

THE DIE USED FOR AMPHORA STAMPS

No actual die used for ancient Greek amphora stamps has been identified.¹ It has been conjectured that such dies were of wood,² and so have not been preserved, but stone and metal are still suggested. The Russian scholar Grakov who has published most recently on the subject believes the material was usually one or other of the latter,³ because of the definition of both angles and curves, both vertical and horizontal lines, to be observed in the impressions. He concedes the possibility of an occasional Rhodian wooden die, but finds that most stamps indicate a die made of a hard material with a smooth surface.

Dies for stamps like **170**⁴ and **152** (see Fig. 1) certainly appear to have been cut in a hard material. But compare the line which forms their letters with that in **24**,⁵ where the slight relief is emphasized by irregular bordering sunk lines. A considerable number

¹ The present article is somewhat expanded from a paper read on Dec. 28, 1934 at the meeting of the Archaeological Institute of America in Toronto. I wish to express my thanks, for many courtesies and useful suggestions, to Miss M. J. Milne and others of the Metropolitan Museum of Art in New York, and to Mr. Sydney Noe and others of the American Numismatic Society.

For the subject of amphora stamps the reader is referred to *Hesperia*, III, 1934, pp. 197–310, to which the following are *addenda et corrigenda*:

On p. 233, under **71**, read “[. . .] ὅς Πανάμο[v (retr).”

On p. 276, under **221**, add a reference to B. N. Grakov, *Ancient Greek pottery stamps with the names of Astynomi*, Moscow, 1929. The review (*Phil. Woch.*, 1933, pp. 630–647), to which Prof. D. M. Robinson has kindly called my attention, indicates that the book contains an important chronological discussion (chap. V) and a useful index. Outside of chronological evidence and lists to help in making restorations no attempt was made in my article to include a comprehensive bibliography, but only to refer to those already compiled (cf. p. 207).

Dr. Robinson has also called my attention to the fact that the south shore of the Black Sea is not part of the U.S.S.R. as a comparison of my text on p. 205 with my comment on **221** might suggest. He was the first to suggest (*A.J.A.*, IX, 1905, p. 300) what Grakov now believes (see his chap. I), that Sinope was a place of origin of the Astynome handles.

Prof. Nilsson has been good enough to send me notes on a probable duplicate of Pl. I, 5, now in the Berlin Museum, apparently unpublished. The inscription in that case also is incompletely preserved so that the second name cannot be read.

² See Nilsson, M., *Timbres Amphoriques de Lindos*, in *Exploration Archéologique de Rhodes*, V, Copenhagen, 1909, p. 56.

³ *Op. cit.*, p. 70. I owe my knowledge of Grakov's observations on the die to Prof. Alfred R. Bellinger and Prof. Vernadsky his colleague at Yale University.

⁴ Numbers in bold face type are those of the catalogue in *Hesperia*, III, 1934, pp. 210–295.

⁵ See further **25–28**.

of stamps show this effect very distinctly. It is puzzling at first, but explained if one takes a plasticine impression to help one visualize the die. Such a line implies a die made of some material which would bank on either side of the graver during the process



Fig. 1. Stamps from the Agora, 1931-1932, Illustrating Various Types of Dies

of incision. It is well exemplified by the handles illustrated in Figs. 2-4, very obvious when one examines the actual objects and compares them with the impressions representing the dies, and sufficiently clear in the photographs when one has turned the page round a little to overcome an optical illusion.¹ The material of the die may well have

¹ The sunk lines in the plasticine "die" especially in Figs. 3-4 may appear at first to be in relief.

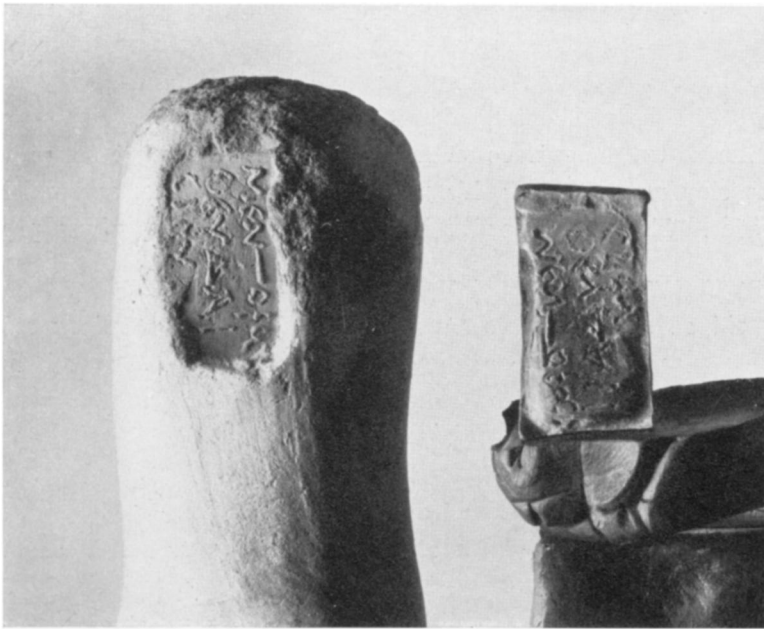


Fig. 2. Rhodian Handle with Plasticine Impression of the Stamp.
Agora No. 28

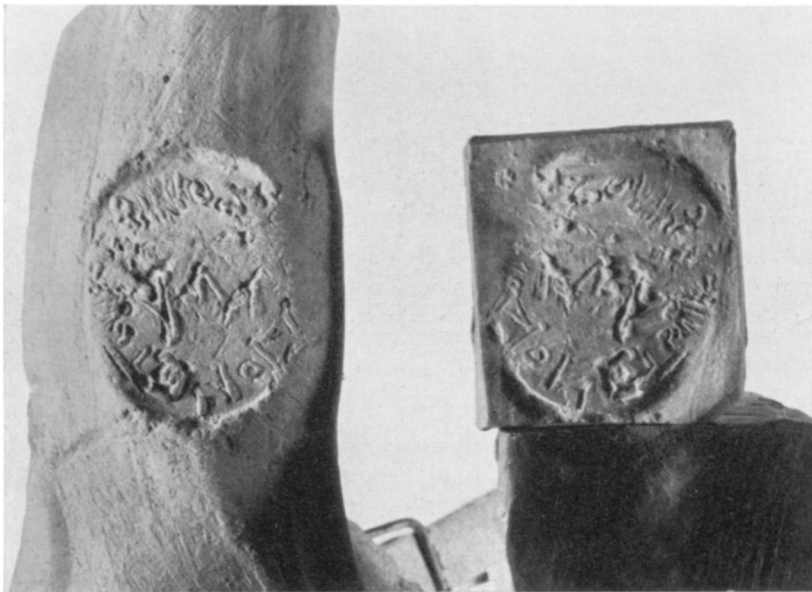


Fig. 3. Knidian Handle with Plasticine Impression of the Stamp.
Agora SS 592

been clay, in which before it is baked one may write, with which after it is baked one may impress unbaked clay. This is the method followed by a modern Aiginetan potter who appears to have started to stamp jars quite without archaeological suggestion. Fig. 5 shows two dies he used, and below them the "prototypes" (his expression) from which he made them. On the surface of the sunken area of the prototype he wrote with a pencil, while the clay was still raw, his name and native place, and finished the design with a floral device. The prototype was baked and then soft clay was pressed into it to

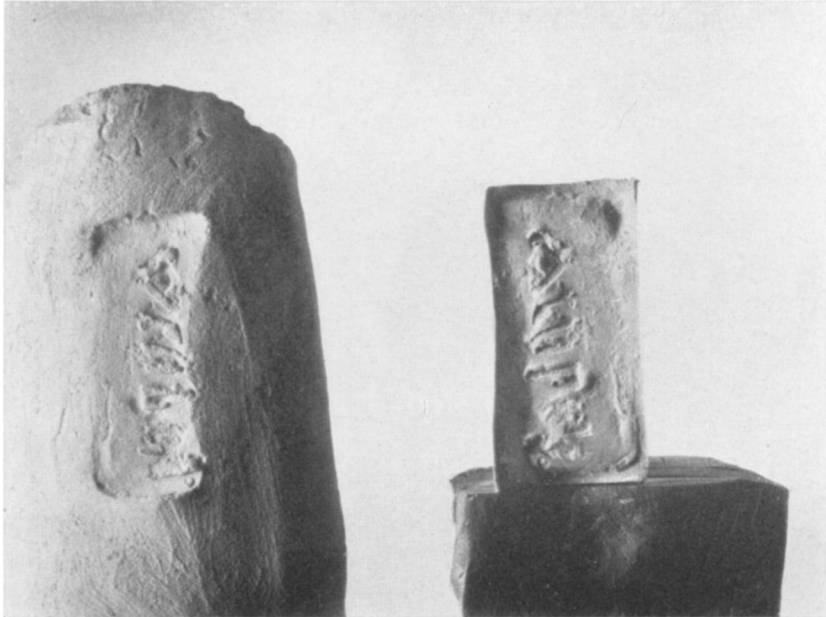


Fig. 4. Rhodian Handle with Plasticine Impression of the Stamp.
Agora SS 1892

make the actual die, which was ready to use when it also had been baked. (Note that the die to the right proved too large and had to be cut down.) This process results of course in an intaglio final impression, with which he contents himself, because to get raised letters one would have to write "upside down." The line appearing on his die may be examined for purposes of comparison, since it is in relief like that on the ancient impression. He has allowed the clay to harden somewhat before being inscribed, and has made a neat job, but some of the little banks and corresponding depressions can be detected. The line has the quality to which I have been calling attention.

It will be seen that an intaglio inscription cannot by any number of steps of direct casting or moulding be made into a relief inscription reading in the same direction. But the ancient Greeks do not seem to have objected either to writing or to reading backward, and hence incised the letters directly on the die. The same method is practicable

for simple devices which are to be outlined or crudely modelled. It is possible to produce very beautiful and intricate modelling by working in intaglio, as many engraved gems prove. But when an easier way would serve the same purpose it is reasonable to suppose that it was used. We may assume that the die which produced the rose seal (80) in the centre of Fig. 1 was made somewhat as follows: the rose was carved in relief on a separate punch, like the stamps used to make Arretine moulds (cf. Fig. 6-7)¹ or the little implement illustrated in Fig. 8 which was probably intended for the making of moulds for Megarian



Fig. 5. Dies and their "Prototypes" used by a Modern Greek Potter

bowls, cp. *Hesperia*, III, 1934, p. 453, fig. 120; on a block of unbaked clay the two circles were drawn with the help of compasses; the name was written (retrograde in this case); the rose punch was pressed into the centre, thus obliterating the trace of the centre leg of the compasses which may be what we see in 70 (Fig. 1); the foliage round the bottom was perhaps added by means of the graver; the die was then cut out and baked. The process thus outlined need only be carried a little further to explain certain stamps which led Dumont to believe the ancients knew the use of movable type.² It is probable

¹ This stamp with several others is published by Miss Richter in the *Festschrift James Loeb*, Munich, 1930, pp. 77-80.

² *Inscriptions Céramiques de Grèce*, Paris, 1871, pp. 395-402. The drawings show letters inverted, laid on their sides or otherwise misplaced. Dumont's explanation of these phenomena has been universally rejected (recently by Grakov, *loc. cit.*) but no satisfactory substitute has been offered. It has been objected

that some potters used (as did Benvenuto Cellini for his medals)¹ an alphabet of punches for the individual letters which enabled them to make new dies of professional appearance in short order.

Fig. 1 shows a variety of characteristic local styles. The hard die line, if one may so designate it, is most obvious in some of the rectangular Knidian stamps, like **152** and **170**, but incision into a hard substance seems also indicated for the early Thasian dies, **3** being a typical impression. In spite of early examples like **127**, added to some late specimens, the soft die line seems generally characteristic of Rhodian stamps. The typically Rhodian **54** is more neatly made than **24** but the tell-tale sunken borders are visible



Fig. 6. Arretine Stamp in the Metropolitan Museum



Fig. 7. Side View of Stamp in Fig. 6

along the freshly preserved letters at the left end. The soft die line is also demonstrable on numerous late Thasian stamps, such as those cited under **26**.² It seems then to have had considerable popularity during the third century B.C., but there are indubitable examples from later times.³ The effect would vary with the shape and sharpness of the

(see H. Dressel in *C.I.L.*, XV, 1, p. 3, on the die used in stamping bricks) that the misplaced letters sometimes overlap each other. This would of course be physically impossible if they were made by separate pieces of type set together as for instance in the modern rubber stamp. But it might easily happen if letter punches were used.

For the suggestion that movable type was used in Arretine signature stamps, see *C.I.L.*, III, 6010, 103 b, and the comment of H. Comfort in *Memoirs of the American Academy in Rome*, VII, 1929, p. 178.

¹ See G. F. Hill, *Medals of the Renaissance*, Oxford, 1920, p. 27. I owe the reference to this excellent chapter on technique, as well as other counsel, to Mr. William M. Ivins, jr., Curator of Prints in the Metropolitan Museum.

² *Hesperia*, III, 1934, p. 223.

³ See e g. *ibid.*, 258.

graving point, with the degree of softness of the die while it was being inscribed, and with the care used.

221 is included in Fig. 1 because the opinion of Grakov about the material of the die cited at the beginning of this article is based very largely on a study of "South Russian" or Astynome stamps.

The circumstantial evidence for the use of clay name stamps to stamp clay in earlier times is confirmed by direct evidence for their use in the Roman period, in the Arretine and later *terra sigillata* signature stamps, of which known examples date from the time of Augustus to the early second century A.D.¹ The possibility that clay stamps were used on jars or bricks is rejected by Dressel² on the ground that none has been preserved.

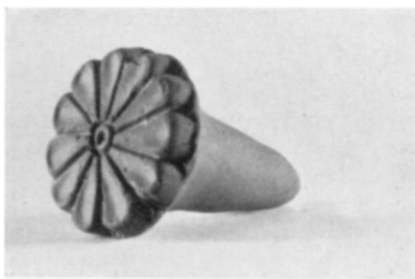


Fig. 8. Agora SS 88

Very few pottery works for such ware have been excavated, however, and in the great quantity of coarse potsherds that would be found on a factory site a small rough clay object like the dies illustrated in Fig. 5 might escape notice if the excavators were not looking for it.

Although I think there is no doubt that many Greek amphorae were stamped with clay dies, it is quite possible that each of the other materials proposed was used at one time or another. An impression like 127 (Fig. 1) might come from a stone if one considers the inscription on engraved gems like that of Stesikrates³ in the Metropolitan Museum. 170, on the other hand, suggests wood carving, and several investigators have traced the effect of wood grain on amphora stamps and on bricks.⁴ A large number of

¹ I owe my information on this subject to Dr. Howard Comfort. See his article above-mentioned. He refers me also to Walters, *History of Ancient Pottery*, II, p. 439, and Déchelette, *Les Vases Céramiques ornés de la Gaule Romaine*, II, p. 337, note 3 (for a list of the names).

² *Loc. cit.*, note 1. He actually refers to a clay die preserved in Roanne, which exactly corresponds with the impression on several bricks (see under no. 83 on p. 32) but he is inclined to doubt its genuineness.

³ See Richter, *Catalogue of the Engraved Gems*, New York, 1920, pl. 17.

⁴ Dumont, *op. cit.*, pp. 396 ff. (Knidian jars); Wace, *B. S. A.*, XIII, p. 17 (Greek bricks); Maiuri, *op. cit.*, p. 264 (Rhodian jars). See also Grakov, *loc. cit.* Dressel, *op. cit.*, p. 3, suggests a wooden die was used on Roman bricks because certain lacunae indicate a typical wood crack in the die.

An item τύπον ξύλινον κεραμίδων τῶν ἐπὶ τὸν κερατῶνα in a Delian inventory list (see *B. C. H.*, VI, 1882, p. 48, l. 172) is taken by Wace and others following him to refer to a wooden implement for stamping

bronze stamps have been preserved from classical antiquity. Most of these probably belong to the Roman period, a great many being in Latin, like the example from Bosc coreale¹ shown in Figs. 9–10. But a bronze stamp in the British Museum² could,



Fig. 9. Bronze Stamp in the Metropolitan Museum



Fig. 10. Side View of Stamp in Fig. 9

so far as one can tell from the description, have been used on handles: it is 1½ in. by 1 in. and reads **MAP|CYA** in incised letters.

bricks. I can find no analogy for such a use of *τύπος*. The item in this case is more likely to have been a model from which new moulds could always be made so that the size would remain standard.

¹ Published by Miss Milne in *Met. Mus. Bulletin*, 1930, pp. 188–190. She refers to *C.I.L.*, X, 8058 for others from Pompeii. See also Walters, *Catalogue of the Bronzes in the British Museum*, nos. 3031–3182. The letters are usually in relief on the implement.

² Walters, no. 3062. For another possibility, see no. 328.

These are speculations, however, until we find actual specimens which match ancient impressions. What emerges from the investigation as most interesting is the soft die line, because of the fact that it occurs on a large number of coins.¹ A coin cannot be struck by means of a clay die. One must conclude that, contrary to accepted opinion, at least some of the dies were cast.

¹ E.g. *B.M.C. Alexandria*, pl. III, 140; pl. XXIII, 162; pl. XXVI, 171; *Arabia, etc.*, pl. VIII in general; pl. XX, 12; pl. XXVIII, 3; pl. XXXIII, 11; pl. XXXV–XXXVII in general; *Caria, etc.*, pl. VII, 3; pl. XVII, 8; pl. XLII, 5, 3, 1; pl. XLV, 11; *Central Greece*, pl. VII, 17; *Crete, etc.*, pl. XIII, 12; pl. XXI, 22; pl. XXIV, 15; *Cyprus*, pl. XII, 19; pl. XV, 3; pl. XIX, 14–15; *Cyrenaica*, pl. X, especially 4; pl. XV, 35, 38; *Galatia, etc.*, pl. XIX, 8, 11; *Palestine*, pl. XXX, especially 1; and many others.

The majority of the most obvious examples are not really Greek coins, but possibly that simply means that the Greeks proper had a higher standard of execution with a similar technique.

The “incuse” coins of Southern Italy seem to me many of them to betray the signs of work in wax. Hill (*Ancient Methods of Coining*, in the *Num. Chron.*, 1922, see pp. 19–20) discusses some of these signs in detail, and I do not find his explanation quite convincing.

It should be noted that if the soft die line indicates a cast die for coins, it may indicate also a metal die for amphora stamps. For the fine Rhodian stamps I see at present no test except probability.

VIRGINIA GRACE