MASS PRODUCTION, STANDARDIZED PARTS, AND THE CORINTHIAN "PLASTIC" VASE

(Plates 121 and 122)

VASE PAINTING of the full Corinthian period is generally not very well thought of, as pointed out by D. A. Amyx in his recent major study of Corinthian vase painting in general: "The brilliance of Protocorinthian vase-painting has dazzled some scholars to the point of making them blind to the qualities of everything that follows, leading them to regard all later pieces as degenerate mass-produced hack work." 1

It is particularly the later manifestations of the so-called animal style of Corinthian pot painting, which often exhibit repetitious animals aimlessly arranged in boring friezes, that are seen by many as examples of deterioration of style due to the employment of mass production. It is generally considered that the increased demand for Corinthian pottery in the 6th century resulted in a rise of production that led to a decline in quality. A greater number of paintings could be achieved by shortcuts such as using less care in the drawing, simplifying groupings, or producing longer animals, so that fewer figures could be used to fill the necessary space. 2 It is certainly true that to our eyes quality may be seen to decline while quantity increases, but there are more positive qualities to the Corinthian ceramic production of this period. Amyx himself has done much to blunt the general criticism of the painting of the Corinthian period by his identification and study of the individual painters, whose idiosyncrasies add considerable interest and depth to the subject.

An innovative characteristic of the animal style, mostly overlooked by many commentators but discussed by Amyx in his section titled "Make-A-Monster (A Do-It-Yourself Kit)," 3 is the way in which Corinthian painters could construct fauna to populate their friezes. Wholly new or fabulous creatures were often made up by mixing and combining different parts of animals into new creations. Thus, a different head or the addition of wings on the same body could produce a completely different animal. For instance, griffins and sphinxes have the same body but different heads, and fantastic creatures such as goat birds, lion men, or winged creatures of various types can be created simply by adding and combining different parts. This "inventive hybridization", as Amyx called it, 4 is also a feature of another artistic phenomenon of the 7th and 6th centuries B.C., the so-called plastic vase.

These small vases were made in the form of some figure, either ones from real life, such as birds, panthers, lions, hares, etc., or fabulous animals such as sphinxes and sirens, or creatures mixing various attributes, such as lion-headed birds. 5 The vases' size and their

1 Amyx 1988, II, p. 375.
2 Burford (1972, p. 107) sees this as evidence for "poor craftsmanship".
4 Ibid.
5 The basic studies of the "plastic" vases from Corinth are Payne 1931, pp. 170–180; Ducat 1963; Amyx 1988, II, pp. 512–533.

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small orifices have led to the generally accepted belief that they originally held perfume or precious oils. Corinthian “plastic” vases usually had a single, simple filling hole unobtrusively located somewhere on the figure. In the Protocorinthian period, for instance, the hole was generally placed in an anatomically appropriate place, such as under the tail on birds; later it is usually located on the top of the head. These are three-dimensional objects and represent a smaller number of animals, both normal and fantastic, than are found in painting; perhaps many of the painted subjects were too difficult to make or not appropriate as vases. The production of the figure vase could combine several different techniques and as such provides interesting information on manufacturing practices. In Corinth the body was most often made on the wheel, although handmade examples are known, and these are probably to be dated earlier in the sequence than later. Attributes such as feet and tails were usually handmade and attached separately. Both handmade and moldmade heads are found. A vase with a molded head would commonly be constructed of a wheelmade body, handmade accoutrements, moldmade head, and painted decoration. Hence the techniques of the coroplast, the potter, and the painter could be combined on a single object employing three different methods of construction: by hand, by the wheel, and by the mold. It is the mixing and combining of the various parts to form different figures that is of interest.

Examples of this are illustrated in Plates 121 and 122. The most common type of Corinthian bird has a rounded, plump body made on the wheel. Although their specific line of development has not been completely worked out, it is probable that the earliest examples had simple handmade heads and filling holes under the tail, as did earlier Protocorinthian birds (Pl. 121:e). These may be followed by birds with the filling hole pierced through a still handmade head (Pl. 122:c, d). The addition of a moldmade female face turns the bird body into a siren with her head either facing forwards (Pl. 122:a, b), to the side, or, in at least two examples, backwards (e.g. Pl. 121:a). Sirens in painted animal friezes occasionally also assume this position, but it is a relatively unusual pose, probably invented by painters to add some variety to their animal files (Pl. 121:b). A lion’s head can turn the bird’s

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6 Only about half as many animals, real and imaginary, are represented by “plastic” vases as appear in painted form. There may have been more, and the recent publication of the fragments of a unique Protocorinthian vase found at Erythrai in the form of a griffin suggests that there may yet be new types to be recognized (Akurgal 1992, p. 46, pls. 10:1–3, 14:1–3). Preserved is the head, with the filling or emptying hole of the vase inside the open beak, and a portion of the creature’s underside with one clawlike foot. Akurgal suggests that the vase was used as a rhyton, libations being poured out of its mouth. Since Protocorinthian bird-bodied vases had the hole under the tail, this conjures up interesting visions, if they were indeed used as rhyta.

7 A study of Corinthian “plastic” vases is currently being undertaken by the author.

8 Vienna, Kunsthistorisches Museum IV 3567. Thanks go to Dr. Alfred Bernhard-Walcher for permission to publish a photo of this vase and the lion-headed vase in Plate 121:f. For these solid-headed bird vases, probably to be dated as Early Corinthian, see Biers 1992, p. 234.

9 Martin von Wagner Museum, Würzburg K 1782 (Simon 1989, no. 107, pp. 51–52, pl. 36). Thanks must be expressed to Professor Erika Simon for permission to publish photographs of this bird and of the siren in Plate 122:a, b.


11 The vase in Plate 121:a appeared on the Los Angeles market in 1984: The Summa Galleries Inc., Catalogue 6, no. 2. A second backward-facing siren from a tomb in the Giardino Spagna is in Syracuse (Palermo 45717,
body into a fabulous creature: a lion bird (Pl. 121:c), also a creature known in painting, although it appears very rarely; the addition of a moldmade gorgon’s head moves it even further into fantasy (Pl. 121:d). A human head from the same mold could in a similar way be used to create a sphinx, a siren, or even, with appropriate adjustment, a komast. Similarly, recumbent animal bodies could be used for lions, panthers, sphinxes (with the addition of a human head), or other animals at the fabricator’s whim; for instance, a lion head similar to the one used on the bird body is found on an elongated body, as shown in Plate 121:t. Even among the most common and plainest vases, the same bodies were used for such disparate animals as hares and rams. Plate 122:e illustrates two vases that use the same wheelmade, bobbin-shaped body for these two animals, which are very differently constructed in nature. The addition of long ears for the hare and a longer and wider neck and head for the ram, as well as curled strips of clay for the horns, reflect basic physical characteristics of the two animals, assuring their easy visual identification. It is interesting that the legs, feet, and tails of these very different creatures are rendered identically by added strips of clay. Apparently this is how the standard body was presented, and only the different heads added to the body produced the representation of a particular animal.

It is not only Corinthian figure vases that use a technique of manufacture that relies on the combination of previously produced parts. “Robertson’s Group” of East Greek figure vases includes a number of long bird bodies that, with the appropriate additions, are made into ducks (either standing and facing forwards or with their heads reversed and resting on their backs), swans, or herons. In each case the same basic body is used, but a different head or a longer neck allows the transformation to be made.

It was certainly the appearance of the mold in the 7th century B.C. that led to this kind of technological process. Large numbers of more or less identical objects could be produced by

unpublished). The same grave, Tomb 144, yielded a sphinx whose human head appears to be from the same mold as that which produced the siren’s head. I am indebted to Dr. Giuseppe Voza for information concerning these two vases, which I was privileged to examine in 1983. For Corinthian painted examples of sirens looking backward, see Amyx 1988, III, pl. 85. Kurt Luckner kindly provided the photograph (Pl. 121:b) of the backward-facing siren on the olpe in the Toledo Museum of Art (Gift of Edward Drummond Libbey, 1963.22), by the Painter of Vatican 73 (CV4, Toledo 2 [USA 20], pl. 72 [955]). A siren looking backwards also appears on an Archaic Boiotian lekanis in the Mitsotakis Collection (no. 359), currently in the Goulandris Museum, Athens.

12 Fondazione Mormino, inv. no. 64. Appreciation goes to the Banco di Sicilia for providing the photograph and for permission to publish it.
13 Amyx 1988, II, p. 661. Payne (1931, p. 90) refers to only one painted example and to the lion-headed Corinthian figure vase Palermo N.I. 1646.
15 Wallenstein 1971, pp. 116–118.
16 Vienna, Kunsthistorisches Museum, V419 (Maximova 1927, II, no. 176, pl. XLVIII).
17 Ram: Museum of Art and Archaeology, University of Missouri-Columbia, Weinberg Fund, acc. no. 91.307 (Edward J. Waddell, Ltd., List 3 [1991] no. 261). The hare is from a private collection. For other hares and rams of this type that share the same bodies, see Ducat 1963, p. 457, figs. 27 and 28.
18 The basic delineation of “Robertson’s Group” was made more than fifty-five years ago by Martin Robertson: Robertson 1938. For ducks in this group, see Biers 1984; for the single known example of a heron: Biers 1989b; the only known example of a swan: CV4, Toledo 2 [USA 20], pl. 69 [952].
the use of molds, and any increased demand for such things as figurines, lamps, and even minor metalwork could be satisfied by simply producing more; the evidence for repeated use of molds is well known.\textsuperscript{19} The use of molds in the manufacture of terracotta figurines is well documented, especially in the 4th century and later, when it was normal to employ a number of molds to provide a variety of heads or attributes that could be added to standard bodies. The practice of the use of multiple molds certainly started earlier. Already by the 5th century the so-called Locrian Reliefs show evidence for the use of two molds to produce varied compositions.\textsuperscript{20} Molds were also used for pottery in Hellenistic times, which allowed a certain amount of variation through the addition of lips, handles, and feet to a moldmade bowl, very much in the same way as Archaic figure vases were assembled.\textsuperscript{21}

Forming a new object by adopting a previously made part is also known. Among Corinthian terracottas, several examples can be cited in which a female molded head is converted into a male head by the simple expedient of painting on a black beard. In two cases these were protomes of pyxides, but one head from Isthmia may have been from a freestanding or even seated figure.\textsuperscript{22} Similarly, in East Greek "plastic" vases male heads can be converted from female ones by the simple addition of a painted mustache.\textsuperscript{23} This is not exactly the same thing as combining completed, already produced parts but allows the coroplast to produce a male head when needed simply by changing the decoration of an already produced head.

"Plastic" vases fall into the modern category of elite wares; these have been defined as "products with high value, special function, low consumption, or restricted distribution".\textsuperscript{24} As part pottery and part sculpture, these vases may be more expensive and elaborate versions of the more common aryballoi and so do not completely fit this definition, for they certainly had an extremely wide distribution throughout the Archaic world of the Mediterranean. They or their contents were evidently highly valued overseas, for the more elaborate, carefully constructed and decorated examples are generally found not in Corinth itself but abroad, many having been recovered in Magna Graecia and Sicily, including particularly Syracuse and Megara Hyblaia.\textsuperscript{25}

Only a very few sherds of common Corinthian figure vases were found among the thousands of fragments in the Potters' Quarter at Corinth.\textsuperscript{26} There is no evidence of their being made there, although it appears that not only pottery was manufactured at this particular Corinthian site. The excavators of the Potters' Quarter believed that there was

\textsuperscript{19} For a summary of mass production and molds, see Burford 1988, pp. 379–381.

\textsuperscript{20} Zancani Montuoro 1954, p. 73.

\textsuperscript{21} Hochuli-Gysel 1977, p. 15. For examples of different shapes and decoration based on molded bowls, see Zahn 1908, figs. 30 and 31 (cups with bodies formed by cast bowls) and Pergamische Forschungen II, figs. 8 and 14 (a one-handled jug and an amphora, whose bodies were produced in similar molds for bowls).

\textsuperscript{22} For the Corinth example: Corinth XV, ii, no. IX5 (KT24-1), p. 81, no. IX6 (KT9-13), p. 82, pl. 13; for the Isthmia example: Mitten 1966, pp. 2–3, pl. I:1–2.

\textsuperscript{23} Higgins 1967, p. 31; Biers 1989a, p. 10 and fig. 5.

\textsuperscript{24} Rice 1987, pp. 203–204.

\textsuperscript{25} For some of the higher quality vases found in Sicily, see Ducat 1963, figs. 1, 4, 14, 18, 20, 21.

\textsuperscript{26} Eight fragments were published and described as "a selection of the more identifiable fragments which were presumably part of plastic vases", Corinth XV, iii, p. 257. There is no indication or estimate of the total number of "plastic" vases found in the Potters' Quarter.
evidence for terracottas and pots being made in the same workshop and painted by the same artists, and certainly the use of the same molds for making heads for figurines as well as for Corinthian pyxides suggests that situation.\textsuperscript{27} From what we know of ancient establishments that produced objects fashioned from clay, many different types of things could be made in the same workshop, and so it would not be unusual for the “plastic” vases to have been made alongside pottery, lamps, or even roof tiles.\textsuperscript{28}

Given their unique qualities as essentially figured containers, there exists the possibility that there may have been a specialized area somewhere else producing Corinthian “plastic” vases. It has already been suggested that there were separate pottery establishments that might have specialized in particular shapes and that much of the western part of Corinth was devoted to that particular industry.\textsuperscript{29} The special nature of these figure vases as perfume containers may have had some bearing on where they were made, particularly if the contents were the important part and they were produced primarily as packaging, which by its decoration or particular and unusual shape may have served to advertise the contents.\textsuperscript{30} Given their wide distribution overseas and the high reputation of Corinthian scents, still remembered in Roman times (Pliny 12.5), it is conceivable that the vases might have been made in some proximity to the factories that produced their contents.

What form a workshop producing “plastic vases” may have assumed is unknown. Perhaps only a “maker” and a painter would be necessary; the small number of vases known and their relative ease of manufacture perhaps point in this direction. It might be more complicated, however. For instance, if moldmade heads were used, they could have been originally produced elsewhere by a coroplast. Here one enters the realm of speculation.\textsuperscript{31} It is generally assumed that Corinthian “plastic” vases were made in a pottery,\textsuperscript{32} since their decoration is in the technique of the pot painter and they could be fired alongside the normal products of the workshop, but whether there was any degree of specialization within the pottery workshop is unknown.\textsuperscript{33} That there was a division or specialization of labor in other workshops is demonstrated by the well-known passage in Xenophon’s \textit{Cyropædia} (8.2.5), of the mid-4th century b.c. In this passage the author mentions that in shoemaking in large cities some specialization is undertaken, to the point that one workman will only do one of the operations needed to make a shoe while other individuals are responsible for

\textsuperscript{27} \textit{Corinth} XV, ii, pp. 3, 80. For pyxides decorated with molded human heads, see Amyx 1988, pp. 451–453.
\textsuperscript{28} See Perlzweig’s comments on workshops turning out a variety of clay products, particularly in regard to lamps and pottery: \textit{Agora} VII, pp. 59–62.
\textsuperscript{29} Pemberton 1970, p. 269; and see the interpretation and comments of Benson, who points out shapes not represented in the Potters’ Quarter: \textit{Corinth} XV, iii, p. 10.
\textsuperscript{30} For the possible significance of decoration, see Rasmussen 1991, p. 66. See also Dugas’ comments on the relationship of contents to shape: \textit{Delos} X, p. 5.
\textsuperscript{31} Various models of production and specialization have been developed, but until a location for the production of figure vases has been identified, it is difficult to speculate. For these models, see Rice 1987, pp. 183–191.
\textsuperscript{32} Sparkes 1991, p. 13.
\textsuperscript{33} One group of East Greek vases in the form of standing korai, decorated in a technique more akin to the terracotta industry and identical to figurine types except for the addition of a vase mouth, might be more likely to have been made in a workshop primarily devoted to producing terracottas, although these could be in close vicinity to potteries, as at Corinth; Higgins 1954, p. 20 and Higgins 1967, pp. 32–35.
others. For instance, he indicates that one particular workman would simply assemble the parts already crafted by others; this might reflect a possible process for the manufacture of "plastic" vases. Moreover, Xenophon further comments that specialization increases quality. Many commentators suggest that the goal of any division of labor that might have existed in ancient workshops was primarily for that purpose: to increase quality rather than quantity.\textsuperscript{34} Whether one can learn anything about the workings of a 6th-century pottery in Corinth based on the account of large-scale shoe production two hundred years later is problematical; most scholars see the production of pottery as a smaller operation, probably based on the apprentice system. This is suggested by Plato, who specifically refers to a potter's own children as apprentices in the workshop (\textit{Republic} 421D, 467A).\textsuperscript{35} One might imagine that the potter constructed the vases with the use of the wheel and the mold, depending on the figure, and then passed them on to a painter to be decorated. Although we know little of how the potters' workshops were organized in ancient times, it has been pointed out that some of the distinct stylistic characteristics of pottery painting of the Corinthian period that show decline in quality derive from the activity of producing a large number of vases relatively quickly, presumably with additional or more hurried workers.\textsuperscript{36} Whether such a decline in quality over time is reflected in the production of "plastic" vases is unclear, for the chronology of their production has not yet been worked out in detail. Examples of higher quality in terms of carefulness of construction and of decoration seem at this point to have been produced at the same time as the more common and cruder animals, examples of which are illustrated in Plate 122:e. This suggests that the differentiation in quality among "plastic" vases may represent a division based on the value of the container or its contents, rather than on a stylistic chronological development, as postulated for the relative value of the decoration on painted pots.\textsuperscript{37}

Assembling of already made parts into a finished creation is one of the basic components of what the modern world understands as mass production. Part and parcel of this procedure is the use of identical, interchangeable parts, which is a fundamental step in this process. This way of producing a great number of goods came to full fruition in America by the middle of the 18th century, when it became known as the American System; its roots lay in small-arms production in 18th-century France.\textsuperscript{38} We have become used in modern times to the production of large numbers of identical objects and have applied the term "mass production" to the manufacture of a host of moldmade objects in ancient times, such as

\textsuperscript{34} For a discussion of the passage in the \textit{Cyropaedia} and references to earlier commentators on the question of specialization of labor, see Finley 1981, pp. 186–187; Burford 1988, p. 381.

\textsuperscript{35} "The handing down of craft secrets within the family from generation to generation always remained the most important factor in the craft's development" (Burford 1972, p. 82).

\textsuperscript{36} For what we know of the production of pottery, see now Chapter II, "Making", in Sparkes 1991, pp. 8–27.

\textsuperscript{37} For the chronological evidence, from a grave in Taranto, for relatively crude "plastic" vases existing at the same time as more sophisticated ones, see Ducat 1963, p. 455 and his summary of the chronology of his various groups, p. 458. Vitelli (1992, p. 552) has recently speculated that the quality of perfume in aryballoi and its price may have been reflected "by the quality of the packaging," which is essentially the suggestion made above in reference to Corinthian "plastic" vases, although perhaps in the case of "plastics", the shape of the container might have to be taken into account also, if it was in fact valued for itself.

\textsuperscript{38} Hounshell 1984, p. 25.
terracotta figurines and lamps. In addition, the use of bowl molds in the creation of different shapes of vases in the Hellenistic period has also been characterized as “a step towards mass-production”. Although it is perhaps not altogether correct to speak of mass production in modern terms to explain what was happening to the pottery industry in Corinth in the 6th century B.C., particularly for “plastic” vases, the method of manufacture of these vases can be seen as an interesting example of the use of interchangeable parts. Here the basic technique of what we understand as mass production can be seen in the combination of more or less identically shaped and made bodies with different moldmade heads or other accoutrements to produce innovative and unusual, and even occasionally completely new, creatures. The combination of parts is not unusual later in antiquity for a variety of objects, as has been mentioned, but its appearance in Corinth in the late 7th and 6th centuries B.C. marks an early appearance of this technique. Although the assembling of separately made parts into a whole may be seen as typical of pottery manufacture in general, combinations of different parts to create new creatures is not the same as simply adding a handle or a foot to a vase, and the process is rooted in the creative impulse. It has been pointed out by many commentators that the Greeks took models from elsewhere and adopted what they wanted, adapted those things that could be changed, and invented new forms. Here we see all this happening in the small world of the “plastic” scent bottles. Whoever was responsible for the concept of packaging perfume or scented oil in a vase that was made in a figured form used a combination of techniques to produce new and innovative objects. This spirit of invention can be seen to be shared with vase painters (who may have been responsible for the “plastic” vases in any case) and can be interpreted as a creative artistic quality, even if accompanied by what modern commentators see as a rush to cheapening mass production in vase painting.

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b. Backward-facing siren from olpe by Painter of
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e. Solid-headed bird vase from Vienna
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f. Lion-headed reclining animal, Vienna,
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a, b. Siren vase, Würzburg, University, Martin von Wagner Museum K 1781

c, d. Bird vase with pierced head, Würzburg, University, Martin von Wagner Museum K 1782

e. Hare and ram vases. Ram: Museum of Art and Archaeology, University of Missouri-Columbia, Weinberg Fund, acc. no. 91.307. Hare: private collection

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