerameikos pottery is like the part of Group A that is 4th century;

but other things in that Group, Susan dates in the 3rd century. (In Group A, there is only one stamped handle, a small piece of a Thasian that certainly is 4th cent. In the new deposit there are said to be 5 or 6 stamped handles which I have not yet seen.) What is it that troubles you? What do you want to date differently? You don't have anything as early as this?

So far as I know, the stamp on the Kea jar/ has not been deciphered. You might ask Jack or Miriam Caskey. Jack has not been well.

I enclose a dim photocopy of a photo of a Greek Brindisi jar. You can't see its bottom, but it has a blunt drip toe. Did I not send you word about this before? I certainly meant to: Documentation on it, "Sidi Krebish, Benghazi, C 277 ~~4297172~~ (1971-72). Stamped (restored by M ABC 593). Contained 13 Ptolemaic coins of 2nd B.C." I assume it ~~is~~ a G. B. although I did not know they sometimes had stamps with just monograms.

3.XI.81

Philippa Wallace Matheson, who is helping me once more for a while, and has read the first part of this letter, points out to me that on p. 14 of your article you identify the "standard Greco-Italic" - it is Form d. One still wants to know which kind of d. is cited in note 25. Philippa and I both think it very desirable to have at the end a "catalogue" or "documentation of plates" such as I always have nowadays, which gives you directly anything you might want to know about the illustrated items, either right there, or by references to footnotes in other parts of the article, thus avoiding saying things twice, and also avoiding the need for hunts - e.g. to find that your no. 7 does have some context, see your note 29 on p. 37. See at the end of my Pamphylian article, which you have; also my articles in the Blanckenhagen and Dikaides Festschrifts, both 1979. Philippa reminds me also that at the end of note 4, the mention of "Corinthian B" needs a reference to Carolyn Koehler. (Use also a capital B not a small b.) Reference to give: C.G. Koehler, "Evidence around the Mediterranean for Corinthian export of wine and oil," Beneath

the Waters of Time: Proceedings of the Ninth Conference of Underwater Archaeology  
[Texas Antiquities Committee No.6], Austin, Texas, 1978, pp. 231-239. Her Princeton  
dissertation, Corinthian A and B Transport Amphoras (1978) is to be published.

On Agora deposit D 15 : 3 (see above, p. 7), in her dissertation just cited, on  
367 CGK  
p. 333 (in her Deposit list) ~~she~~ cites Agora XII as dating this deposit 375-330 B.C.  
and then says that the date needs to be reexamined: "Corinthian B jar P 3695 does  
not seem on stylistic grounds to be earlier than the jars in the Via Polieno~~va~~ deposit  
at Gela (buried in 282) by more than a quarter-century." In connection with amphoras  
at Gela: I enclose for your convenience a reproduction (VC 585.37) from Gallia Suppl.  
14, p. 40, fig. 36 (the Grand Congloue publ.); this pot is said by Benoit to come  
from ~~the~~ Gela, and thus to date before 282. B. says that there were two sizes, and  
that there were long Greek stamps on the larger ones; he illustrates one (fig. 36 bis).  
What is puzzling is that the jar in fig. 36 (repr. encl.) does not look much like your  
no. 2 ("Form a, Gela type") but more like your no. 6 (Form d, western type); note my  
reproduction is not to scale - in fact Benoit did not give any ht. But it should date  
before 282, and it has a Greek stamp. I feel that the Gela material needs a much  
better publication than I have seen of it. Perhaps after all not everything there  
is of the same date. However, I do suggest that you look again at your no. 6,  
and consider whether you are satisfied to have it represent Form d, western (i.e.  
Cesan?), in view of its quite considerable resemblance to this jar presented by  
Benoit as from Gela and as having a Greek stamp. The Porto Ercole jar (6) might be  
a little later than Benoit's Gela one, as apparently neck and handles are a little  
longer; but not by a century, I would say. It would be good if you could produce  
something whole or nearly so that actually came from Cosa, and use that for 6.

Further on D 15 : 3: as the amphoras in P.B. 6, fig. 42, could never be photo-  
graphed well in place (particularly bad light), I enclose separate <sup>photos</sup> of SS 4568  
which I suggested (again above, p. 7) as later in the Attic(?) sequence than the original  
of your Barcelona jar. Here are 2 pictures of the same jar, and it is a warning what  
different impressions they can give. At the left is Alison's beautiful but distorted

version, taken much too close so that both top and bottom bend back - you can see the curves where there should be horizontals at rim and at bottom. At the right you see my version of the upper part, true and ugly. One has to see what is true, and that to me is the worst of the photo you have used for 5 : it gives a very distorted view of the neck and handles. (Others are more pained by the background, but the distortion matters more.)

(VG 419.43)

I enclose also a photo of the whole of the earlier Attic(?) jar for which I gave you a reference for ~~xxx~~ a picture of the toe, above, p. 6, bottom. Instructive to compare this with your picture of the Barcelona jar. As I do so, I see that in another way the Barcelona jar is "wrong": the neck is disproportionately large. This disproportion is the kind you get as between a full-size jar and a fractional one; but then the whole jar would be smaller, so that the disproportionately large neck is not actually larger than that of the full-size jar. Your photo of the Barcelona Museum jar is marked 1 : 10. Are you sure this is so? Have you a height measurement? Unfortunately the jar in 419.43 has no context that I know of; we found it in the Peiraeus Museum. I place it not far from 400 B.C. by comparison with others, some fragmentary.

I hope you will find these pages helpful. Once you sent me the manuscript, I had to do what I could. You will understand that it meant focussing on a separate and large additional problem, and leaving my own work in heaps around me, and that I have given time that I could not spare. No doubt you have done this more than once yourself, and will again; and know how one is best thanked for such efforts.

I was of course sad to hear of the breakup of your family; and hope you will all go on severally in strength and interest; and come and see me if ever in Greece. Either of the young could stay upstairs, in the Room for Nephews; if allergic to cats, I would need to know beforehand.

EL Will

p. 58 inner clay of ~~Spinas~~ Spinas, still fine clay of gelas - she do analysis  
Koroni date "if that date is correct" p. 58 Koroni Ceramics "not before 267" (Chew 265-267)

Grec. Italic Amphorae

EL Will

Fn 1 I must to thank my amph-colleagues... as well as the following scholars not scholars?

Fn 3 appears to document only Baldacci's statement that the prob. is complex, but in fact contains a full biblio.

Fn. 6 "the Spina-type" or "Spina-type jars" of p. 7 7<sup>th</sup> line from bottom

p. 5 rim measurement - ~~internal~~ dia? external? Is rim 6 cm. <sup>thick</sup> wide? ~~Yes~~

"which the death of finds..." antecedent? grammar of clause? - stamps?

Fn. 7 Punic marks on Corinthian B? of Fn. 4, reference to Corinthian b - should mention CK's publ. of the class?

p. 6 "more sloping shoulder" = not concave?

p. 6 Omit 1st sentence of last para (last 2 lines on page) Untrue, as far as article goes!

Fn 7 : unpublished kilns...

Fn 8 "The Spina"

p. 2 and "Should give pub. ref. of Koroni (and p. 8?), Athens + Keos, Cxs. How does she know about the jar "repertoire" at Herakleia?

p. 7 "in addition to deposits at Gela" + she ~~also~~ says in Fn 6 "It is possible that Spina-type was also found at Gela" of Benoit photo.

p. 7 "in addition to deposits at Gela" - why vs "Form a?"

Fn. 10 Tidy up refs. - give full JFA ref. here (first time of mention)

p. 8 "longer jars" "Spina's"

p. 8 Form a are 285 to 261 ~~late 3rd BC~~ ~~285-261~~

early 3rd BC could be first half (if Flomit is 1st/4)

Dates of 1st Punic War? 265-

p. 8 Finer clay of ~~than~~ Spinas, still fine clay of Gelas - shd do analysis! Koroni date "if that date is correct" p. 58 Koroni C275 not before 267! Chryseis was

p.5 Betty says Spina type rim is close to the handles but not touching

So she would prefer Greco-Rom. Thus. to Hefye?

eastern (because found in Rhodes) she thinks manufactured in Rhodes (p.14)  
western (Cosa) and mentions also fractional jars from Agoro -

Form b

is top of Choremis jar hollow? Keron non-double connection?

Betty & says "Form d" developed into Type 12 (double handle.)

(she also mentions a double-handled finch at Saint-Gence)<sup>p.19</sup>

note 25 p.34 "standard" G-I used in intro to Form d p.17.

egg

D 52.7 plates

D 15:3 CGK finds its date does not harmonize with that of Gela destruction  
i.e. Gela date, seems to push things  
later than and been through it.



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August 25, 1981

Dear Virginia,

I have finally finished the Greco-Italic article, and I'm sending you this copy right away, in the hope that you may want to make comments on it. I've put a great deal of work and thought into it. As Homer may have told you, I made a trip during July to Sardinia, Lipari, Sicily, Majorca, and Barcelona/Ampurias, feeling that only thus could I solve certain problems and also satisfy myself that conclusions I had reached were really valid. The trip was successful in every way. I should have made it years ago. I did go, you'll remember, to Narbonne, Ensérune, and Marseilles in 1955; but I knew so little then, having been working on amphoras only for five years or so, and as a consequence saw much less than was the case on this western trip, when so much that I saw made sense finally. I am so full now of a feeling of the interrelationship of all classes of amphoras, a feeling I've always had in an incipient way. It was intensified during the sabbatical, when I thought deeply for the first time about the entire spectrum of Roman types and noticed the impossibility of concentrating on a single type without immediately having to take other types into consideration. Well, we need a long conversation about such matters, and perhaps this article is a good basis for future exchanges of ideas. For my own part, having made this statement of what I currently feel should be said about Greco-Italics, I am for the first time comfortable with the ancestry of most classes of Roman amphoras. Concern about prototypes has been a major-stumbling block for me for years, I'm afraid, for one of few things I know about myself is the fact that I have to see matters in context before I can draw conclusions about them. I knew that Roman amphoras must have an ancestry, but I needed to organize the evidence. Questions remain, of course, like the relationship of Greco-Italics to Corinthians, both B and A, and the ancestry of the Greco-Italics themselves, but those are matters which you and Carolyn will have to solve. Not that I don't have ideas. (I'm enclosing, in case you don't have it, a photo at 1:10 of Barcelona Mus. 2614, the jar mentioned in footnote 4 as a possible 4th cen. prototype of the Spinās. Enclosed also a clearer photo of Barcelona 2624, the jar used to illustrate Form e on the plate, which unfortunately did not xerox well. The original of the plate, and that of the article, I sent to Marian McAllister.)

So much more to say and send. Here are a couple of things: do you still adhere to your revisions of the Hellenistic chronology? In all candor, I'm not happy with the revisions and would prefer a return to the old system. And: was the stamp on Keos 1830 ever

deciphered ? It is the Spina jar mentioned by you in your 1963 article, addendum to footnote 29. And: why doesn't Carolyn do a study of Spinas, Gelas, and Corinthian B ? I think that would be very fruitful territory. And: how do you fit Massaliote jars into the Greek spectrum ?

I'm enclosing xeroxes of the Cala Rossa pieces you asked about. Not that you haven't long since seen this publication, but I'll send these along anyway. I will send the latest revision of my Deposit List as soon as I have it in final form. Lest you say you've heard that before, I am freer now than I've been for 23 years. Barbara leaves tomorrow to begin her freshman year at Yale, and though Alex is back, to finish his degree at UMass, he is 23 now, mature and a great help. It's nice to have someone in the house, too. The divorce from Fred took place on July 6, almost exactly thirty years after that memorable wedding. Somehow I feel I'm just beginning to live again, as if I had been in a coma since 1951. The trip this summer was a help in more ways than one.

With much love for now,

*Lilly*

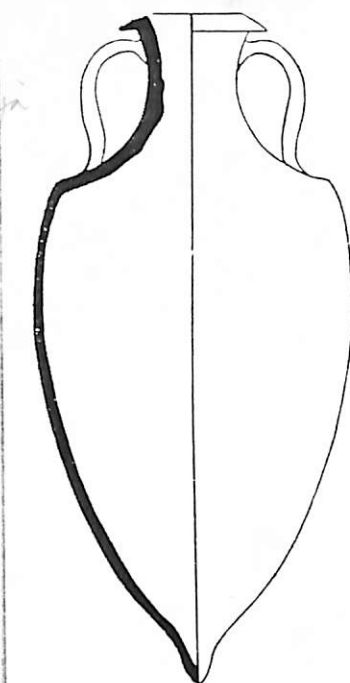
But to have illustrated one of

Spina jans

most to him directly, also  
which ~~are~~ what things

8 These 6 cover

don't say  
Mon & a flip in



①

(two different)

11 From a

(see p. 4)

2 yams (see note 9)  
"Spin-tuff"

②

"John-  
son

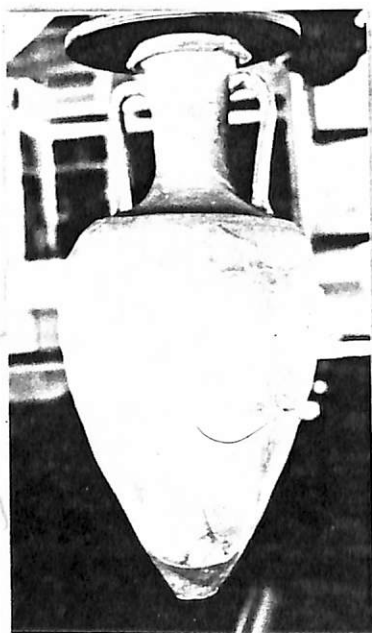
7 Cedar  
Garden

③

12 Farm 6'

$(12, 9)$

must be in fact -  
M. d. g. "the only  
substance is. 970.



(5)

Form d

eastern variety (p. 14)

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(note 15) A hypom...

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Fe 17/81 G. Selzer, Baumt.

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"Force"

on p. 20

26. X. 81  
See p. 37, note  
29, context  
175-125 BC

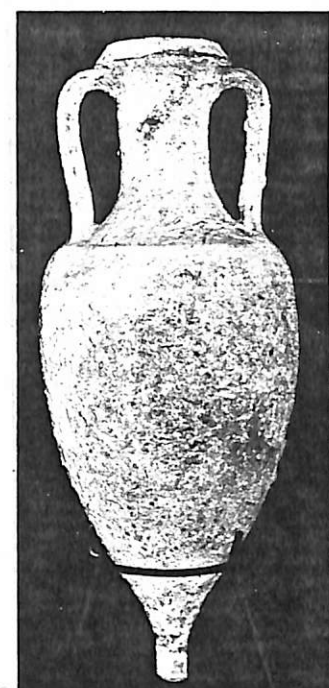
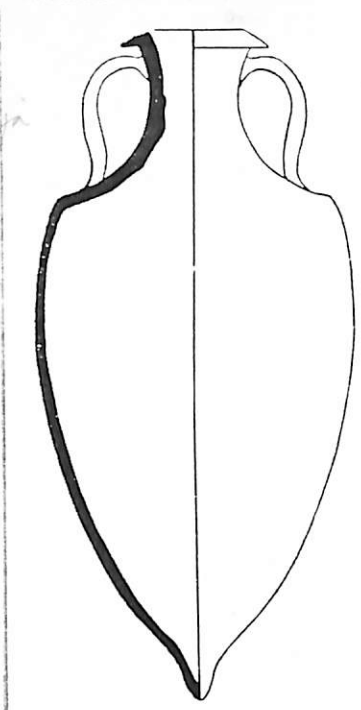
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① (two different)  
"Form A" (see p. 11)

↑  
2 pairs (see note 9)  
"Spissa jars"

②  
"Sclerothra"  
from 1st c.  
to 4th c. F.  
"Calyptus"

③  
"Form B" (p. 9)

↑  
"Mela" & "the one  
unbroken" (p. 9) Form B

④  
"Form C" (p. 11)  
"Gr. amphora" (in Pen Stat)  
(see note 1)

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⑤ "Form d" (p. 14)

⑥ "modern variety" (p. 19)

⑦ "Form e" (p. 20)

26.7.81  
See p. 37, note  
29, context  
175-125 BC

(note 15) A. L. Williams

[17.81] of Sclerothra, Benet,

of Sclerothra



Bancroft Mar. 26 24

H. O. 88

From Amherst

1:10

[39-6]

## Possible Captions for Plate \_\_\_\_

GRECO-ITALIC AMPHORAS (scale 1:10)

1. Form a (Spina-type). H., 0.65. Museo Archeologico Eoliano, Lipari.
2. Form a (Gela-type). H., 0.70. Museo Archeologico Eoliano, Lipari.
3. Form b. H., 0.88. (Rivista di Studi Liguri 21 (1955), p. 265).
4. Form c. H., 0.865. College of Earth and Mineral Sciences, The Pennsylvania State University. *Grand amphore!*
5. Form d (eastern). P.H., 0.74. Museo Monográfico, Ampurias, no. 1301.
6. Form d (western). P.H., 0.698. Private collection, Ansedonia.
7. Form e. H., 0.83. Museo Arqueológico, Barcelona, no. 2624.

*ca. 175-125 BC!*

Greco-Italic Amphoras

Elizabeth Lyding Will  
University of Massachusetts at Amherst

The Greek and Roman worlds coalesced in the Hellenistic period. The decline of the Greek city-states ended polarization in the ancient Mediterranean. Trade expanded, and that expansion, aided by the development of coinage in the West, fostered the growth of mass markets. Objects of trade began to move toward standardization. Commercial shipping containers, which were then, as they are today, among the most important of manufactured goods, began to have a "Mediterranean," rather than a local, look, particularly in the expanding West.

The type of commercial amphora which since the 1950's has been loosely called "Greco-Italic" reflects, and not only in name, the pan-Mediterranean, Greco-Roman character of Hellenistic trade. Greco-Italic amphoras are at once Hellenistic Greek and Republican Roman. They are found throughout the Greek and Roman worlds in contexts of the fourth, third, and second centuries B.C. During their long history, they went through several distinct stages of development. The present article is an effort to describe, date, and chart the distribution of the chief varieties of Greco-Italics, as well as to suggest their importance in the history of Hellenistic trade.

The development of underwater archaeology first called wide attention to Greco-Italics. Even though they occurred abundantly, Greco-Italic finds on land had been largely overlooked,

belonging as they did to a "neither Greek nor Roman" class of amphora that was usually unstamped and as a consequence not likely to attract the attention even of those few scholars who concerned themselves with coarse wares. But boatloads of underwater finds have helped to adjust the focus of Mediterranean archaeology and to call attention to the importance of utilitarian pottery. In the case of Greco-Italic amphoras, their wide distribution and the attention they have received as a result of underwater research have for some time underscored a need to take a closer look at the category and its development. The evolution of the type is, however, unusually complicated. That very complexity, sensed before it was fully appreciated when the underwater finds flooded in, must have discouraged study of the type.

The identification and preliminary classification of Greco-Italics was the work of Virginia Grace, who by 1950 had collected and documented in her files at the Athenian Agora numerous examples of the type from a variety of Mediterranean sites. All this information she generously shared with the writer. She felt the type was western in origin, and she provisionally called it "Spanish," in view of the occurrence of a piece stamped with Iberian letters at the site of Ensérune in southern France. She realized, however, that similar jars sometimes bore Greek stamps and that the type as a whole was well represented in the eastern Mediterranean. The term "Greco-Italic" was first used in 1954 by Fernand Benoît, in describing a group of over 400 amphoras found underwater at the Grand Congloué site off Marseilles. That excavation had

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begun in 1952, and about a year later, in the summer of 1953, two large caches of apparently similar jars were found on land in Sicily, in the excavations of Gela. Greco-Italics were well represented, also, among the finds that resulted from the flowering of Mediterranean underwater research in the latter 1950's. By 1961, Benoît, in a very full discussion of the type, including many valuable citations of parallels both published and unpublished, concluded from the spectrum of variations by then observable in the jars to which the term "Greco-Italic" was being applied that they came from a variety of centers of manufacture<sup>2</sup> and that their history had been a long one. No thoroughgoing analysis of the type appeared in print, however, and meanwhile boatloads of jars called Greco-Italic continued to be found underwater. The characteristics of the type and the reasons for assigning finds to it were becoming ever more opaque. In 1969, the Italian scholar Paolo Baldacci understated the situation when he remarked, "Il problema delle 'greco-italiche' é molto complesso."<sup>3</sup>

In addition to the variations in shape, it was especially the lack of stamps that intensified the confusion about the history and development of the Greco-Italic amphoras. Stamps there occasionally were: Greek, Iberian, and even Latin, as Benoît noted and as the writer's research in southern France and southern Italy in the 1950's and early 1960's had confirmed. Greco-Italics were, in fact, the first amphoras to bear Latin trademarks. But the multilingual nature of the few known stamps simply fueled the confusion. By the 1970's, stamps that appeared to be Punic and even Oscan were known, as uncertainty about the type continued to grow.

The "Greco-Italic problem" is not, however, insoluble. The finds that have so far been made can be divided into five distinct categories, which are referred to in the following discussion as Forms a, b, c, d, and e. Forms a and d are pivotal. They represent early third and early second century B.C. peaks in the history of the type. Forms b and c are transitional, serving as bridges between Forms a and d. Form e constitutes a westernized, probably a Spanish, adaptation of Form d, one which was to develop importantly in the West at the same time that Form d was itself producing other descendants in Italy.

Form a

(Plate . 1 and 2)

To complicate things at the outset, two varieties of Form a existed contemporaneously, though one may have been slightly earlier than the other. Both varieties developed during the latter part of the fourth century B.C. and reached their height of popularity in the early third century. They go back to proto-types of the first half of the fourth century, a period much less characterized by mass production and standardization than the ensuing Hellenistic and Roman periods. The prototypes of Form a<sup>4</sup> are correspondingly difficult to trace.

One variety (the more important) of Form a is shorter and wider; the other is taller and narrower. How the two types are related is not clear. The shorter, earlier (?) jars of Form a Virginia Grace and I long ago christened "Spina-type," from the occurrence of two of them in a tomb of the last half of the fourth century B.C. at Spina.<sup>5</sup> The longer, later (?) jars I call

"Gela-type." They were the jars found at Gela in the two large deposits mentioned above. <sup>6</sup> *short - wide*

Spina-type jars are small, the smallest Greco-Italics. *8 1/2*  
Heights known to me range from 59 to 69 centimeters, 65 centimeters being an average figure. A disproportionately large and wide belly, almost like a bustle, reaches 38 or 39 centimeters in greatest diameter. The rim is low and strongly outflaring, with a diameter of about 17 centimeters, owing to the flare, and a narrow mouth opening of about 11 centimeters in diameter. The rim is close to the handles but does not touch them. A short, squat neck is flanked by equally short, irregularly ridged handles that are S-shaped to vertical in profile, oval in section, and set rather far from the neck. The joint between shoulder and neck is regularly visible and marks the narrowest part of the neck, which widens toward the top. The shoulder is broad and *convex* flattish and performs the function of joining the narrow neck to the wide belly. A visible offset marks the joint between shoulder and belly. Other concentric lines can sometimes be observed on the shoulder and the belly. The belly is widest a short distance below the shoulder. The toes are cylindrical and hollow or partly hollowed, a surprisingly impractical feature in a shipping jar, as are the thin walls of the type, which the dearth of finds on land suggests made Spina amphoras subject to easy breakage. The clay is fine in texture and dark pinkish-buff in color (Munsell 2.5YR 5/4) with lighter, yellowish surface. Stamps, when they occur, are regularly on the handle near the upper attachment, though some are at the lower attachment, where thumb-marks are also commonly found. Stamps are generally in Greek, but Iberian

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and even Punic (?) examples are known. Graffiti and painted inscriptions occur on the neck. The pitched interiors of many finds suggest that Spina-type was primarily a container for wine.

The longer, "Gela-type" jars (about 70 centimeters in height on the average) apparently also contained wine, as the amphoras in the two large deposits at Gela were stored upside down, a standard position for wine jars in antiquity as it is today. Stamps in Greek letters occur in various locations on the handle, and thumb-marks are often at the lower attachment. Painted inscriptions are found on the neck. Gela-type jars have a longer, narrower belly than Spina-type, a longer, more tapering toe, a rim that is so flared as to be almost flat on top in some examples, longer handles and a longer neck, and a more sloping shoulder. The toe is hollow like the Spina-type toe. The walls are thin. The clay, a pinkish-tannish-buff in color (Munsell 7.5YR 6/6), is lighter than that of Spina-type and contains many tiny black bits, while still maintaining a texture that, while not so fine as the Spina fabric, is very much finer than the fabrics of the later Greco-Italic forms. It is in their generally fine clay, smaller size, and hollow/<sup>cylindrical</sup>toe, indeed, that the Gela-type and Spina-type amphoras can be distinguished from the Greco-Italic varieties that succeeded them. Many of the typological characteristics foreshadowed in Form a persist, however, and accordingly help to clarify the evolution not only of later Greco-Italics but also of their descendants in later periods.

Evidence for the date and distribution of Form a can be summarized more easily than can the type's physical features.

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Spina-type is found in several examples in Greece (Karystos, Koroni, Keos, Athens, Gythion, and probably Knossos, to name sites known to me), and as far East as Syria and the Black Sea, where an example has been reported at Herakleia in southeast Romania.<sup>8</sup> Two unbroken jars, one of Spina-type and the other of Gela-type, are in the British Museum and probably also come from excavations in the Near East. But it is in the western Mediterranean that Form a seems most at home. It is widely dispersed in Sicily, where, in addition to the deposits at Gela, underwater finds of Spina-type have occurred at Motya, Marsala, Terrasini, and Cape Ognina. Finds have also been made off three of the Lipari Islands. 44 Spina-type jars and 51 of Gela-type are, in fact, on display in the Museo Archeologico Eoliano on the island of Lipari, in addition to huge displays of Form e (see below).<sup>9</sup> Unpublished finds in Sicily and Italy are said to occur at Trapani and the ancient border fortress Mazara, and at Reggio Calabria, Vulci, and Orvieto. Other finds on the mainland of Italy, in addition to the examples at Spina, include several Spina-type fragments at Cosa (founded 273 B.C.) and at the Portus Cosanus, underwater off Populonia, and at Viterbo and Sovana. Spina-type jars have been found in wrecks off Corsica (Cala Rossa, îlots Bruzzi), and both varieties of Form a occur in the pre-Roman necropolis at Aleria. In Africa, Spina-type is represented at Carthage, Leptis Minor, Leptis Magna, and it occurs with Gela-type at Mellita near Sabratha. It is found in France at such sites as Pennes, Agde, and Ensérune, and in Spain at Ametla de Mar, Artá (Majorca), Cales Coves (Minorca), and the smaller Balearic Island of Cabrera.<sup>10</sup> The foregoing summary is somewhat selective and is without doubt incomplete, but it will suffice to

illustrate the wide distribution and the importance of Form a.

The frequent finds of Form a in and near Sicily and the fact that stamps, when they occur, are generally in Greek letters, may suggest a Sicilian origin for many examples of the type, at least for the longer jars. Many Spinas perhaps also originated in Sicily, but their frequency in Greece suggests that they might have developed in the Aegean area and spread from there to Sicily and to the coasts of Italy, France, Spain, and Africa. The two jars in the tomb at Spina may be, if the tomb is correctly dated in the last half of the fourth century B.C., among the earliest examples to have gone West, and the Gela jars may be their later contemporaries, Geloan imitations of the more pan-Mediterranean Spina-type. That the two types were basically contemporary is indicated by their occurring together in tombs at Mellita. What seems certain is the fact that our firmest date for Form a is derived from the finds at Gela. Refounded after 338, Gela was destroyed again at some time between 285 and 282. The jars found there were clearly in use at the time of the destruction. The rather infrequent finds of Form a at Cosa and the Portus Cosanus may indicate that Form a was waning in popularity after 273. The piece at Koroni in Attica, dated 265-261 by the excavators, would then, if that date is correct, provide us with a terminus ante quem. At this point in our knowledge, it seems wisest to date both varieties of Form a in the latter fourth and early third centuries B.C., the floruit of the type being the first quarter of the third century, before the First Punic War.

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Form b

(Plate , 3)

With Form b, we encounter the beginning of the Romanization of Greco-Italic amphoras. Form b, like its contemporary Form c, appears to represent an effort to enlarge the small jars of Form a. More capacious containers would naturally accompany the expansion of economic activity that followed in the wake of the First and Second Punic Wars. But Form b bears traces of hurried design, which military demands and expanding markets perhaps help to explain. The type, which developed during the last half of the third century B.C., is apparently a transitional, experimental link between the much more widespread Forms a and d.

Form b is much taller and larger than the two varieties of Form a. The height is about 88 centimeters. The belly has lengthened in proportion to the rest of the jar but has kept the Spina "look" and has the same diameter. The neck remains short. The handles are correspondingly short, S-shaped, and set far from the neck. The rim flares sharply out above the handles but does not touch them. There is an offset between shoulder and belly. So long is the belly that it has almost absorbed the toe, which has lost its peg-like, cylindrical appearance and is quite undefined though still hollow. In several cases, the toe curves from the vertical, giving it an asymmetrical profile. The fabric is thick-walled, to support the greater weight of the contents of the enlarged belly. The clay is coarse pinkish-buff (Munsell 5YR 6/4), quite sandy, with scattered small black, white, and reddish bits, and a lighter colored surface. The clay closely resembles that of the "Cosan"

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p. 337,  
b. 7, 107  
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p. 76, fig.  
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examples of Form d, described below.

The only known unbroken example of Form b is from Pech-Maho (Sigean), west of Narbonne. The jar is reported to bear a fragmentary Latin stamp, ]ES, on one handle. Another jar in a private collection on the island of Chios looks from photographs to be similar to the Pech-Maho amphora. Other than those pieces, Form b is known to be represented only by fragments of lower bellies (that incorporate the distinctive blunt, thick-walled toe) from Cosa, Populonia (an underwater find), Carthage, and Ortu Còmidu, Sardinia.

Our information about Form b is sparse but suggestive. The Latin stamp on the Pech-Maho amphora points to an Italian origin for the type. The similarity of the clay to the "Cosan" jars of Form d may indicate that Form b is ancestral to them. We know that Pech-Maho was destroyed at the end of the third century B.C., a date which serves as a terminus ante quem for the type. The finds at Cosa also come from contexts that could be associated with the early decades of that colony. The ]ES stamp from Pech-Maho, in fact, is very suggestive of the SES and SEST ("Sestius") amphora stamps which are now thought with some certainty to have originated in the area around Cosa. The Pech-Maho stamp may have the honor, then, of being not only the earliest known Latin amphora stamp and the earliest Latin stamp on a Greco-Italic but also the earliest Sestius stamp. Although no Cosa amphora of Form d has been found with a Sestius stamp, it is clear that the Sestius jars are descended from Form d. If ]ES proves to be an archaic Sestius stamp, the history of the Sestius factory at Cosa will be dramatically lengthened.

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Form b was not destined, however, for the popularity of its descendants. Such a bottom-heavy amphora without a sturdy toe would be not only subject to breakage in transport but awkward to carry, roll, and store on land. The infrequent finds suggest that these jars mark a transitional, and perhaps rather brief, epoch in the history of Greco-Italic amphoras.

Form c  
(Plate , 4)

? Form c is another effort to Romanize the Hellenistic shape represented by Form a. Like Form b, Form c plays a subsidiary, intermediate role between the standard and widespread Hellenistic Form a and the fully Romanized Form d. It may well have been another experimental effort to develop an appropriate shipping container for Italian wine. An attempt is made to correct the deficiencies of Form b. The belly of Form b had lengthened to absorb the toe. With Form c, the neck lengthens to touch the rim. The disproportionate relationship between neck and belly in Form b is replaced by harmonious balance. The longer neck is stronger. So is the higher, outflaring rim, which, because it touches the handles, both gains strength from them and buttresses their strength. It becomes almost a continuation of the handles, which in their turn have grown longer with the neck. No longer oval in section, they have developed a marked dorsal ridge, perhaps to facilitate a better grip. They are almost triangular in section. The shorter belly is stronger, and a change has also occurred in the toe, which is now fully

*Use  
W. J. H. J.*

formed, solid, and quite emphatic. It is sometimes further strengthened by a kind of "cap" on the end and is in all respects a distinct improvement over the weak toes of Forms a and b. At the top of the belly, the joint with the shoulder has been made more resistant by a marked offset. The clay of Form c is coarse. Examples studied by me are yellow in color (Munsell 2.5YR 8/6) with large red bits.

Form c was a more practical jar than Form b, and it achieved much greater popularity. Like Form a, it was mass-produced, but seemingly on a grander scale. Over 400 examples of Form c are said to have been found in the lower of the two Grand Congloué wrecks off Marseilles, as noted above, and several hundred more<sup>13</sup> have been found in another wreck at El Lazareto, Minorca. In both wrecks, the jars of Form c occur in different sizes. With Form c we are thus aware for the first time of standardized variations in size and capacity within a single category of Italian amphora. At the Grand Congloué, two distinct varieties of Form c occur: jars with a height of 88 to 90 centimeters and a capacity of 25 to 26 liters, and half-size jars 63 centimeters in height with a capacity of 12 liters. A similar gradation in size and capacity is reported from El Lazareto, where there occur in addition quarter-size amphoras 53.5 to 56.5 centimeters in height, with a capacity of about 9 liters. Fractional containers, in antiquity as today, reflect a decision on the part of the bottler to cater to the demands of a wider market. Since most of the finds of Form c have been made underwater, we have ample opportunity to assess its role as international shipping container, with all that phrase implies.

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We have more actual examples of Form c, in fact, than we have of any other variety of Greco-Italic. Because of the fame of the Grand Congloué excavation, and because, owing apparently to storage problems at the Borély Museum in Marseilles, amphoras from the wreck have been distributed to museums in other countries, Form c has received posthumous international attention that may perhaps obscure its subsidiary position to Forms a and d in the history of Greco-Italics.<sup>14</sup> Chance has preserved to us a great many examples of Form c on two separate wrecks, but the distribution pattern as a whole does not come close to the comprehensiveness of that of Forms a and d. Form c find-spots known to me, in addition to those mentioned above, are, in Spain, Ampurias and Cales Coves (Minorca), Grau-neuf in France (all apparently under-sea discoveries), Ventimiglia (?), Cosa, and the Portus Cosanus in Italy, and Carthage. A jar resembling Form c has also been found on Rhodes. Except for the two large wrecks, then, occurrences of Form c are rather surprisingly few.<sup>15</sup>

Only one stamp is known for Form c, a Latin trademark with the letters TI.Q.IVENTI. Three pieces from the Grand Congloué<sup>16</sup> bear the stamp, on both handles in one case. The same stamp may occur at Trapani (CIL X.8051.19). While efforts to interpret the stamp have so far proved inconclusive, the Latin letters point, like the stamp on Form b, to an Italian origin for Form c. Together, these two earliest Roman amphora stamps reflect, like the fractional containers of Form c, early efforts on the part of the seller to guarantee quality and to respond to buyers' demands.

A date for Form c is suggested by the abundant Campanian A ware found in association with the jars in the lower wreck off the Grand Congloué, as were Rhodian amphoras, which Virginia

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westward, imitations became more compact in appearance. Form d was to last as an identifiable shape until at least the Third Punic War and perhaps into the last half of the second century B.C.

The eastern version of Form d is a little taller on the average (80 centimeters) than its western, Italian cousin (75 centimeters)<sup>19</sup>. Form d is thus visibly smaller than Form b and the larger examples of Form c, and it is larger than Form a. It stands, in fact, midway between its predecessors in size. It preserves their short, outflaring rim, which with Form d is set well above the handles. A higher rim is occasionally found, but whatever the rim height, mouth and rim diameters average with great regularity 12 and 14 centimeters respectively. The rim flares out less strongly than that of Form a. It rests on a neck that is longer in the eastern than in most of the western finds and conspicuously longer in both cases than the short Spina-type neck. Like Spina-type, though, Form d regularly has a line incised around the middle of the neck as well as a visible offset between shoulder and belly. The offset is especially prominent in the western examples. It is almost as if Form d seeks to revive the successful and widespread Form a. Though such a possibility is unlikely, the similarities may have led to the confusion between the two types with which the literature is full. The longer neck of Form d is flanked by long, thin handles, oval in section (though double handles have been reported), and regularly S-shaped in profile. Finger-tip impressions are regularly at the base of each handle. A rather wide shoulder slopes down into a belly that is slightly narrower in the eastern than

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in the more compact western models, but bellies of both varieties approximate 35 centimeters. Belly interiors are regularly pitched, a good indication that Form d was, like the other Greco-Italics, a container for wine. The toe is solid and is longer in the western than in the eastern jars. Some toes have a twisted look.

Form d, thus, while superficially similar to Form a, can be distinguished from it by its larger size and by its solid toe. But Forms a and d are also at variance with respect to other features. The various fabrics of Form d are utterly unlike the clays of Form a (both Spina-type and Gela-type). The eastern examples of Form d regularly are of clay that is fine, pale pinkish-buff (Munsell's chart lacks an equivalent; it is paler than 10R 6/4), free of impurities, and quite possibly Rhodian. The clay of the western examples, however, is very coarse and can be divided into two classes: a pinkish-buff variety (Munsell 5YR 6/6), full of varicolored inclusions, and with lighter surface; and a dark reddish-brown clay (Munsell 2.5YR 5/6), often grayish at core, and containing white and black bits. The dark clay is regularly covered by a worn beige surface. The fabric is thin-walled and rather brittle. The two varieties of western clay seem to be associated with two separate areas of Italy, as the concentrations of finds and the epigraphical evidence permit us to suggest.

Like Form a, Form d bears stamps, but stamps seem on the whole to be relatively rare. Graffiti and painted inscriptions also occur. <sup>20</sup> The eastern stamps are Greek. As for the western stamps, there is evidence that the earliest examples originated in Campania, specifically in the area of Pompeii. The stamp

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TR.LOISIO, traditionally the "earliest Latin amphora stamp," occurs on Greco-Italic handles of the second type described above, coarse, micaceous reddish-brown fabric with beige surface. This widespread and much-discussed trademark, the careful lettering of which corresponds somewhat in appearance to that of the TI.Q.IVENTI stamps of Form c, occurs in 17 examples at a variety of sites ranging from Alexandria (two examples) and Rhodes (one example) in the East to Sicily (seven examples), Taranto (five examples), and Carthage (one example) in the West.<sup>21</sup> The TR.LOISIO named in the stamp has long been connected with a Trebios Loisios or Loidios (in Greek letters) named on a Delian inscription of 162/1 B.C. as owing money to the Temple of Apollo. If the identification of the stamp with the inscription is correct, the amphoras can be given a date at least in the 160's B.C. and probably earlier. Trebios Loisios, it has been suggested, was one of the Oscan-speaking Sabellians who took advantage of trading opportunities in the provinces after the Second Punic War.<sup>22</sup> Their names were mentioned frequently at Delos after the island became a free port in 166 B.C. . Though Greco-Italics are hardly represented at Delos, it may in fact have been at Delos that Trebios Loisios first encountered Greco-Italics and decided to imitate them in Italy. The Trebii were indigenous to Sabellian Pompeii, and, further, the name occurs in Oscan on Pompeian brickstamps of the Sabellian period. The possibility that the amphoras bearing the name of Trebios Loisios might have been made in the same potteries near Pompeii as the bricks suggests itself, particularly since the clay closely resembles the clay of amphoras of my Type 12 (Dressel 3) that are known to have been manufactured

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at Pompeii. It is also like the clay of some Oscan-stamped handles of Form d that were apparently the products of the pottery of the Ovii, another firm active at Pompeii during the pre-Roman Sabellian period. The Ovii also produced amphoras of Type 12 in the first century B.C.<sup>23</sup> and exported them, as they did Form d, to the East.

Strong circumstantial evidence thus connects one group of Form d amphoras with Campania, but no examples of Greco-Italics are yet known by me to have been discovered in that part of Italy. Since little archaeological exploration of Sabellian levels at Pompeii has so far been possible, it seems very likely that as such exploration proceeds our knowledge of the important Sabellian period will be substantially increased. Study of the western Greco-Italic amphoras of Form d suggests that Pompeii was in fact a manufacturing and trading center in the second century B.C.

Campania may well have produced the first western amphoras of Form d, but far the largest known concentrations of the type occur not in Campania but farther north, in the area around Cosa. Some 215 Greco-Italics, mostly of Form d, have been identified at Cosa, 142 on the hill-site itself and 73 in the Portus Cosanus at the foot of the hill. Greco-Italics are second in importance at Cosa only to the "Sestius" series of amphoras, with which they share identical clay (the first of the two varieties of western clay described above). The Sestius jars, in fact, which now seem to have originated at Cosa, must have developed out of the Greco-Italic category. Broken pieces of the two classes of jars are frequent sights in the fields and on the beaches around Cosa. Only half a dozen or so stamps, however, occur on the pieces at Cosa, and two of those stamps appear to be products of the pottery of the Ovii at Pompeii. We may have in those two pieces, actually,

a suggestion that the Form d Greco-Italic amphora industry, though it remained at Pompeii and developed later, as suggested above, into Type 12, stimulated the development of a similar industry at Cosa, one which may already have begun with Form b, as we saw. Two Form d amphora graffiti at Cosa may be additional evidence that it was the Sestii who owned the company, one which may ultimately have outdistanced its Campanian cousin. Though our knowledge about Form d is still incomplete, the bulk of western finds known to me has "Cosan" clay. The group includes frequent underwater finds from near Cosa (Populonia, Porto Ercole, Giannutri, the Gulf of Talamone) and land and undersea finds from a variety of other locations in the western Mediterranean.<sup>24</sup>

The spread of Form d is as extensive as that of Form a. In Italy, in addition to the sites mentioned, Form d occurs at many sites, as published descriptions make clear, though a dearth of information about dimensions and fabric complicates the compiling of a list. Luni (founded 177 B.C.), Gabii, Volterra (?), Orvieto, Viterbo, Fiesole, Ostia, Brindisi, Lecce, Lipari, and the Gallinaria area off Albenga: all have produced Greco-Italics of Form d. In Sicily, there have been finds at Syracuse, Marsala, and Terrasini; in Spain, at Cartagena, Alicante, Ampurias, Majorca, and Ibiza, to name a few sites. Finds in France along the south coast, at such sites as Narbonne, Ensérune, Agde, Lattes, Saint-Gence (with double handles), and the Anthéor C, Bay of Briande, Riou, La Chrétienne C, and Cap Gros wrecks, are matched in the north by a discovery at the Titelberg in Luxembourg, as well as by a possible find near Arentsburg in Holland. Form d is also, like Forms a, b, and c, well represented at Carthage. In Greece, in addition to Rhodes, the fractional containers referred to above

were found at the Athenian Agora, where stamped fragments of Form d have also been found. Other stamped pieces are from Pella, Hermione Magoula, and Alexandria. Unstamped finds have been made at the Peiraeus, Corinth, Delos, Isthmia, Volo, Gythion, and Corfu.<sup>26</sup> Form d has also appeared in the sea off Gaza.

Form d belongs securely to the first half of the second century B.C. How long after the Third Punic War the type persisted is less clear. No examples are said to occur at Entremont (destroyed 125-123) or at Pollentia (founded 123-122).<sup>27</sup> The lack of finds at Delos may be significant. When the island became a free port, large containers with greater capacities would logically have been used in place of the relatively small-sized Greco-Italics. That is exactly what happened. The Roman amphoras at Delos, mostly datable to the last half of the second and the early first centuries B.C., are large, heavy jars that would naturally have been more profitable for the traders than the smaller Form d. Have we here an explanation for the indebtedness of Trebios Loisios to the temple of Apollo? Were his plans for expansion to eastern markets, plans which his stamps at Rhodes and at Alexandria would seem to suggest, complicated by the opening up of Delos to large-scale trade? Was the loan negotiated in the hope of making up for losses and furthering the expansion, a hope which in the event proved vain?

Form e  
(Plate , 7)

The more tapering, eastern examples of Form d may have found their way to Ampurias and to other way-stations on the Spanish

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and French coasts because of the presence of the very early Rhodian colony of Rhode in the northeastern corner of the Mediterranean. Local manufacture of similar jars may have been generated by such imports, for the fifth identifiable Greco-Italic type seems to be a product of <sup>h</sup>northeastern Spain in the late second century B.C. At Ampurias, which is within sight of Rhode, have been found, for example, many tall, slim, long-necked jars that average about 90 centimeters in height, though heights as great as 108 centimeters have been reported at other sites, and about 30 centimeters in greatest diameter. These jars of Form e are distinctive in several ways: their long, S-shaped handles, narrow in section, that adhere to the neck at the lower attachment; their sloping shoulders, carrot-shaped bellies, and undefined toes; and their unusually coarse rust-colored fabric (Munsell 2.5YR 5/6) that includes conspicuous black and white bits, the white bits often quite large, and a peeling surface that is often dirty grayish-beige in color, where it is not worn off. Some examples are thickly lined with pitch, and jars of Form e, like the other Greco-Italics, were probably used as shipping containers for wine. Mouth and rim diameters are narrower than those of Form d. Stamps do not seem to occur, except for Wreck A of La Ciotat in France, where several short stamps are reported at lower handle attachments, and a stamp from the îles Lavezzi, Corsica. <sup>28</sup>

Distribution of Form e ranges from the coasts of Spain and France to central Italy, the Lipari islands, Algeria, and the Aegean area. Three pieces have been found at the Athenian Agora, two of them in contexts of the third quarter of the second century B.C., and eastern examples also occur at Mykonos and

see note 29  
(note 29)

Delos. Far the largest group of known finds exists at Lipari, where 89 jars from Wreck A off Capo Graziano (Filicudi) are on display. These jars, which we can assume all to be of the same date, vary widely in individual characteristics, but all still share the chief features of Form e.<sup>29</sup> This last Greco-Italic shape seems to have existed down to the late second century B.C. At that point, it develops into the much more widespread type which Lamboglia christened Dressel 1C (my Type 5). Form e is clearly transitional between Form d and Type 5, just as Form d developed into Lamboglia's Dressel 1A and 1B (my Types 4a and 4b) as well as into Dressel 3<sup>30</sup> (my Type 12) in central and southern Italy respectively. But Form e, while it occurred widely, did not achieve the importance and success of its immediate ancestor, Form d, or of its remote ancestor, Form a. I suggest a Spanish origin for the type on the basis of its clay and its frequency in Spain.<sup>31</sup> An eastern origin is possible as well, though the Aegean finds have precisely the clay of the western examples.

During their history of over two hundred years, Greco-Italic amphoras thus served as one of the bridges by which the Greek and the Roman worlds merged in the Hellenistic period. They were the shipping containers that served the later Greeks when they went to the West and then served the Romans when, for military and economic reasons, they turned to international trade. Two forms of Greco-Italics emerge as pivotal in the history of the type as a whole. Form a, which was of most importance in the latter

*when* fourth and early third centuries B.C., has clear connections both with Greece and with the Greek cities of Sicily. It may have been manufactured in both areas and in Iberian-speaking regions of the West as well. It is found throughout the Mediterranean area from Spain to the Black Sea. It was surely one of the dominant amphora-types before the First Punic War. The second important Greco-Italic type, Form d, of the first half of the second century B.C., was dominant between the Second and Third Punic Wars in roughly the same areas as Form a. Eastern and western versions of Form d seem to have originated in the Aegean area and in central and southern Italy. Of the three other, less widespread types of Greco-Italics, Forms b and c date respectively from the last part of the third and the very early second centuries B.C. They were Italian amphoras and seem to represent an effort to Romanize Form a. Form e, the latest identifiable Greco-Italic series, postdates the Third Punic War. It may have resulted from an effort of Spanish exporters to revive the Greco-Italic shape in the West. It was the distinction of Forms d and e that they served as immediate models for the chief types of Roman wine amphoras of the first century B.C.

Much work remains to be done on Greco-Italics. The distinctions among the various forms and their sub-categories will be sharpened as new evidence accumulates. But the essential conclusion to be drawn from the study of Greco-Italics is likely to stand. The first Roman commercial amphoras developed in the third century B.C. and were patterned on Hellenistic Greek models.

Footnotes

1. For a statement of her views, see "Notes on the Amphoras from the Koroni Peninsula," Hesperia 32 (1963), especially pp. 320-321. (Cf. Hesp. 31 (1962), p. 38, no. 44). For her further discussion of chronological matters addressed in the prior article, see "Revisions in Early Hellenistic Chronology," Mitteilungen des deutschen archäologischen Instituts. Athenische Abteilung 89 (1974), 193-200. Through the years, the help and comments of Virginia Grace have been essential to the progress of my work, on the topic of Greco-Italics as well as with reference to the other classes of Roman amphoras. I would like to take this opportunity to acknowledge her generous assistance and encouragement, though she is in no way responsible for the conclusions drawn herein. Since study of Greco-Italics has occupied so many months, I have been the beneficiary of help and advice from an unusually large number of sources. I wish to thank my amphora-colleagues Gerhard Kapitän, Damián Cerdá, and Samuel Wolff, as well as the following scholars: Homer Thompson, Frederick Matson, Miriam Balmuth, Anna Marguerite McCann, Daniel Woods, Antonio Arribas, Gloria Trias Arribas, Eduardo Ripoll Perelló, Luigi Bernabò-Brea, Madeleine Cavalier, Gertrude Howland, Luc Long, Lino Melis, Margarita Orfila Pons. I am grateful also to Marian McAllister, the editor of this journal, for her help and her patience, and to Barbara Elizabeth Will, who has aided me at home and abroad.
2. Benoît's last major publication on the Grand Congloué excavation,

L'épave du Grand Congloué à Marseille, Gallia, Supp. 14 (Paris 1961), gives references to his earlier articles on the subject. On Greco-Italic amphoras, see especially pp. 36-41. The Gela jars were initially published by D. Adamesteanu and P. Orlandini, "Gela - scavi e scoperte," Notizie degli Scavi (1956), especially pp. 348-349 and 355-357. Cf. Orlandini, Archaeologia Classica 9 (1957), p. 169.

3. Paolo Baldacci, "Le principali correnti del commercio di anfore romane nella cisalpina," I problemi della ceramica romana di Ravenna, della Valle padana e dell' alto Adriatico. Atti del convegno internazionale, Ravenna, 10-12 Maggio, 1969 (Bologna 1972), p. 109. Baldacci's remarks on Greco-Italics are on pp. 127-128. The following discussions of Greco-Italics should also be consulted (I arrange them chronologically): Nino Lamboglia, "Sulla cronologia delle anfore romane di età repubblicana (II-I secolo a.c.)," Rivista di Studi Liguri 21 (1955), especially pp. 264-265; Otto Uenze, Frührömische Amphoren als Zeitmarken im Spätlatène, (Marburg/Lahn 1958), pp. 11-14 and Pls. 1, 3, Anna Maria Bisi, "Scoperta di due tombe puniche a Mellita (Sabra-tha)," Libya Antiqua 6-7 (1969-1970), 189-228, passim; Miguel Beltrán Lloris, Las ánforas romanas en España (Zaragoza 1970), especially pp. 338-348; W. Bebko, Les épaves antiques du sud de la Corse (Bastia 1971), pp. 6, 46, 47, 52; Jean et Laurence Jehasse, La nécropole préromaine d'Aléria (1960-1968), Gallia, Supp. 25 (Paris 1972), pp. 194, 355, 371, and Pls. 142, 143, 170; W. Culican and J.E. Curtis, "The Punic Wreck in Sicily, 2: the Pottery from the Ship," International Journal of Nautical Archaeology 3 (1974), pp. 44-47; José M. Nolla Brufau, "Las ánforas romanas de Ampurias,"

➤ Ampurias 36 (1974), pp. 148-151, 153-154, 184, 186; Vittorio Giustolisi, Le navi romane di Terrasini (Palermo 1975), pp. 30-35 and Pls. 18-21; J.-P. Joncheray, Essai de classification des amphores découvertes lors de fouilles sous-marines (Gap 1970; second ed., 1976), pp. 8-12; J.A. Riley, "Amphoras from the Early Roman Levels," in J.H. Humphrey (ed.), Excavations at Carthage 1975 Conducted by the University of Michigan, I (Tunis 1976), p. 111; Gerhard Kapitän, "I relitti di Capo Graziano (Filicudi): scoperte dalla spedizione NACSAC nel 1968," Sicilia Archeologica 10, 34 (1977), pp. 44-45, 48; M. Fernández-Miranda and M. Belén, Arqueologia submarina en Menorca (Madrid 1977), pp. 58-61, 87-91; Ernesto De Miro and Graziella Fiorentini, "Leptis Magna. La nécropole gréco-punica sotto il teatro," Quaderni di archeologia della Libia 9 (1977), p. 57; Damián Cerdá y Juan, Excavaciones arqueológicas submarinas en la ensenada de la Colonia de Sant Jordi (Ses Salines, Mallorca) (Palma 1978), lower right of main chart, and cf., by the same author, "Una nau cartaginesa a Cabrera," Fonaments I (undated), p. 96, Figs. 33-34, Pl. 15:33; Horst Blanck, "Der Schiffsfund von der Secca di Capistello bei Lipari," Mitteilungen des deutschen archäologischen Instituts. Römische Abteilung 85 (1978), 91-111, especially pp. 93-97; cf. Don Frey, Faith D. Hentschel, Donald H. Keith, "Deepwater Archaeology. The Capistello Wreck Excavation, Lipari, Aeolian Islands," IJNA 7 (1978), 279-300; eadem, "L'archeologia marina a grande profondità: gli scavi di Capistello," Sic. Arch. 12, 39 (1979), 7-24; Joan C. de Nicolás Mascaró, La nave romana de edad republicana del Puerto de Mahon (Menorca, Baleares) (Mahon 1979), pp. 13-14 and Figs. 6-12, 14-16; Fanette Laubenheimer, "A propos de deux amphores de Ruscino: définition d'un nouveau type d'amphores,"

Ruscino I, Revue archéologique de Narbonnaise, Supp. 7 (Paris 1980). I owe several references on this list to Gerhard Kapitän, Damián Cerdá, Fausto Zevi, and Eduardo Ripoll.

4. Possible prototypes might be, for example, an early jar from Ampurias (Nolla, op. cit., p. 148, no. 3; Pl. 1:3; cf. p. 184. The jar is now in the Archaeological Museum of Barcelona, no. 2614), and three necks from the Sec wreck off Majorca, publication of which is in preparation. For two of the necks, now in the museum of Lluc, Majorca, see Francisca Pallarés Salvador, "La primera exploración sistemática del pecio del Sec," RSL 38 (1972), p. 315, nos. 4 and 5. The Sec wreck is now being dated second quarter of the fourth century B.C., according to my most recent information. The red-figure pottery and other items from this exceptionally rich wreck provide a terminus ante quem, in spite of possible late intrusions (Laubenheimer, op. cit., p. 311, nos. 13 and 14). Work needs to be done not only on the precursors of Form a but also on its relationship to Corinthian b amphoras, which it resembles and with which it sometimes shares the same contexts.
5. Salvatore Aurigemma, Il regio museo di Spina (Bologna 1935; 2nd ed., 1936), p. 133 and Pl. 64. Benoît, op. cit., footnote 2 above, p. 39, gives the inventory numbers of these jars, which are in the museum of Ferrara, as T 369 and 779. To avoid repetition, references for find-spots will be given in ensuing footnotes only if they are not provided in the works, cited in footnotes 1-3 above, by Grace, Benoît, Beltrán, and Blanck.
6. For the reference, see footnote 2 above. It is possible that Spina-type was also found at Gela. Cf. Benoît, op. cit., footnote 2 above, Fig. 36, where a photograph of a jar resembling Spina-type is given.

During a visit to Gela in 1981, I was unable to study the amphoras in the museum, which was closed for extensive repairs.

7. I base the suggestion about Punic stamps on my uncertainty about the readings of the stamps shown in Jehasse and Jehasse, op. cit., footnote 3 above, Pl. 142, no. 1322, a stamp from Aleria, and in the addendum by Antonio Di Vita to the Bisi article on Mellita, cited above, footnote 3, p. 230:f. The two stamps may have the same reading, which, if Di Vita's drawing is accurate, must be Greek, but Punic marks seem to occur on other jars (of Corinthian B) at Mellita. There is, in any case, some very preliminary evidence that certain examples of Form a may have been manufactured in North Africa, and unpublished kilns for the firing of "pseudo Greco-Italics" have been found on Ibiza (Cerdá, 1978 op. cit., footnote 3 above, profiles on lower right side of chart).
8. To my knowledge, the jars at Karystos (photo given me by Virginia Grace), Gythion, and Knossos (photo given me by J.N. Coldstream) have not been published. The Spina from Syria is in P.J. Riis (ed.), Tall Sukas VI, p. 56 and Figs. 186-188. I owe the Sukas reference to Virginia Grace and also to Samuel Wolff.
9. The unpublished Cape Ognina piece, a neck, is in Syracuse, in one of the Greek theater magazines, where it was shown me in 1981 by Gerhard Kapitän. Group photos of the Lipari amphoras occur in Luigi Bernabò-Brea and Madeleine Cavalier, Il castello di Lipari e il museo archeologico eoliano (Palermo, 2nd ed., 1979), Fig. 217 (Spina-type; a picture of one of those jars, the third from the right on the bottom row, is reproduced herewith on Plate :1), and in Oreste Ragusi and Madeleine Cavalier, Il museo eoliano di Lipari (Milan/Muggiò 1980), p. 63 (Gela-type jars to left of photo

and Spina-type to right; a picture of one of the Gela-type jars, the second from the right on the bottom row, is reproduced here-with on Plate :2. The Gela-type jars are from the unpublished Wreck F off Capo Graziano (Filicudi), and the Spina-type jars are from the Secca di Capistello wreck published by Blanck and by Frey, et al. [see above, footnote 3]. I am grateful to Francisca Pallarés Salvador for permitting me to publish the photo of the Gela-type jar and to Madeleine Cavalier for permission to publish that of the Spina-type example). Two other groups of Spina-type jars are also on display in the Lipari museum: six jars from the Formiche wreck off Panarea; cf. Gianni Roghi, "Una nave romana a Panarea," Atti del III congresso internazionale di archeologia sottomarina. Barcellona, 1961 (Bordighera 1971), 261-262, though one of the jars in question is apparently published by error on p. 259, Fig. 7, of the preceding article, also by Roghi. The fourth group of Spinas on display at Lipari is from Wreck II (or B) off Capo Graziano. Those jars are published by Kapitän, op. cit., footnote 3 above. Two other whole jars of Form a, one Gela-type and one Spina-type, reused as cinerary containers in Greek tombs on Lipari, are displayed elsewhere in the museum. It might be added here, probably facetiously, that Roghi mentions a persistent legend on Panarea that an ancient "amphora factory" lies under the sea there, buried "quando il mare salì." Roghi feels, probably rightly, that the "factory" can only be an ancient wreck.

10. The pieces from Cosa, the Portus Cosanus, and Populonia will be discussed by me in publications that are forthcoming. On Populonia, see also my JFA 1977 remarks (below, footnote 19), and for my JFA 1979 remarks on Cosa and the Portus Cosanus, see the references in footnotes 12 and 19 below. The examples from Carthage, like finds

from that site of Forms b, c, and d, were shown me in 1980 by Samuel Wolff, who is preparing for publication the amphoras from the Carthage Punic Project sponsored by the American Schools of Oriental Research. (Some finds from Carthage, apparently of Form d, are referred to by Riley, op. cit., footnote 3 above.) References for the other sites listed in the text, as well as for possible occurrences not verified by me, are given in the works by Grace, Benoît, Beltrán, and Blanck (cited above, footnotes 1-3), except for Orvieto (Uenze, op. cit., footnote 3 above, p. 12 and Pl. 1:1), Leptis Magna (De Miro and Fiorentini, op. cit., footnote 3 above), and the following sites in Spain: Artá (a neck in the museum there), Cales Coves (Fernández-Miranda and Belén, op. cit., footnote 3 above, Fig. 26: 1-6), Cabrera (Cerdá, Fonaments op. cit., footnote 3 above, Figs. 33-34 and Pl. 15:33). The several occurrences of Form a at sites both in North Africa and in Etruria should be noted. Form d is also well represented in Etruria, but I know of it in North Africa only at Carthage.

11. The drawing of the Pech-Maho jar (reproduced on Plate :3) was first published in Lamboglia, op. cit., footnote 3 above, p. 265. The stamp is mentioned by Benoît, op. cit., footnote 2 above, p. 41. The Ortu Còmidu toe is from the excavation conducted by Miriam Balmuth, whose publication of the site is in preparation. I would like to thank Norman Balmuth and Alexander Will for their help in bringing the Ortu Còmidu toe to Amherst, on temporary loan from the Archaeological Museum of Cagliari.
12. Cf. E.L. Will, "The Sestius Amphoras: a Reappraisal," Journal of Field Archaeology 6 (1979), passim, and "Ambiguity in Horace, Odes 1.4," forthcoming in Classical Philology, for a discussion of this

topic. At the time I wrote those articles, I had not yet formulated a chronology for Greco-Italics nor considered the possible significance of the type in the history of the Sestius factory.

13. On the wreck from El Lazareto, see most recently the publication by Nicolás (footnote 3, above). Some jars at El Lazareto show a slight separation between rim and handles. (Puerto de Mahon is another name for the Lazareto wreck.)
14. The Greco-Italic from the Grand Congloué wreck-site that is illustrated on Plate :4 has been since 1953 in the collection of the College of Earth and Mineral Sciences of the Pennsylvania State University, where it was called to my attention some years ago by Frederick Matson. He has been kind enough to make the recent photograph here published. Another Grand Congloué Greco-Italic is at the National Maritime Museum, Haifa, no. 3372. I am indebted to Samuel Wolff for sending me a picture of the jar.
15. The Ampurias jar, no. 2627 in the Archaeological Museum of Barcelona, is described by Nolla (op. cit., footnote 3 above, p. 148, no. 6 and Fig. 1:5). The Cales Coves neck is pictured in Fernández-Miranda and Belén, op. cit., footnote 3 above, Fig. 26:13. For Grau-neuf, see J. Granier, "Trouvailles fortuites sur le littoral gardois," RSL 31 (1965), pp. 257-259; for Ventimiglia, see Lamboglia, op. cit., footnote 3 above, Fig. 8, lower half, where the profiles suggest Form c. The Rhodian jar referred to is illustrated by Benoît, op. cit., footnote 2 above, Fig. 32, a photograph from the files of Virginia Grace. P.L. de  
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16. For one of the stamps, see Benoît, op. cit., footnote 2 above, p. 38 and Fig. 34. I have recently received from Luc Long, who is undertaking a restudy of the Grand Congloué excavation journals, photographs of the jar that bears the stamp on both handles. It

17. I am grateful both to Virginia Grace and to Jean-Paul Morel for advising me about their dates by letter. The statement about Miss Grace's dates in footnote 1 of my JFA article (above, footnote 12) should be revised accordingly. For a recent published statement of Morel's views, see his "A propos des céramiques campaniennes de France et d'Espagne," Archéologie en Languedoc 1 (1978), p. 157. I wish to thank John Hayes, who has been helpful so often through the years, for his kindness in sending me a copy of this article.

18. Benoît, op. cit. (above, footnote 2), p. 35 and Pl. I:8, for the "Rhodian prototype." The Rhodian Greco-Italics were first described by Amedeo Maiuri, "Una fabbrica di anfore rodie," Annuario della regia scuola archeologica di Atene IV-V (1921-1922), 249-269. The six Greco-Italics found were part of a large group of amphoras from Villanova on the northwest coast of Rhodes. For a discussion of this deposit, see Virginia Grace's comments in Exploration archéologique de Délos 27 (Paris 1970), pp. 294-295. I am grateful to Miss Grace for providing me with photos of some of the jars. The Agora jars, which will be published in my forthcoming volume in the Athenian Agora series, are numbered P ~~6761~~ and P 17046. The amphora pictured on Plate 5 illustrates the shape of the eastern variety of Form d. The jar is no. 1301 in the Monographic Museum at Ampurias and is published in Nolla, op. cit. (above, footnote 3), pp. 153-154 (where the height is incorrectly given as 26 centimeters; the preserved height is actually 74 centimeters) and Fig. 4:6 (cf. 4:1 for a similar piece). I am grateful to Eduardo Ripoll, Director of the Archaeological Museum of Barcelona,

for permission to publish this piece as well as for assistance in making my hurried photograph.

19. The amphora pictured on Plate :6 illustrates the shape of the western variety of Form d. This jar, said to be from Porto Ercole near Cosa and now in a private collection in Ansedonia, is also illustrated on p. 42 of V.J. Bruno, E.L. Will, and J. Schwarzer, "Exploring the Gulf of Talamone," Archaeology 33, 4 (July-August, 1980). Other brief published descriptions by me of Form d have appeared in JFA 4 (1977), pp. 293-294 (where a neck from Populonia is pictured in Fig. 28) and JFA 6 (1979), pp. 340-342, 345 (where the totals cited for Cosa include also the relatively few examples of Forms a and b at that site).
20. A Greco-Italic graffito from a neck of Form d at Cosa is pictured in E.L. Will, "The Ancient Commercial Amphora," Archaeology 30 (1977), p. 268. The Cosa piece is numbered CA 546.
21. See CIL I<sup>2</sup>.425 and Atilius Degraasi, Inscriptiones Latinae Liberae Rei Publicae. Imagines (Berlin 1965), no. 363. The examples from Alexandria and Rhodes will be published in my Athenian Agora volume (above, footnote 18).
22. E.T. Salmon, Samnium and the Samnites (Cambridge 1967), p. 321.
23. On the Pompeian Trebii and Ovii and their pottery interests, see Paavo Castrén, Ordo Populusque Pompeianus. Polity and Society in Roman Pompeii. Acta Instituti Romani Finlandiae VIII (Rome 1975), pp. 45-46, 201, 230-231, 269-270. Type 12 will be discussed in my Athenian Agora volume (above, footnotes 18, 21).
24. On publication plans for the material from Cosa, the Portus Cosa-nus, Populonia, and Carthage, see footnote 10 above. The unpublished finds from Porto Ercole and Giannutri are stored in the

magazines of the museum at Cosa. The Giannutri finds are to be distinguished from those reported by Lamboglia (footnote 29 below). For finds from the Gulf of Talamone, see footnote 19 above, where reference is also made to the Form d amphora (Plate :6) probably found at Porto Ercole.

25. Luni: Antonio Frova (ed.), Scavi di Luni (Rome 1973), Pl. 214:2-8, many of which seem to be described on pp. 720-721 of this confusing publication. Gabii: Mercedes Vegas, "Römische Keramik von Gabii (Latium)," Bonner Jahrbücher 168 (1968), p. 45, no. 177. Volterra: NSc (1973), Supp., p. 271 and p. 262, Fig. 174. Orvieto and Viterbo: Uenze, op. cit., (above, footnote 3), pp. 11, 13 and Pls. 1:5-6, Fiesole: stamped toes in the museum, nos. 97, 98, 103. 3:2-4./ Ostia: I found in 1977 a neck fragment at the site of excavations conducted in the Republican harbor area in 1976. Brindisi: jar no. 10 in the Museo Civico is western Form d; another jar, from Apani (Lapani), no. 6711, is apparently a Greco-Italic variant. I owe a photograph of the jar to Carolyn Koehler. It resembles another jar, in Lecce, no. 4168 in the museum there. A standard Greco-Italic was seen by me in a private collection in Brindisi in 1961. Lipari: two underwater finds from La Secca di Bagno are Form d jars with Cosan clay. See Bernabò-Brea and Cavalier (op. cit., footnote 9 above), p. 164. Gallinaria area: for one report of this survey, see Joan du Plat Taylor, Marine Archaeology (New York 1966), pp. 142-159, the Form d jars in Fig. 58:7-8 and on p. 149. Ampurias: see above, footnote 18; this jar does not seem to be in Beltrán. Majorca: two amphoras are in the museum at Lluc (cf. Guia del museo de Lluc [Palma 1974], near bottom of p. 6) and one is in the museum at Artá. Ibiza: T. Falcon-Barker, Roman Galley Beneath the Sea (Philadelphia 1964), p. 57:F, where

it is called "Fourth century AD Roman." Narbonne and Ensérune: two stamped pieces, only one identified with certainty, but without a statement of dimensions or clay, are published in C. Lamour and F. Mayet, "Glanes amphoriques: I. Région de Béziers et Narbonne," Études sur Pézenas et l'Hérault 11 (1980), pp. 4, 8, 10, and 16 (I wish to thank Howard Comfort for his kindness in sending me a copy of this article). Lattes: a jar-fragment was found in excavations here in 1967, according to photographs which Charles Ebel was kind enough to send. Bay of Briande: A. Tchernia, Gallia 27 (1969), pp. 472-473; cf. Joncheray, op. cit., footnote 3 above, Pl. III:3a, 4a. On the same plate (2a and 2b), Joncheray illustrates Form d jars from the wrecks of La Chrétienne and Riou. Cap Gros: P. Fiori, "Le mouillage antique du Cap Gros," Cahiers d'archéologie subaquatique 3 (1974), Pl. 3:4-5. Titelberg: I am grateful for information from Ralph Rowlett. Publication of the site is in preparation. This piece was found in a level between Middle and Late La Tène. The find at Arentsburg is based on my reading of a stamp in CIL XIII. 10002.624. In addition to the occurrences noted in the text, jars of Form d are in the Florence Archaeological Museum (nos. 4971, 4978, 4983, 4989) and the museum of the Eberhard Karls University in Tübingen, Germany. I also saw a fractional container, probably of Form d, in the magazines of the museum at Sassari, Sardinia, in 1981.

All the stamped pieces will be included in the Agora catalogue. Athenian Agora jars: above, note 18. The jars at the Peiraeus and at Volo are known to me from photographs by Virginia Grace. To my knowledge, the pieces at Corinth, Delos (an unnumbered neck found in the sea), Isthmia, Gythion, and Corfu have not been published. The Gaza jar, now in the National Maritime Museum, Haifa,

12 x 81  
 5.13 cm  
 middle to late  
 all dated  
 26.  
 (see also)  
 at the same time  
 all dated

no. 5536, is published in Avshalom Zemer, Storage Jars in Ancient Sea Trade (Haifa 1977), p. 43, no. 34 and Pl. 12/XII. I am grateful to Samuel Wolff for another photo of this jar.

27. On the Entremont amphoras, cf. Fernand Benoît, "Typologie et épigraphie amphoriques. Les marques de Sestius," RSL 23 (1957), 247-285. On Pollentia, see Mercedes Vegas, "Vorläufiger Bericht über römische Gebrauchskeramik aus Pollentia (Mallorca)," BJ 163 275-304. I reviewed the Pollentia finds in 1981 and did not see any Greco-Italic pieces in the collection. Excavation at Pollentia is still in progress. The amphoras will be published by Damián Cerdá.
28. Benoît, op. cit., footnote 2 above, says on p. 41 that all the jars from Wreck A of La Ciotat were stamped at the lower handle attachment. About half a dozen stamps are known. <sup>(op. cit., footnote 3 above)</sup> Laubenheimer, in her very interesting discussion of "Ruscino-type," which seems to be close to Form e, does not include the Ciotat jars, nor have I myself seen them for study. But to judge from the lettering and the placement of the stamps, which are analogous to those on my Type 5 (Dressel 1C, according to Lamboglia's rather arbitrary revision of Heinrich Dressel's typology in CIL XV), and to judge also from the profiles given in Benoît (1957 op. cit., footnote 27 above, Fig. 7), Beltrán (op. cit., footnote 3 above, Fig. 117) and Joncherey (op. cit., footnote 3 above, Pl. III:1b), the Ciotat jars belong to Form e. Laubenheimer's efforts to analyze an amphora type by means of measurements are very useful indeed and should be pursued; however the 89 jars described in the text from Wreck A (or 1) off Capo Graziano (Filicudi) and on display in the Lipari Museum show enormous variations as far as details go, and yet all

are clearly Form e. Cf. the group photo in Bernabò-Brea and Cavalier, op. cit. footnote 9 above, Fig. 216 and p. 163, and see Gianni Roghi, "La nave romana di Capo Graziano," Atti del III congresso internazionale di archeologia sottomarina. Barcellona, 1961 (Bordighera 1971), Fig. 6, where three of the same jars are apparently pictured. It may be that the Spanish amphora industry, if I am right in proposing its existence, did not, in its early products, achieve the degree of standardization that is visible in the other Greco-Italic forms. Those forms also, of course, show variations.

29. Form e in Spain: three jars from Ampurias (nos. 2624, 2628, and 3010) are on display in the Archaeological Museum of Barcelona. They are published in Nolla, op. cit. (footnote 3 above), p. 148, no. 5 and Fig. 1:6 for no. 2624, which is illustrated herewith on Plate :7; p. 151, nos. 7 and 10 and Fig. 2:1-2 for nos. 2628 and 3010. I would like to express further thanks to Dr. Ripoll for allowing me to publish this photograph. All these jars have the distinctive, dark clay and worn, light-colored surface of Form e. Nolla says (p. 186), apparently referring to the context in which these jars were found (Level V of Camp Laia, datable to 175-125 B.C.), that 50% of the amphora fragments belonged to this type of jar and that 60% of those fragments had the same brownish rose clay with small black bits and a light yellow surface. I saw several large fragments of jars of Form e in the magazines of the Monographic Museum at Ampurias in 1981. Other examples occur in Spain at Alicante, Les Foies, Zaragoza, Madrid (Beltrán, op. cit., footnote 3 above, Figs. 96:9, 88:2, 94:1, 87:20) and Cales Coves, Minorca (Fernández-Miranda and Belén, op. cit., footnote 3 above,

Fig. 26: 7-11), to name some representative sites. Several other profiles presented by Beltrán may show other jars of Form e. Another jar of Form e, from the Rio Tinto Mines in Spain, is in the British Museum: no. BM 1928 5-18 1. Form e, like its descendant, my Type 5 (Lamboglia's Dressel 1C) occurs with great frequency in Spain. In France, as Laubenheimer points out (op. cit., footnote 3 above), Form e is also common, occurring at Ruscino, Agde, Marseille, Cap Camarat, Bandol, La Redonne, and Nîmes, and in Corsica at Ajaccio and Monte Bughju. Other Corsican examples are from the îles Lavezzi (Benoît, op. cit., footnote 2 above, Pl. 2:6) and from the wrecks called Cavallo 3 and La Balise du Prêtre (Bebko, op. cit., footnote 3 above, Pls. 47:317, 1:1). Laubenheimer does not accept all the French examples cited as belonging to her Ruscino-type, nor do I accept her assignment of jars at Laissac, St. Nazaire, and Ensérune (or at Azaila, Spain) to Form e. Those jars all belong to Type 5, in my view. In Italy, in addition to the major collection of Form e jars at Lipari, two finds have been made at Punta Scaletta off Giannutri (Nino Lamboglia, "La campagna 1963 sul relitto de Punta Scaletta all' isola di Giannutri," RSL 30 [1964], 229-257), a jar has been found at Mondello near Palermo (Vincenzo Tusa, "I rinvenimenti archeologici sottomarini nella Sicilia nord-occidentale tra il II e III Congresso Internazionale," Atti del III congresso internazionale di archeologia sottomarina. Barcellona, 1961 (Bordighera 1971), Fig. 6), and a jar is in the museum at Fiesole. Three more jars are in the Florence Archaeological Museum (nos. 4982, 4992, 4998). In North Africa, Form e occurs at Djidjelli (J. and P. Alquier, "Tombes phéniciennes à Djidjelli (Algérie)," Revue archéologique 31 (1930), Fig. 5) and probably at Souma near

Constantine (Bonnell, "Monument gréco-punique de la Souma [près Constantine]," Recueil des notices et mémoires de la société archéologique du département de Constantine 49 (1915), p. 176).

The examples at the Athenian Agora (P 20196, P 23077, and P 25797) appear to give a firm terminus post quem of the third quarter of the second century B.C. for Form e, as does its occurrence at Delos and Mykonos.

30. I note here only the descendants of Form d that have been discussed in the text. Form d was almost certainly ancestral also to many of the other chief types of Roman amphoras, with a few notable exceptions.
31. For a discussion of the "Tarraconese" clay which Form e seems to share with later amphoras, see André Tchernia and Fausto Zevi, "Amphores vinaires de Campanie et de Tarraconaise à Ostie," Recherches sur les amphores romaines. Collection de l'École française de Rome 10 (Rome 1972), 35-67.

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"Green - 566"

for  
EW  
note

See W. Cullen - J. E. Cullen

"The Power Word & Society"

to Potter from 8/27, 2nd

Journal of Natural History

3/1978, 44-47