

THE ATTRIBUTION OF CORINTHIAN BRONZES

(PLATES 29–32)

Of the bronze which was renowned in early days, the Corinthian is the most highly praised.¹ This is a compound that was produced by accident, when Corinth was burned at the time of its capture; and there has been a wonderful mania among many people for possessing this metal Corinth was taken in the third year of the 158th Olympiad . . . when for ages there had no longer been any famous artists in metalwork; yet these persons designate all the specimens of their work as Corinthian bronzes²

THE FAME OF CORINTHIAN BRONZE and the city's reputation for craftsmanship³ are strong motivations for scholars to attempt to attribute extant bronzes to a Corinthian provenance. Since so few bronze vessels have been found in Corinth, or in Corinthian-controlled sites near by,⁴ there is little evidence for the style and technique of Corinthian metal vases in any period. Consequently, attribution to Corinthian or other manufacture has relied on two indirect and related methods. The first is the use of metal-imitating clay vases for isolating particular or regional stylistic details. This method assumes that the imitation in clay was always made directly from metallic

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In addition to the customary abbreviations, I use the following:

- Diehl = E. Diehl, *Die Hydria*, Mainz am Rhein 1964.
Mitten = D. G. Mitten and S. Doeringer, *Master Bronzes*, Mainz am Rhein 1967.
Payne = H. Payne, *Necrocorinthia*, College Park, Maryland (reprint) 1971.
Vokotopoulou = I. Kouleïmanes-Vokotopoulou, *Χαλκαὶ κορινθιουργεῖς πρόχοι*, Athens 1972.
E. R. Williams = E. R. Williams, "Ancient Clay Impressions," *Hesperia* 45, 1976, pp. 41–66. This article is very important for the methodology of recognizing and analyzing impressions from metal.

²Pliny, *N.H.* xxxiv.6–7, trans. H. Rackham. Pliny implies at the end of 7 that the original vases must have melted in the fire, and the strange alloy that resulted was worked into new vessels. The mixture of gold and/or silver with bronze may be explained by works such as the gilded Derveni krater, with attached silver and copper details.

The suggestion in the above quotation that Corinth had stopped making vessels by 146 B.C. is, I believe, wrong (see below, p. 109). The famous Necrocorinthia of Strabo, viii.6.23 were "antiques" from graves, but of what date we cannot know. See Payne, Appendix III, pp. 348–351. The cemetery of the wealthier Corinthians has not yet been found.

³See Herodotos, ii.167: "Corinth is the place where handicrafts (*χειροτέχνας*) are least despised." See Strabo, viii.6.23 for the value placed on craftsmanship in Corinth (*τέχνας τὰς δημιουργικὰς*).

⁴Even sites apparently dominated by Corinth must have had many dedications brought from non-Corinthian cities. See, for example, what has been done with the Dodona material in order to try to establish Corinthian style for purposes of attribution: Votokopoulou, p. 17 and catalogue.

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models. The second is through comparison of stylistic qualities of objects in all media that are attributable to specific centers with discernibly similar details in extant metalwork, no matter where the latter is found.

When a major work, such as the Vix krater, is found in an area either far removed from any artistic center or without ancient testimonia for metalworking, the temptation to find a home for it is overwhelming. Arguments for attribution of the Vix krater to Corinth, Lakonia, or West Greece⁵ have relied on stylistic analyses of the Medusa, horses or human figures, on the types of ornaments, or on the graffiti on the backs of the neck figures. If the Romans were unable to distinguish genuine from spurious Corinthian vessels,⁶ can we, even more removed in time and connoisseurship, agree on a provenance? It is the purpose of this paper to explore the feasibility of this methodology and the attributions ensuing from it, by discussion of ceramic finds with metallic features, all found in Ancient Corinth.

The first four items are vases, all of Corinthian clay, with metal-imitating decorative details.

1. Hydria rim and handle Pl. 29:a

C-64-467. Max. p. dim. 0.111, est. D. rim 0.14 m. Two joining fragments of rim, upper handle attachment. Munsell color,⁷ core: 7.5YR 7/6 (reddish yellow); soft worn clay, no slip.

From the Sanctuary of Demeter and Kore. Grid N-O:24; context of 6th—mid-4th century.

Horizontal rim; outer convex face, flat horizontal top face (lip) with raised round molding at outer edge. Molding mostly covered by extra strip of clay for handle attachment to rim. Ends of strip with “rivets”, 5-petal rosettes on top faces; spool-shaped thumb rest at top of handle, with 10-petal rosettes, no centers, on outer faces. Three “rivets” on inner rim, aligned with handle. Vertical incisions (tooling) on upper part of outer rim face and on raised molding; impressed eggs on lower area of outer rim. Handle attachment scar below thumb rest.

The rosette decoration is very popular for rotel-lai of bronze vases; it is also very common as a stamped pattern on Corinthian perirrhantaria and other large vessels.⁸
6th century B.C.

2. Hydria handle Pl. 29:b

C-64-446. P. H. 0.088 m. Part of handle and attachment. Core: 10YR 8-7/6 (yellow); hard clay, no slip.

From the Sanctuary of Demeter and Kore. Grid P-Q:26-27; context of mixed (Greek and Roman) fill.

Three fourths of a handle, vertically fluted, inner face plain. At base of handle, originally attached to sloping shoulder, two crouching heraldic sphinxes with forelegs raised on an undetermined object; frontal heads; angular wings extending well beyond handle. Sphinxes probably moldmade. Fragment very worn.

⁵For the Vix krater as Corinthian, see M. Gjødesen, “Greek Bronzes, A Review Article,” *AJA* 67, 1963, pp. 333–351. Vokotopoulou also considers it to be Corinthian: catalogue A3, p. 182, and pp. 106–122. For the argument as Lakonian (an example of the *κρατήρ λακωνικός*), see S. Karouzou, “Τεχνουργοὶ κρατήρων,” *AthMitt* 94, 1979, pp. 77–91, especially pp. 78–79; R. M. Cook, “Archaic Greek Trade. 3. Vix Krater,” *JHS* 99, 1979, pp. 154–155.

⁶Payne, p. 350, based on Petronius and Martial.

⁷*Munsell Soil Color Charts*, Baltimore 1975.

⁸S. S. Weinberg, “Corinthian Relief Ware,” *Hesperia* 23, 1954, pp. 109–137, especially pls. 25:c, 28:g, 29:d and f. See also A. Helsen, “A Relief Decorated Basin,” *Thorikos* 7, 1970/71, pp. 155–171, a locally made vessel but decorated with imported Corinthian stamps, including the enclosed rosette.

Heraldic sphinxes are not yet known to have been used in this position on metal vases, but there are many other types of antithetical devices. Recumbent rams are very common on either side of palmettes at handle bases; two sphinxes crouch on the rim of the Trikala hydria;⁹ lion and horse torsos extend from the ends of the horizontal handles of two Paestum hydriai.¹⁰

The vertical fluting is found on Classical hydriai in bronze, especially those with siren-palmette attachments.¹¹ The outstretched form of the sphinxes' wings has parallels in some of the sirens of that group.

Probably second half of the 5th century B.C.

3. Hydria neck, rim, handle Pl. 29:c

C-62-278. P. H. 0.107, est. D. rim 0.09 m. Two joining fragments; parts of shoulder, neck, rim, vertical handle preserved. Core: 10YR 8/3 (very pale brown); soft clay, white slip.

From the Sanctuary of Demeter and Kore. Grid R:25; context of mixed (Greek and Roman) fill.

Ovoid body with maximum diameter at shoulder; sloping shoulder continuous with tall narrow concave neck; horizontally projecting rim, well undercut, outer face of rim convex; rounded offset lip; inner face with gentle slope into neck; round handle from shoulder to neck attached just below rim. Neck made separately from body. On outer rim face, stamped eggs. White slip on exterior and upper interior of body.

The profile of 3 is similar to the votive hydriaskoi from a 3rd-century B.C. context in the Sanctuary.

4. Oinochoe handle Pl. 30:a, b

CP-3054. L. of handle 0.118, W. between rotellai 0.074 m. One fragment of handle, part of

mouth. Core: 7.5YR 7/6 (reddish yellow); hard clay, thin brown peeling glaze, misfired to red in places.

From early excavations, without defined context.

Vertical handle, round in section, attached to convex mouth (trefoil); neck ring (ridge at bottom break). At top of handle, lion protome, two rotellai with plastic palmettes. Leaves reserved, glaze around leaves and in center. Handle, preserved area of mouth glazed.

Lion: round face with prominent, modeled muzzle. Ridged lids, not continuous; separate round disk for eyeball; eyes outlined in glaze, dots on lids. Central vertical line on forehead; four diluted glaze lines on wide nose. Lips, teeth outlined in glaze; horizontal incision for mouth opening. Mane and hair rendered in flat, separated wavy ridges. Horseshoe-shaped ears, proper left preserved. Red between strands of hair: unclear if added red or misfired glaze.

For the shape see S. S. Weinberg, *Corinth*, VII, i, *The Geometric and Orientalizing Pottery*, Cambridge, Mass. 1943, no. 331, pl. 41: high-necked trefoil-mouth oinochoe. See the shape discussion by P. Lawrence, *Corinth*, VII, ii, *Archaic Corinthian Pottery and the Anaploga Well*, Princeton 1975, pp. 70–72.

Lion protomes are popular. A Late Corinthian oinochoe in the British Museum has both a lion and a snake.¹² Lions appear on two of the Paestum vases.¹³ The shape of the head of the lion on 4 resembles a plastic vase from Perachora,¹⁴ dated to the late 7th century; that is too early for 4. Also similar is the lion protome on a vertical handle of a bronze hydria, from Psophis, in Elis (Patras Museum).¹⁵

6th century B.C., probably middle.

1–4 all show features that imitate metal. If the Corinthian potters copied directly from their own metal vases, 3 can be cited as evidence that the Corinthians continued

⁹N. M. Verdelis, "Χαλκή τεφροδόχος κάλπυς ἐκ Τρικάλων," *Ἀρχ'Ἐφ*, 1953/54, A' [1955], pp. 189–199, pl. I, fig. 3:a.

¹⁰P. C. Sestieri, "Il sacello heroon posidoniate," *BdA*, 1955, pp. 53–64, especially figs. 10, 11, 14.

¹¹Diehl, nos. B137–B172, especially B156, pl. 17, B158, B164, pl. 18.

¹²Payne, no. 1399, pl. 39:3.

¹³Sestieri, *loc. cit.* (footnote 10 above).

¹⁴H. Payne, *Perachora I*, Oxford 1940, no. 208, p. 237, pl. 106.

¹⁵C. Rolley, "Hydries de bronze," *BCH* 87, 1963, p. 472, fig. 18.

to make such vessels, despite the implications of the passage from Pliny quoted above. Moreover, some of these metallic elements, such as the palmettes on the rotellai of **4**, the thumb rest and rivets of **1**, the lion protome of **4**, and the fluted handle of **2**, are very popular in several distinct groups of bronze vases and might serve as the bases for claiming Corinthian manufacture of some of the extant vessels. But there is another side to the argument.

Metallic elements on clay vases are fairly repetitive: rotellai, twisted or ridged handles, molded rims, stamped patterns, protomes, and other attachments on handles or rims. When and where such imitation began is not known, but Corinth has a claim for early use of these additions, as demonstrated by the rotellai on the Chigi olpe. By the 6th century, Lakonian, Caeretan, Chalkidian, Attic (especially Leagran) and other fabrics also show similar features. Clay hydriai most often have these metal derivations, but amphoras, kraters, and oinochoai were also so decorated. Can we be certain that the potters each time, and in each center, took the motifs from local metal counterparts; or once the additions were introduced, might not the potters have copied from clay vases on which the details appeared?

Palmettes painted at the bases of handles on many shapes from different locales might be interpreted as an adaptation of the metallic palmettes. Yet most of the latter, especially in the 6th century, also show elaborate volutes, antithetical animals, or protomes in addition to the base palmettes. These additional features rarely appear on clay vases, although it was certainly possible to paint them or add them separately. It would appear that the clay examples perpetuate only certain details.

2 seems to be rather special, since both the base handle attachment and the fluting are uncommon in clay. But I am as reluctant to use these features to argue for Corinthian manufacture of Classical siren-palmette vases as I am to interpret resemblances between painted and plastic decoration as proof of origin.¹⁶ There is no way to demonstrate whether the Corinthians, or any potters, were each time inspired by their own metal vases, or whether they were copying clay vases with metal elements which someone, years before, had created.

In addition, if one argues that the potters did derive the metallic details from a direct source in metal, one cannot be sure that the prototype was locally made. The metal vases in both the 6th and 5th centuries often show common decorative elements: palmettes, recumbent heraldic animals, ducks' heads on side handles, siren-palmette attachments, and a few more. The list is not very long, considering how many types could have been added to the vase. Yet, within each type of attachment there are very different details. Each siren-palmette shows different renderings of the palmette, volutes, or shape of the wings. Thus it seems impossible to attribute all vases with this form of handle decoration to a specific locale.

¹⁶As an example of this methodology, see M. Vickers, "An Unpublished Bronze Hydria in Heligoland," *RA* 1974, pp. 221–226. He uses the resemblance between the palmette on the bronze hydria and a plastic palmette on a Lakonian hydria of the Hunt Painter (Rhodes 15373) to attribute the former and related vessels to Lakonian manufacture.

Two of the hydriai from the cache found at Paestum¹⁷ have decorative lions; one is a vertical handle, the other is a protome at the top of the vertical handle. Even after consideration for the different placements and functions, the heads exhibit very different structures. So, too, the profiles and treatment of the shoulders differ. Yet the details of the side handles, with beaded projecting ridge and antithetical lion or horse protomes, are very similar. The general syntax of another of the hydriai from the same cache is close to the Sala Consilina hydria,¹⁸ but the shape and proportions are dissimilar. The type of side handles on the latter two hydriai, with palmettes, rotellai, and ducks' heads, can be found on the side handles of the hydria from Krestaina, in Elis.¹⁹ The rest of the decoration on the latter is radically different, as is the form of its shoulder, neck, and rim. The Krestaina hydria shows a combination of motifs, linking it not only with the 6th-century examples cited above, but also with the later ivy-leaf group.²⁰ These comparisons show that the decorative elements were used erratically, fluidly. Some of the details appear to have lasted for a long time, just as terracotta figurine types were also retained long after they first appeared.

The coexistence of strong differences and similarities on vases that seem to be contemporary, the retention of motifs for several generations, suggest a great deal of borrowing, of interaction between the different bronze-making sites. A motif such as the ridged palmette worked very well to mask the handle attachment. Who first made it may never be known. But it was quickly adopted by different craftsmen who also discovered that it could be expanded: volutes or snakes winding away from it, recumbent animals beside it, female protomes above it.

This borrowing of motifs can be supported by actual finds, for at several sites molds have been discovered that are impressions taken directly from metal.²¹ The following four items are such impressions, all of Corinthian clay.

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| <p>5. Mold: from metal, female protome</p> <p>MF-1978-41. H. 0.093, W. 0.07 m. Slightly chipped on proper left side. Core: 7.5YR 6/3 (gray), surface 7.5YR 7/4 (pink); gritty clay with black inclusions.</p> <p>From Forum Southwest, Grid 67:C, lowest poros floor in Punic Amphora Building.²²</p> <p>Description from cast: female face, worn features. Face broad through eyes, tapering to chin.</p> | <p>Pl. 30:c-e</p> | <p>Almond eyes diagonally set; prominent lids continuous as ridges around eye; proper right eye badly worn. Brows continue to side of face. Prominent broad nose; down-turned mouth; dimple on chin. Ears articulated only on outside curve, set far back. Forehead hair in single pie-crust band, ridges set close together; two strands falling from behind ears, diagonally incised, visible only on proper right side. Polos, without detail or decoration. Lower proper right side has been pared for rounded lower border, although clay of mold continues.</p> |
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¹⁷Sestieri, *op. cit.* (footnote 10 above), figs. 10–13.

¹⁸*Ibid.*, figs. 15–19.

¹⁹Rolley, *op. cit.* (footnote 15 above), figs. 13, 15, 22.

²⁰*Ibid.*, especially pp. 471–477 for the ivy-leaf group. For the Patras group, Diehl B206–B216. See also the discussion in D. von Bothmer's review of Diehl, *Gnomon*, 1965, especially p. 605.

²¹See E. R. Williams for the process by which these impressions were made and thereby are recognizable.

²²C. K. Williams, II, "Corinth, 1978: Forum Southwest," *Hesperia* 48, 1979, particularly p. 111; second quarter 5th century.

The back of the mold does not show the characteristic fingerprints (Pl. 30:e);²³ the coarseness of the clay is also unusual for metal impressions. The shape of the mold suggests derivation from a protome at the rim attachment of a prochous handle, such as the example in Oxford.²⁴ The Corinth head, however, is twice as large as prochous protomes. The heads on Argive prize vases are usually deeper and more detailed.²⁵ It is not certain, therefore, that the prototype for **5** was a metal appliqué, but the mold does not show the regular form of Corinthian female protomes.²⁶

Style, early 5th century B.C.; context slightly later.

- 6.** Mold: from metal, siren Pls. 30:e, 31:a, b
and palmette

MF 8633. Max. p. H. 0.072, max. p. W. 0.068 m. Two joining fragments, broken on left side and at bottom. Core and interior: 7.5YR 4/4 (dark brown), surface: 7.5YR 7/6 (reddish yellow); very hard clay, no inclusions. Exterior very rough, with fingerprints (Pl. 30:e).

From Tile Works, later 5th-century context.

Description from cast: frontal siren, standing on volute palmette. Round face; horizontal eyes with continuous ridges for lids; small, flat nose; horizontal mouth; collar around neck; no trace of ears. Hair parted in center, waving back; one strand visible on proper right side by neck; diagonal strands turning into stems for volute spirals, visible above wings. Wings outstretched and drooping; rounded horizontal extensions, from which come two tiers of feathers. Short legs placed together, talons gripping round object above (missing) calyx, palmette, volutes. Two ex-

tensions from central volute visible at right, upper one spiraling toward body, lower spiraling out. Some areas appear very worn, but detail was originally elaborate and crisp; some feathers have been recut.

6 is a well-known type, used chiefly for masking lower attachments of vertical hydria handles, but also found on oinochoai²⁷ and as mirror supports. A metal example was found at Perachora.²⁸ For the specific type see an example in Diehl.²⁹ A handle in Bowdoin College has a drooped-wing siren, with volute palmettes above the wings, but the shape of the wings is more curvilinear than that on **6** and the palmettes below lack the volutes.³⁰ The lower volutes most resemble Diehl B165.

Second half of the 5th century B.C.

- 7.** Mold: from metal, Herakles Pls. 30:e, 32
protome

MF-1979-40. H. 0.073, W. 0.068 top, 0.0425 m. bottom. Slightly chipped. Core and surface: 10YR 7/3 (very pale brown); very hard clay, no inclusions. Surface unfinished; central ridge formed when clay rose between fingers; fingerprints visible (Pl. 30:e).

From Forum Southwest, cistern 79-1, Grid 50:C. Cistern put out of use by construction of South Stoa.

Description from cast: bearded Herakles with lion skin. Forehead and cheeks highly modeled. Deeply inset eyes; eyeballs defined as separate disks; heavy upper lid overshadowed by heavy skin below ridge of curving brows. Pushed-in nose with wrinkles; mouth not defined. Full mustache and beard, in heavy, separately curling locks of

²³E. R. Williams, pp. 42–43.

²⁴Vokotopoulou, cat. A19, pl. 23. The protome is earlier in style. For the eye and proportions of the face, see the Tessin jug in Basel: *ibid.*, cat. A20, pl. 24.

²⁵But see the Nemean example: S. G. Miller, "Excavations at Nemea," *Hesperia* 47, 1978, BR 379, p. 84, pl. 27.

²⁶As published in A. N. Stillwell, *Corinth*, XV, ii, *The Potters' Quarter: The Terracottas*, Princeton 1952, class XII, nos. 8–14.

²⁷D. von Bothmer, "A Bronze Oinochoe in New York," *Studies in Classical Art and Archaeology*, Locust Valley, N. Y. 1979, pls. 19–21.

²⁸Payne, *op. cit.* (footnote 14 above), no. 12, p. 140, pl. 44.

²⁹Diehl, B166, pl. 18.

³⁰Mitten, no. 107, p. 107.

two to four strands each, asymmetrically arranged. Faint line of hair visible on forehead; two curls on either side above eyebrows. Most of hair covered by lion skin, centered to Herakles' face. Jaw, with teeth defined by incision, encircling face; incisors visible on Herakles' cheeks. Mane rendered by short incised locks, with many projecting wisps of hair. Lion's ear visible at proper right. The slight outward curvature, visible in the cast from top to bottom, suggests that it is an impression from a lower handle attachment.

The head of Herakles is unusual. Of the many 4th-century heads in metal, this alone seems to have the features of a seilenos. The modeling is stronger than that of the impression from the Athenian Agora,³¹ closer to the bronze handle in Missouri.³² The encirclement of the whole forehead and temples by the lion skin is also similar, but the hair, beard, and shape of the face in the Missouri piece are very different. Closer parallels for the beard and halo of hair may be found on the Derveni krater: the standing seilenos of the wall and the sleeping satyr on the shoulder.³³ The proportions of their faces, shapes of noses, and incised linearity of beards also resemble those of 7. The head of Herakles on that krater's volute handle-plate is very unlike.³⁴ Other comparable seilenoi are on a situla from the same Derveni tomb, but with more plastic locks,³⁵ and on a silver oinochoe from the 1977 Vergina tomb.³⁶

A clay hydria in Würzburg, said to be from Crete, once attributed to Corinth, and now identified as Alexandrian, has a very worn head at the base of the vertical handle (Pl. 32:c).³⁷ The features are those of a seilenos also, although there

appears to be no beard. The proportions of forehead, eyes, nose, and cheeks resemble those of 7.

At the latest the context of 7 is the end of the third quarter of the 4th century B.C.; the vase from which the impression derived was made probably not much earlier.³⁸

8. Mold: from metal, gorgoneion Pl. 31:c-e

MF 7415. Max. H. 0.14, max. W. 0.146 m. Areas of hair broken away; few preserved areas of flat background. Core and interior: 10YR 7-6/6 (yellow to yellow brown); exterior: 7.5YR 8-7/4 (pink); very hard clay, no inclusions. Surface unfinished; fingerprints visible.

Grid 42:V-W. From dumped fill of early Roman date, under the pavement of the curved terrace at the east end of the racecourse in the Forum. C. H. Morgan, II, "Excavations in Corinth," *AJA* 41, 1937, p. 551, fig. 12. G. R. Davidson, *Corinth*, XII, *The Minor Objects*, Princeton 1952, no. 478, p. 63, pl. 46.

Description from cast: highly modeled forehead and cheeks, as 7. Curving brows, in feathered pattern; heavy eyelids; eyeballs incised; long protruding nose; open mouth with tongue over lower lip; no fangs. Hair framing sides and top of head, in separately incised locks as 7. Lower face framed by encircling snakes, looped at bottom, passing behind hair, re-emerging as a bow at top of head; snakes covered with small circles indicating scales. Detail is worn, but was originally very sharp, precise; mold appears to have been used. The metal origin is clear in the details of hair, eyebrows, and snakes.³⁹ The modeling is very close to 7 and

³¹E. R. Williams, pp. 52-53, no. 5, pl. 6.

³²Mitten, no. 149, p. 144.

³³E. Giouri, 'Ο κράτερας τοῦ Δερβενίου, Athens 1978, pls. 38, 84.

³⁴*Ibid.*, pl. 56.

³⁵Ch. Makaronas, "Τάφοι παρὰ τὸ Δερβένι Θεσσαλονίκης," *Δελτ* 18, 1963, B' 2 [1965], pp. 193-196, pl. 227:D.

³⁶M. Andronikos, "Vergina," *AAA* 10, 1977, pp. 1-72, figs. 15:a, b.

³⁷E. Simon, *Martin von Wagner Museum*, Mainz 1975, L908, p. 186. Guntram Beckel kindly provided the photograph (Pl. 32:c) and the most recent bibliography.

³⁸K. Schefold, however, has redated the Derveni krater to mid-century: "Der Baseler Pan und der Krater von Derveni," *AntK* 22, 1979, pp. 112-118.

³⁹Compare the metallic quality of 8 with the details on the Asklepios mask in C. Roebuck, *Corinth*, XIV, *The Asklepieion and Lerna*, Princeton 1951, pp. 119-120, pl. 29:1 and other terracotta heads published therein.

should be dated not too far from it. Compare also the style of the terracotta mask found in the House of the Mosaics in Eretria.⁴⁰

The flatness of the mold and its circular format, slightly wider than long, suggest that the impression was taken from a face on a volute-krater handle-plate, similar to those bearing heads on the Derveni krater.⁴¹ **8** is slightly larger than the Derveni heads. That there were such large kraters in Corinth is suggested by a 4th-century Corinthian red-figured fragment, C-75-50,⁴² showing Herakles standing beside a very tall one, rendered in white.

The technique and use of these impressions have been admirably discussed by E. R. Williams. There is one observation to be added to hers, that the practice of making them was probably much more widespread than hitherto realized, thereby decreasing the probability of attributing metal vases. **7** and **8** have stylistic affinities with details on metalwork found in Macedonia. Despite temptation, one cannot use those resemblances to postulate Corinthian manufacture for some of those masterpieces. The siren-palmette impression is also tantalizing. The lack of any extant examples close to **6** suggests the following: probably a wax cast was made from the clay impression, then reworked, with different details added before the mold for casting was made. Thus the basic function and design of the motif would be retained, but a slightly new version created every time. The clay impressions thus could serve as reminders of the kinds of motifs available, the bronzeworkers' version of the so-called pattern books employed by sculptors.⁴⁵

Variant forms of the same motif, such as the different renderings of the sirens' wings, cannot as yet be attributed to specific centers or workshops. Provenances are too often unknown, or if known, the object may well have been imported to that site. Examples with drooping wings, as **6**, have been found in Egypt, Myrina, Athens.⁴⁶

⁴⁰P. Ducrey and I. R. Metzger, "Mosaics from a House in Eretria," *Archaeology* 32, no. 6, 1979, pp. 34–42. The shape of the face, small protruding tongue, irregularly arranged locks resemble the Medusa on the aegis of the Piraeus Athena. The eyes and modeling of the face, however, are different.

⁴¹See also the Apulian krater with gorgoneia(?) in Karouzou, *op. cit.* (footnote 5 above), p. 91, pls. 27–28, and her discussion of the relationship of such vases to Greek metal examples. See A. D. Trendall and A. Cambitoglou, *The Red-figured Vases of Apulia II* (in press), introduction to chap. 17.

⁴²The fragment is unpublished; from a context of mixed fill, including Arretine sherds, Forum Southwest, Grid 71:D. Ian McPhee drew my attention to the fragment. C. K. Williams also reminded me of the hero reliefs in Corinth that show a naked boy standing next to a large volute krater: S 2341 + S 322 and S 2832, of the 4th century B.C. and later.

⁴³W. Züchner, *Griechische Klappspiegel*, Berlin 1942, p. 159, fig. 75.

⁴⁴*Ibid.*, p. 170, note 1; see T. Macridy, "Un tumulus macédonien," *Jdl* 26, 1911, p. 205, fig. 17. See also a glass Medusa from Lavinium in the Villa Giulia, of unknown dimensions: F. Castagnoli, *Lavinium I*, Rome 1972, p. 24, fig. 23. The modeling is very soft, rounded. The gorgoneion was used as an independent decorative element in a variety of ways and in many media.

⁴⁵E. R. Williams, pp. 44–45.

⁴⁶Respectively Diehl B165, B166, B169. See also von Bothmer, *op. cit.* (footnote 20 above), p. 603.

Another possible source could be the flat surface of a mirror case; lack of curvature and size are appropriate but, understandably, no extant mirror cases are decorated with the grinning Gorgon mask. A bronze disk in a private collection, attributed by Züchner to Chalkis,⁴³ does have a gorgoneion, but the style is very different. Züchner also noted a head of Medusa hung on the door of a Macedonian tomb.⁴⁴ These two works have in common cut-out eyes. **8** seems to be part of a larger work, not an independent object.

Probably end of the 4th century B.C. for the original.

There are obvious dissimilarities in style and subject of the Corinthian impressions with the Attic examples. But it is difficult to determine whether dissimilarities indicate workshop distinctions or chronological variations. Comparison between the Athenian Herakles head⁴⁷ and 7 suggests that the differences are attributable more to date than to style and workshop.

In some cases it may be possible to isolate distinctive styles of motif rendering and affix them to a specific school. The hydria found in Trikala⁴⁸ has heraldic sphinxes perched on the rim which to this author have a stylistic quality attributable to Corinth. J. C. Wright has pointed out a characteristic of Corinthian sphinxes, the retention of a shoulder, clearly delineated from the chest.⁴⁹ This anatomical detail is visible on the hydria beasts. But that does not necessarily mean that the vase is Corinthian. It certainly will not allow one to use two other motifs on that hydria, the ducks' heads of the side handles and the claw-like ridged palmette at the base of the vertical handle, motifs typical of many Sala Consilina- and Randazzo-class hydriai, in order to prove manufacture of these vessels in Corinth. It is possible that some of these bronze vessels were made there. But the clay impressions taken from metal indicate that borrowing was easy, widespread and continuous.⁵⁰ It is perhaps safest to admit that attribution to the place of manufacture is impossible.

Though all this indirect evidence does not admit attribution of any extant piece with certainty, it does confirm the ancient testimonia concerning Corinthian bronze-working. When Cicero says that in the sanctuary of the Great Mother near Engyion there had been "*loricas galeasque aeneas, caelatas, opere Corinthio, hydriasque grandes simili in genere atque eadem arte perfectas*"⁵¹ dedicated by Scipio (stolen by Verres), he may well have been referring to new, not antique work (*pace* Pliny). In fact, one might propose that the Corinthians made many types of utilitarian bronzes; vases, mirrors and the like were exported to many sites throughout the city's history. Which of the extant examples may be identified as Corinthian is at this time unknown.

There is one more observation. When ancient authors wrote of the famous Corinthian bronzes, it is more commonly utilitarian objects that are discussed, not large-scale bronze sculpture. Few Corinthian sculptors' names are known, though several sources mention Corinthian terracotta sculpture.⁵² Such a dearth of evidence is not accidental.

⁴⁷E. R. Williams, pp. 52–53, no. 5, pl. 6.

⁴⁸Verdelis, *loc. cit.* (footnote 9 above).

⁴⁹J. C. Wright, "A Poros Sphinx from Corinth," *Hesperia* 46, 1977, pp. 245–254.

⁵⁰Giouri, *op. cit.* (footnote 33 above), p. 67, postulates the mixture of old and new on the Derveni krater. Pliny, *N.H.* xxxiv.11, relates that Aigina specialized in the upper parts of candelabra, Taranto made the stems; both sites were credited with the manufacture. The credibility of this tale becomes stronger with the evidence for impressions from metal at different sites.

In the Macedonian tomb cited above (footnote 44), there were two Medusa disks, p. 205, fig. 17 and p. 210, fig. 23. The second is executed in a style very different from the first. Here, too, one may see the effects of borrowing and transmission.

⁵¹*ad Verres* II, iv.97.

⁵²Kallimachos has been claimed as Corinthian, but there is no sure evidence for it. See B. Schlörb, *Untersuchungen zur Bildhauergeneration nach Phidias*, Waldsassen/Bayern 1964, chap. 4.

In the later 6th century, Corinth's neighbors, Argos, Sikyon, and Aigina, had developed the technology for casting large-scale bronze sculpture. The practical Corinthians had already created a market in portable goods and made, I suspect, a conscious decision to continue producing those sorts of objects that would contribute to a healthy economy. Corinth thus never developed an important school of bronze sculptors. What work was needed was commissioned from non-Corinthian artists.⁵³ The city was certainly financially able to hire the best. Such lack of local production in large-scale bronze statues is best illustrated by the list of the pupils of Polykleitos; they came from Argos, Sikyon, Arkadia, but not Corinth.⁵⁴ When the multi-figured Nauarchs monument was commissioned,⁵⁵ with the portrait of at least one Corinthian admiral, the Lakonians had to hire foreigners, since they too had no artists.⁵⁶ Most of the sculptors came from the Polykleitan school. There was even a Megarian artist, Theokosmos, who in the sources was linked with Pheidias. But no Corinthian.

The fabled wealth of Corinth is summarized in the well-known line in Strabo: "ὄν παντὸς ἀνδρὸς ἐς Κόρινθον ἔσθ' ὁ πλοῦς."⁵⁷ The expensive delights of Ancient Corinth made a stay in the city too dear for many. Corinth must have been a merchants' town, where trade and profits were primary. Large-scale sculpture may bring fame to the individual, but it does not enrich the merchant. Rather, the manufacture and export of more easily shipped utilitarian wares of high quality, including bronze table vessels, may have been a major source of revenue. When Pliny discusses why Corinthian bronzes were so prized, he does not seem to refer to stylistic standards, but to the quality of the metal. Though he specifically speaks of the curious mixture caused by the

The Corinthians evidently did make small-scale statuettes: "*signis, quae vocant Corinthia, plerique in tantum capiuntur, ut secum circumferant*" (Pliny, *N.H.* xxxiv.48); or was "Corinthian" a conventional term? The statues of the tent of Alexander, included in this section of Pliny's discussion, would have been of larger size, but both H. Rackham (Loeb edition, p. 162, note 6) and K. Jex-Blake and E. Sellers (*Elder Pliny's Chapters on the History of Art*, Chicago reprint, 1967, p. 36) consider the passage to be a misunderstanding of the golden Nikai on the funeral chariot of Alexander, described by Diodorus Siculus.

⁵³The evidence for this has mostly disappeared, due to the 4th-century earthquake and the destruction of the city in 146 B.C. Little survives: a base signed by Eukleides, a 4th-century predecessor of the Hellenistic Eukleides (C. K. Williams, II, "Excavations at Corinth," *Hesperia* 43, 1974, no. 37, pp. 28–29, pl. 6), and the Lysippos bases (B. D. Meritt, *Corinth*, VIII, i, *Greek Inscriptions 1896–1927*, Cambridge, Mass. 1931, nos. 34, 35, pp. 38–39; see also D. Arnold, *Die Polykletnachfolge*, Berlin 1969, fig. 31). The Timoleon base has no artist's signature preserved (J. H. Kent, *Corinth*, VIII, iii, *The Inscriptions 1926–1950*, Princeton 1966, no. 23, pp. 7–8). There is also the report in Lucian, *Jupiter Tragoedus* 9 of a Poseidon executed by Lysippos. See E. Walde, "Die Aufstellung des aufgestützten Poseidon," *AthMitt* 98, 1978, pp. 99–107, for the latest discussion, locating it at Kenchreai. Lucian's description of it as ungilded suggests that it might have been made after the late 4th-century earthquake, with the gilding omitted (unusual for the wealthy and ostentatious Corinthians?), since the money was needed for many new works in the rebuilding and redecorating of the city. For the earthquake, see C. K. Williams, II, "Excavations at Corinth," *Hesperia* 45, 1976, pp. 115–116.

⁵⁴Arnold, *op. cit.*, p. 6.

⁵⁵*Ibid.*, chap. 4, pp. 97–110; Pausanias, x.9.7.

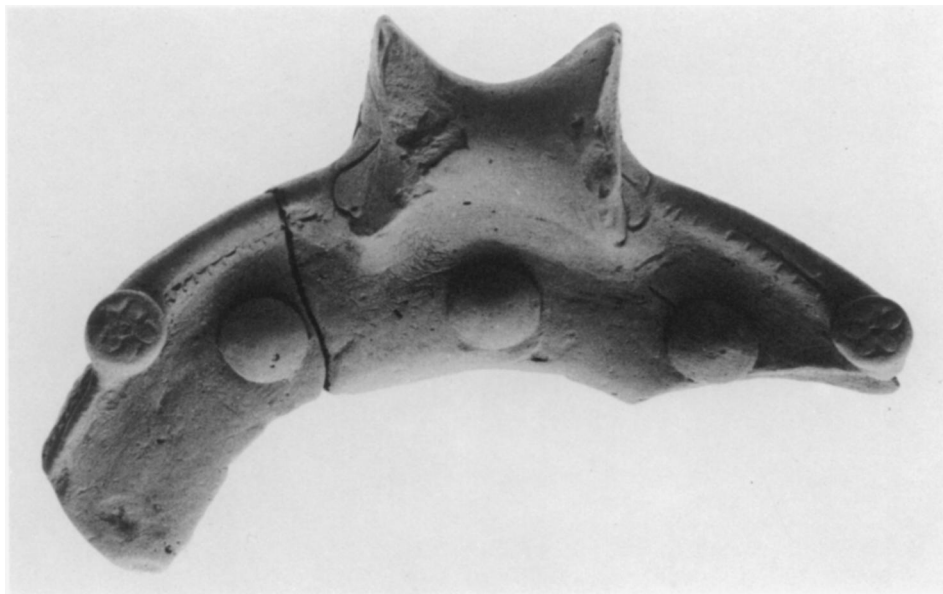
⁵⁶Yet note the late 5th-century base found in Corinth. The artist's name is not preserved but he signed as a Lakedaemonian. Kent, *Corinth* VIII, iii, no. 15, p. 5.

⁵⁷viii.6.20.

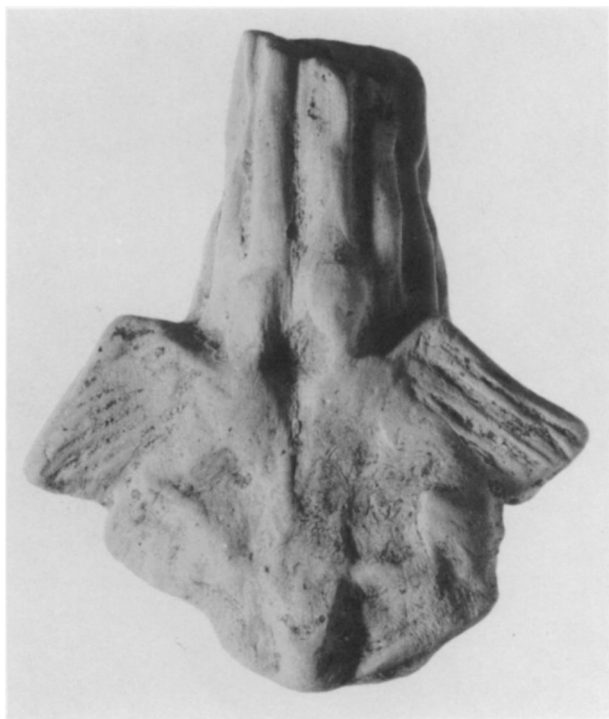
conflagration of 146, a high technical quality may have characterized Corinthian bronze-work throughout much of the city's history and made the wares so greatly valued in the ancient world.

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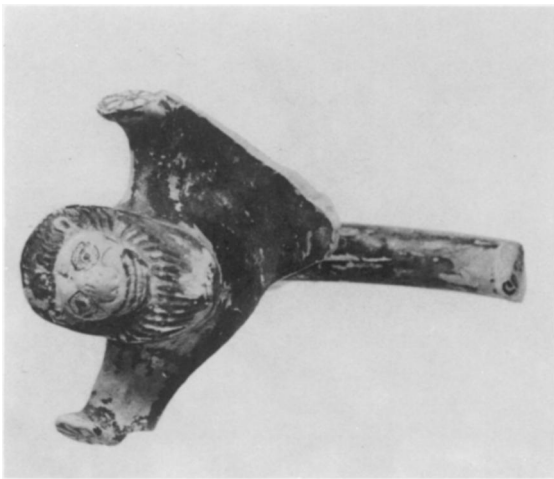
a. 1. Hydria rim and handle (C-64-467). Scale 1:1



b. 2. Hydria handle (C-64-446). Scale 1:1



c. 3. Hydria neck, rim, and handle (C-62-278). Scale 1:2



a. 4. Oinochoe handle, full view



b. 4. Oinochoe handle, side view (CP-3054)
Scale 1:2



c. 5. Mold: female protome (MF-1978-41)



d. Cast of mold 5. Scale 1:1



e. 5, 7, 6. Backs of molds
(left to right, MF-1978-41,
MF-1979-40, MF 8633).
Scale 1:2



a. **6.** Mold: siren and palmette (MF 8633). Scale 1:1



b. Cast of mold **6**. Scale 1:1



c. Back of mold **8**. Scale 1:3



d. **8.** Mold: gorgoneion (MF 7415). Scale 1:2



e. Cast of mold **8** Scale 1:1



a. 7. Mold: Herakles protome (MF-1979-40)



b. Cast of mold 7. Scale 1:1



c. Würzburg hydria L908, detail of attached head. Martin v. Wagner Museum