

Risk and Repair in Early Cycladic Sculpture

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THE NUMBER OF Cycladic marble figures in the Metropolitan Museum's Aegean collection that show traces of ancient mending has recently been increased from a single example (Figures 4–6) to three. The two new acquisitions (Figures 39–42, 45–49), from the bequest of Alice K. Bache, add significantly to the number of surviving works that exhibit signs of repair, and expand the repertoire of techniques and materials known to have been used for this purpose in the Aegean world of the third millennium B.C. The practice is interesting in itself and also has an important bearing on the study of Cycladic sculpture, its development and purpose.

Although most of the once-mended figures have been previously published, not much attention has ever been paid to the actual repairs; and over half of these repairs have not been adequately illustrated. My intention in this article is to assemble all the examples of Cycladic mending known to me at present and to focus attention on a practice which seems to have occurred with greater frequency in the Cyclades in the Early Bronze Age than perhaps anywhere else in prehistoric times.¹

A census of all the Cycladic figures and their Minoan imitations that show traces of ancient mending can be found at the end of the article. All the entries are illustrated by drawings in Figures 1 and 2, with any subsequent illustrations appearing in the same order. Each sculpture is identified in the text and captions by its census number; references to the illustration(s) are cited the first time a piece is discussed and subsequently only as needed.

The practice of repairing broken Cycladic figures was confined neither to one place nor to one period. Although, to be sure, the figures were not necessarily

made, or mended, on the islands on which they were found, repaired examples have been recovered on Keos (no. 20), Siphnos (no. 1), and Kimolos (no. 2) in the western Cyclades; on Naxos (nos. 6, 12) and probably Amorgos (nos. 7, 13)² further east. Outside the Cyclades one such figure has been found on the east coast of Attica (no. 17), and it is possible that two of the once-mended figures found on Crete (nos. 22, 23) were, like no. 17, Cycladic imports. Minoan imitations of Cycladic sculpture were also sometimes repaired (nos. 24–27).

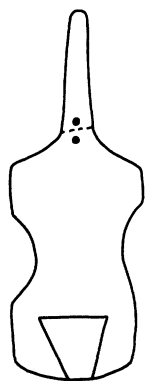
Repairs occur relatively frequently among figures carved in the first Early Cycladic period (EC I, Grotta-Pelos culture; roughly 3200–2800 B.C.) both on the simple schematic violin-type statuettes (nos. 1–3) and on the strangely exaggerated and often highly detailed images of Plastiras type (nos. 4–9).³ Repairs occur noticeably less often on figures carved in the transition to the second period (EC I–II, Kampos-Louros culture; ca. 2800–2700 B.C.), on “hybrid” (no. 10) and Louros-type figures (nos. 11, 12), as well as on the forerunners of the classical folded-arm figures known as “precanonical” (nos. 13, 14), which may belong to

A list of abbreviations is given after the appendix to this article.

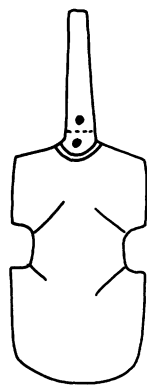
1. In actuality only a small fraction of the many hundreds of known marble objects of this culture were repaired in antiquity. A higher percentage of repairs are found perhaps on the roughly contemporaneous but apparently far less numerous figures from Sardinia. See appendix.

2. Neither of these works was found in an authorized excavation. On Amorgos as a source of Cycladic sculpture see P.G.-P. in *MMJ* 15, p. 33, “A Note on Provenance.”

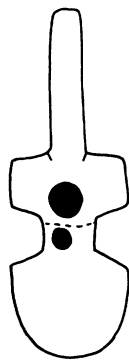
3. On the typology, chronology, and terminology used here see *ACC*. For a brief summary see P.G.-P. in *MMJ* 15, pp. 5–6.



No. 1

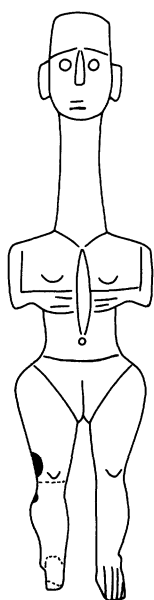


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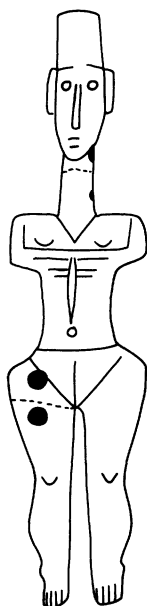


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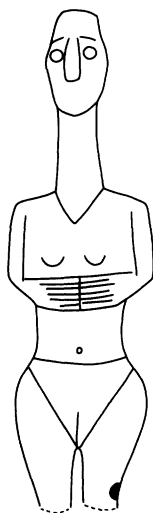
1. EC I (nos. 1-9) and EC I-II (nos. 10-12) figures showing traces of ancient mending (drawings: P.G.-P.)



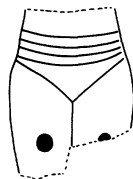
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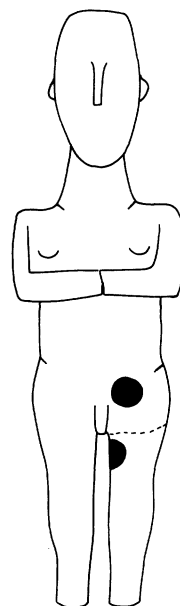
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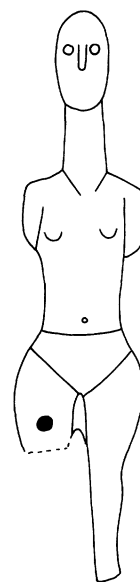
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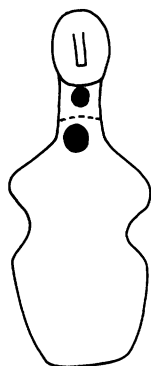
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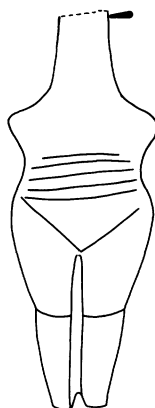
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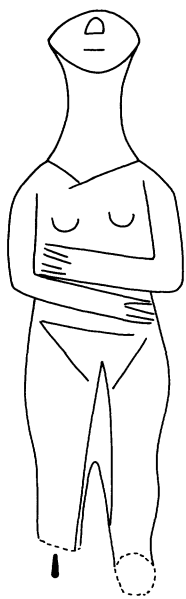
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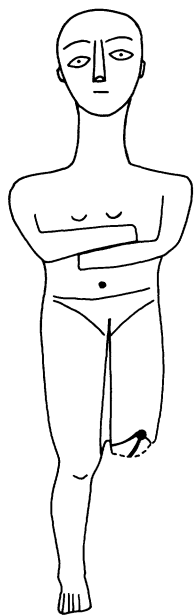
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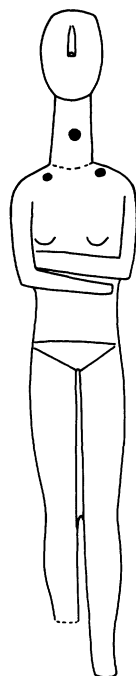
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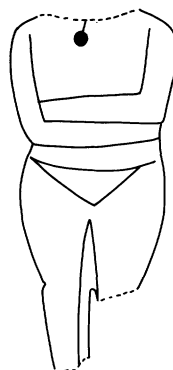
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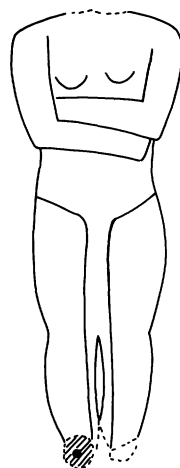
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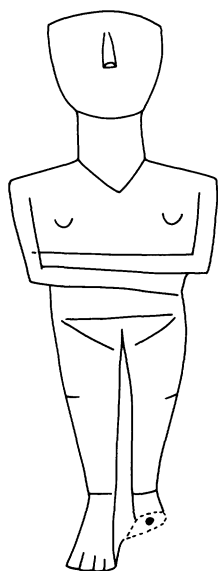
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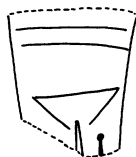
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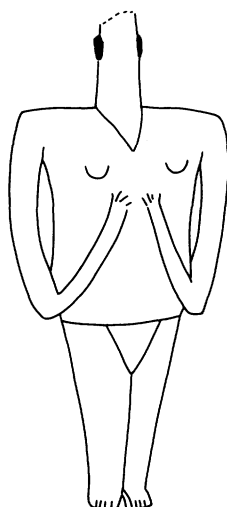
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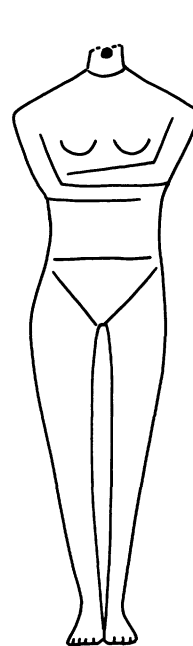
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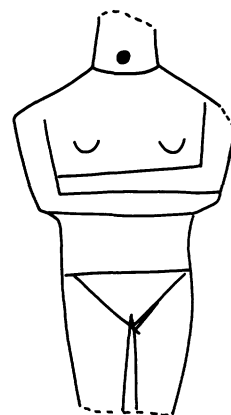
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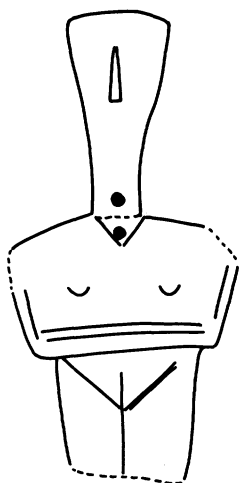
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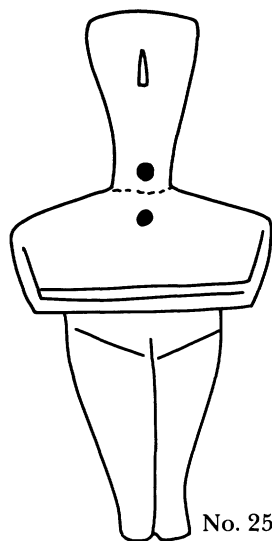
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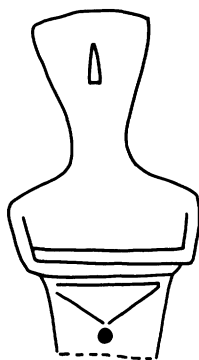
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No. 24



No. 25



No. 26



No. 27

2. EC I-II (nos. 13, 14),
EC II (nos. 15-23),
and EM II (nos. 24-27)
figures showing traces of
ancient mending
(drawings: P.G.-P.; no. 22
after drawing in Evans)

the end of this transitional phase. In the second period of Early Cycladic civilization (EC II, Keros-Syros culture; ca. 2700–2200 B.C.), few examples of mending are known. Those that exist belong exclusively to female figures of canonical type (Kapsala variety: nos. 15, 16; Spedos variety: nos. 17–19, 22, 23; Dokathismata variety: no. 20; Chalandriani variety: no. 21; Cretan Koumasa variety: nos. 24–27). Of the twenty-one once-mended figures which are definitely the products of Cycladic (as opposed to Minoan) workmanship (nos. 1–21), more than half were made before the beginning of EC II when, except for schematic ones (nos. 1–3), marble figures were seldom carved; of the remaining seven, only five (nos. 15–19) were made in the first half of EC II when the figurative output of Cycladic sculptors was by contrast quite prodigious. We shall have occasion to look more closely at these facts and at the implications to be drawn from them concerning the manufacture and function of Early Cycladic sculpture. For the moment, however, I propose to concentrate on the repairs themselves.

Traces of mending found on Cycladic figures are of three distinct types: 1. perforations through the finished surface on either side of a fracture and parallel to it (nos. 1–12, 14–17, 20; Figures 1–24, 34–42); 2. dowel holes in the break-sites (nos. 13, 18, 19; Figures 2, 28–30, 43, 44); and 3. lead clamps set in channels running perpendicular to a break on either side (no. 21; Figures 45–49). Of these the first is the most common in all periods and, until the end of the transitional phase apparently, it is the only type found. It is also the only type found on Crete (nos. 22–27; Figures 2, 50, 51).

The holes were pierced usually through the main surface of the figures, but occasionally also sideways (nos. 4–6, 15) or obliquely (nos. 8, 11, 12). Their purpose was to allow the broken parts to be tied together, presumably with twine or leather thongs.⁴ The latter would perhaps have been saturated with water, which would have caused them to shrink as they dried, thus tightening the bond.⁵ It seems unlikely that metal clamps or wire would have been regularly used since there are no traces of metal, metal stains, or, with the possible exception of no. 17,⁶ grooves that might have been worn in the stone by metal fastenings. Moreover, in thirteen of the twenty-five examples⁷ the part that was originally reattached has failed to survive to the present, a fact which suggests that the material

used to tie the pieces together was organic, its effectiveness relatively short-lived.

The earliest mending holes are often conspicuously large and obviously positioned (e.g., no. 3; Figure 3). They were made with a tapered, roughly pointed, hand-rotated borer—probably of flint or Naxian emery but possibly of obsidian—which, when used from one direction only on a piece of marble of some thickness, left a distinctly conical path.⁸ Thus the diameter of the hole is considerably greater on the side from which the perforation was begun than on the other. This is clearly observable on the Plastiras-type figure in the Metropolitan Museum (no. 4; Figures 4, 5). Here repair holes exist above and below a break at the right knee; they were made through the side of the leg, presumably because this is wider than the front and back. The hole above the break had necessarily to be bored from the outside since hand and tool could not have been fitted between the legs in order to bore from the other direction. Thus, on a right profile view of the figure a large hole is seen above the break, while the corresponding hole in the calf, which could be and was bored from the inside, is much smaller (Figure 6).

Where it was feasible, however, the usual practice was to bore the hole from both directions, giving its passage a distinctly “biconical” or hourglass shape.⁹

4. This is the oldest and most widespread method of repairing stone objects as well as pottery in prehistoric times. Some examples are given in the appendix.

5. Foster, p. 240 with n. 13.

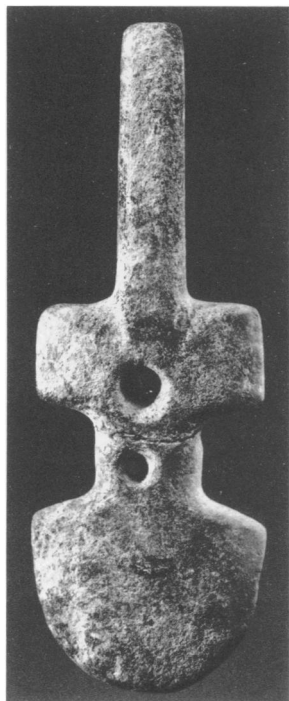
6. See note 21. Cf. Caskey, p. 115, no. 3.

7. Two of the figures were mended in two places (nos. 5, 7; Figures 7–11, 14, 15).

8. I have experimented with Melian obsidian on a small Cycladic marble beach pebble. Although the bits of obsidian broke easily and needed frequent replacement, I was able to pierce the pebble without too much effort. (The addition of sand or ground obsidian as an abrasive agent would have made the task easier and less time-consuming.) Although the obsidian pieces were irregularly shaped, the perforation that resulted was not. The diameter of the hole in such cases is always larger than that of the implement used to make it owing to the “wobble” effect which is more pronounced at the top of the perforation, thus giving it a conical configuration. The “wobble” effect is much greater in the case of a hole made with a borer twisted back and forth by hand in semirotary fashion than one made with a bow or palm drill capable of complete revolutions. See Gwinnett and Gorelick.

9. I use “biconical” here in the sense of two cones set apex to apex rather than base to base, as the term is strictly defined.

3. Female schematic figure, violin type. No. 3. Athens, Goulandris Collection 337 (photo: Photographic Archives of the National Gallery of Art, Washington, D.C.)



In this way the diameter of the opening could be made more or less uniform on each side—that is, smaller than the point of entry but larger than the point of exit of a perforation made in only one direction. This preferred method was used, for example, on a Plastiras-type figure in the Barbier-Müller Museum (no. 5; Figure 7), which I believe was carved by the same sculptor as no. 4, the name-piece of the Metropolitan Museum Master. The figure has two pairs of mending holes, one at a break just below the chin, bored through the neck from either side (Figures 8, 9), and the other at a break in the upper right thigh (across the buttock line in back), bored from both front and back (Figures 10, 11).

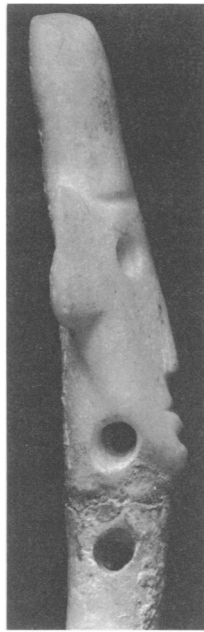
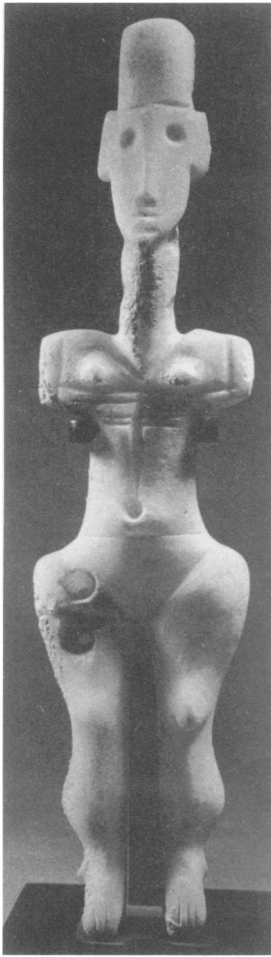
Apart from the three Metropolitan Museum figures, the only other examples of Early Cycladic res-

4–6. Female figure, Plastiras type. No. 4. The Metropolitan Museum of Art, Rogers Fund, 45.11.18

6. Detail of no. 4 showing mending holes in right leg (right profile view)

toration known to me in the United States are the small Plastiras-type figure in the Getty Museum (no. 9; Figures 19, 20) and the figurine in the Pomerance collection (no. 10; Figures 21, 22). The latter, which has a Louros-type head on a violin-shaped body, shows biconical holes bored through the main surface.¹⁰ In this

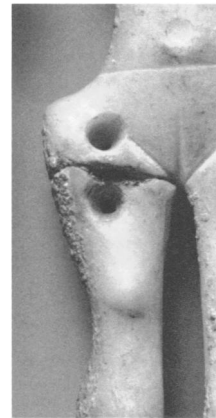
10. Cf. Thimme in *ACC*, no. 102 (text). The break-site was not reworked in the mending process.



7–11. Female figure, Plastiras type. No. 5. Geneva, Barbier-Müller Museum BMG 202.75 (photos: I. Râcz, front; P. A. Ferrazzini, Barbier-Müller Museum, details)

8, 9. Details of no. 5 showing mending holes through neck (right and left profile views)

10, 11. Details of no. 5 showing mending holes in right upper thigh and hip/buttock (front and back views)



case the surface diameters of the perforations are slightly greater on the back than on the front, and the upper hole is smaller and more carefully executed than the lower one,¹¹ possibly to avoid damaging the chin. Both holes were made with the usual borer twisted in semirotary fashion rather than with a rotary drill.¹²

Indeed, the boring tool seems to have been the favorite implement of these early sculptors, one which they used freely for many details including eye sockets, ears, sternum notch, navel, buttock dimples, and elbow perforations.¹³ They also used the borer to perforate the suspension lugs of their many marble vessels (collared jars, beakers, and bowls) as well as the corners of their marble palettes (Figures 25, 26).¹⁴ On these, too, the holes were bored from both directions in order to minimize their size and also, in the case of the lugs, to make the opening on each side more or less uniform.

As time went on, it appears that the boring tool was improved upon. Quite possibly a rotary drill was now

introduced, for the repair holes become smaller and more cylindrical (nos. 12, 14–17, 20, 22–23).¹⁵ On a Kapsala-variety figure in the Erlenmeyer collection that I have tentatively attributed to the Kontoleon Master

11. The surface diameter of the upper hole is 0.6 cm. on the front, 0.95 cm. on the back, and of the lower hole ca. 1.05 cm. on the front, ca. 1.2 cm. on the back. The actual opening inside the upper hole is ca. 0.25 cm. in diameter, whereas that of the lower hole is more oblong in shape, ca. 0.5 × 0.25 cm., leading L. Gorelick and A. Gwinnett, who examined the piece in the spring of 1980, to conclude that this hole had been bored from two directions on each side.

12. This was the conclusion, reached independently, through the use of scanning electron microscopy; see Gwinnett and Gorelick.

13. See, e.g., Figures 4–12 and P.G.-P. in *AK*, pls. 17, 18.

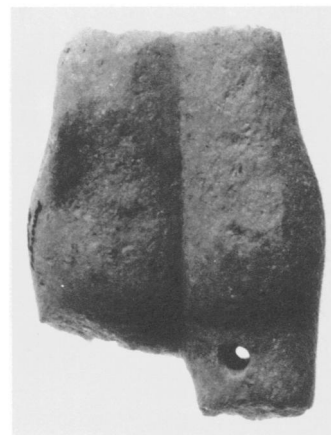
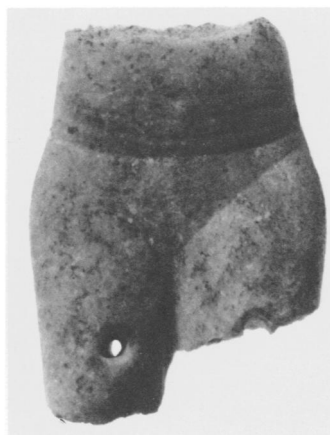
14. See, e.g., *ACC*, nos. 263–276 (jars), 277–282 (beakers), 288–292, 312 (bowls), 327, 329, 337 (palettes).

15. See note 8. Quite small holes were sometimes made by skilled sculptors presumably before the introduction of the rotary drill (e.g., no. 1), and indeed already in Neolithic times beads and pendants of stone were perforated with tiny holes.



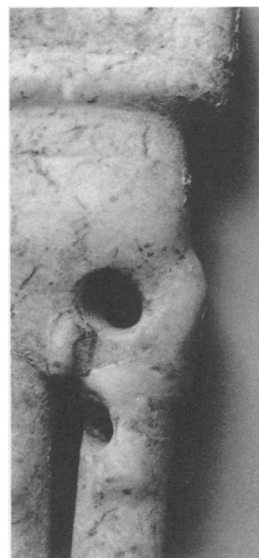
12, 13. Female figure, Plastiras type. No. 6. Oxford, Ashmolean Museum 46.118 (photos: Ashmolean Museum, Department of Antiquities)

14, 15. Female figure, Plastiras type. No. 7. Oxford, Ashmolean Museum AE.151 (photos: Ashmolean Museum, Department of Antiquities)



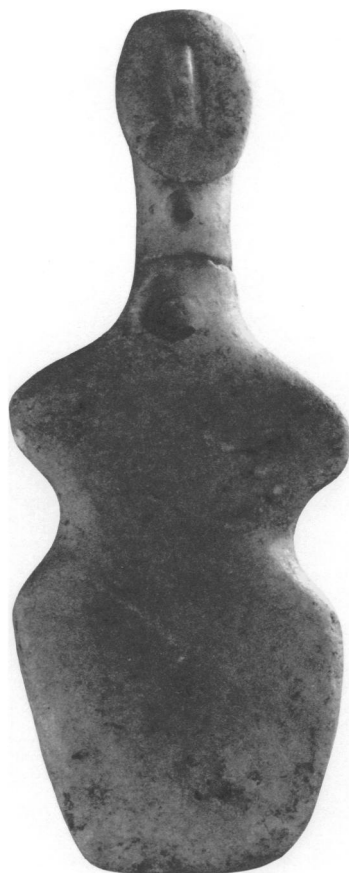
16–18. Male figure, Plastiras type. No. 8. Geneva, Barbier-Müller Museum BMG 202.13 (photos: P. A. Ferrazzini, Barbier-Müller Museum)

17, 18. Details of no. 8 showing mending holes in left thigh and hip/buttock (front and back views)





19, 20. Female figure, Plastiras type. No. 9. Malibu, J. Paul Getty Museum 71.AA.128 (photos: J. Paul Getty Museum)



21, 22. Female figure, hybrid type. No. 10. New York, Pomerance Collection of Ancient Art 74 (photos: courtesy L. Gorelick)

25. Collared jar of marble. H. 18.7 cm. The Metropolitan Museum of Art, Fletcher Fund, 35.11.22

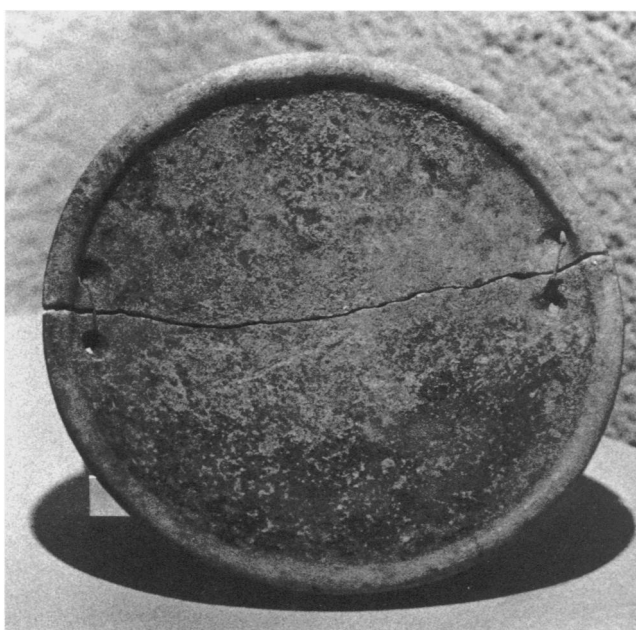
26. Collared jar of marble. H. 22.7 cm. The Metropolitan Museum of Art, Fletcher Fund, 35.11.23

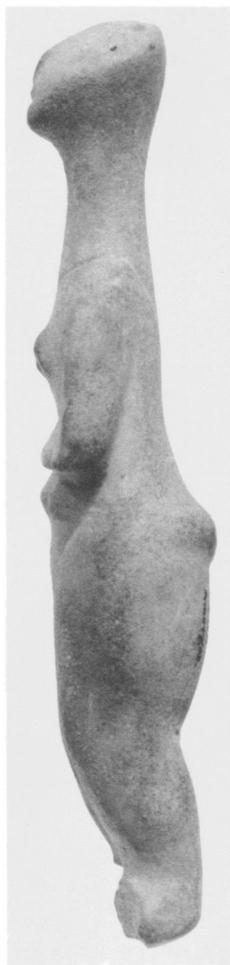
27. Marble bowl. D. 14 cm. Private collection (photo: courtesy the collector)





23, 24. Female figure, Louros type. No. 11. Private collection (photos: courtesy the collector)





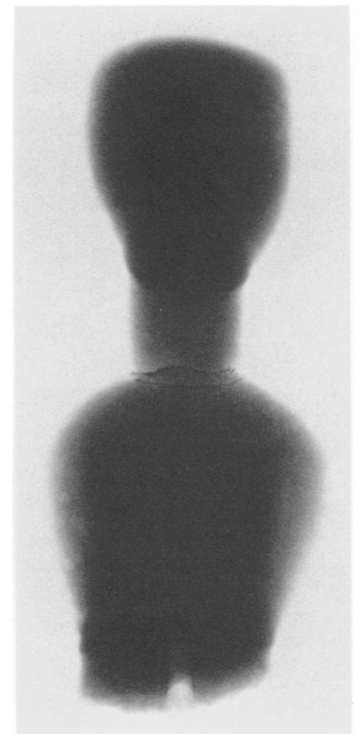
28–30. Female figure, precanonical type. No. 13. Oxford, Ashmolean Museum AE.177 (photos: Ashmolean Museum, Department of Antiquities)

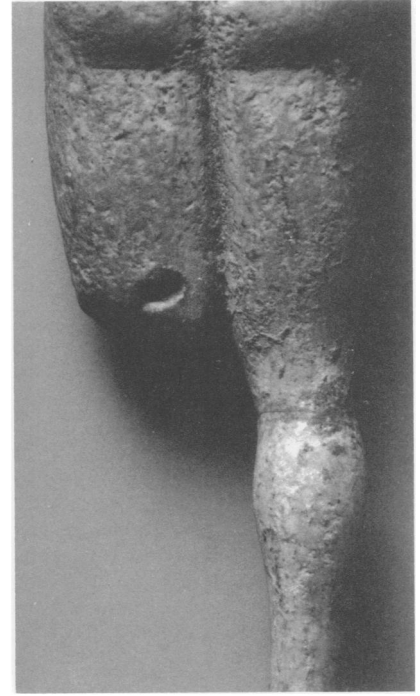
30. X-ray of no. 13, back view, showing dowel hole in upper right leg

BELOW:

31–33. Female folded-arm figure, early Spedos variety. Oxford, Ashmolean Museum AE.418. Pres. H. 11 cm. "Kastraki, Naxos" (photos: Ashmolean Museum, Department of Antiquities)

33. X-ray of Figure 32, showing hole in torso





35, 36. Details of no. 14 showing mending hole in upper left leg (front and back views)

34–36. Female figure, precanonical type. No. 14. Geneva, Barbier-Müller Museum BMG 202.9 (photos: P. A. Ferrazzini, Barbier-Müller Museum)

the left leg (now missing) was once reattached at the knee (no. 15; Figures 37, 38). The cylindrical path of the hole drilled through the side of the leg above the break is clearly visible because the front surface at this point has broken away, exposing the channel of the perforation to view.

In the name-grave of the Louros-type figures, dated to the transitional phase, both a statuette (no. 12)—one of seven found standing together in a niche—and a marble bowl with repair holes were found.¹⁶ The figure had had its right leg rejoined at the knee, as shown by the small holes pierced roughly diagonally through the leg,¹⁷ while the bowl, which was broken in half, had been similarly mended;¹⁸ it has three pairs of small, carefully drilled holes evenly spaced along the break. A similar bowl with two pairs of repair holes—biconical ones, however—is illustrated in Figure 27. The two halves of the bowl are shown fastened together with string.¹⁹

16. Papathanasopoulos, pp. 134–135, pl. 69a. As compared to the figures, which they greatly outnumber, Cycladic stone vessels were very rarely repaired. See Doulas, “Burial Habits,” p. 107 and pl. 35g (greenstone crucible with two pairs of repair holes in the annular haft). In addition to the restoration of marble bowls (see Figure 27 and note 19), the lugs of EC I beakers were occasionally reperforated following damage, possibly incurred during the boring of the original perforation. See, e.g., ACC, fig. 78 and no. 279; Renfrew, *Emergence*, pl. 1:4; Zervos, fig. 2. See also Doulas, *Cycladic Art*, no. 35 (palette).

17. Papathanasopoulos (p. 135) mentions that another perforation was begun but not completed slightly above the repair hole at the back of the calf. A similar “false start” was made on the back of the male Plastiras-type figure, no. 8 (Figure 18).

18. I have not personally examined the back of this figure or the underside of the bowl. The perforations appear from the front to have a roughly cylindrical path. In the case of the figure, the top hole at least could only have been made from one direction.

19. A large unpublished bowl in the Naxos Archaeological Museum (no. 4670) also shows three pairs of mending holes. An unpublished bowl fragment from Keros in Naxos has a pair of holes on the surviving side of a break.



37, 38. Female folded-arm figure, Kapsala variety. No. 15. Basel, Erlenmeyer Collection (photos: W. Mohrbach, Badisches Landesmuseum, Karlsruhe)

Toward the end of the transitional phase²⁰ further refinements appear to have been introduced into the mending method. On a precanonical figure in the Barbier-Müller Museum the left leg (now missing) was broken off at the knee (no. 14; Figure 34). A small hole was made through the main surface in the usual way; in addition, three narrow grooves radiating like spokes from the perforation were cut on the front, with one groove on the back (Figures 35, 36). These grooves were evidently made to receive the cords and immobilize them, enabling the two parts of the figure to be bound together more securely. A much later piece, belonging to the Dokathismata variety, has a repair hole in the surviving upper left thigh (no. 20). Running down from the hole both in front and behind is a single groove used probably for the same

purpose. Presumably these grooves were aligned with similar ones running upward from the hole in the leg that is now missing.²¹ This figure fragment, found on Keos, is the latest example (i.e., late EC II) of mending by the perforation method found to date in the Cyclades.

Another attempt to refine the perforation method is seen on the earlier of the two Bache Bequest pieces in the Metropolitan Museum (no. 16; Figures 39–42), which was fractured at the neck. This Kapsala-variety figure (dated early in the EC II period) from the hand of the Kontoleon Master is the only known example to have three repair holes, presumably in an attempt to make a more secure join than was possible with the usual two.²² These holes—one in each shoulder and one in the neck—were made with a hand-held boring tool applied from both the front and the back. Unlike the repair holes on most other examples, however, these borings, which are quite small in diameter, do not all have a straight path. Rather, in the case of the shoulder perforations the section of the hole bored from the front is set at a slightly oblique angle to the section bored from the rear, with the result that the place where the two borings meet to complete the perforation is very small indeed. Only an extremely narrow cord, thong, or wire could have been used to tie the two parts of the figure together.

20. The chronological associations of the precanonical figures have not been established, but they appear to be transitional, typologically, between the Plastiras type of EC I and the early folded-arm figures of EC II. See Thimme (who first defined the group) in *ACC*, pp. 449–450.

21. See note 6. The early Spedos-variety figure from Aghios Kosmas, no. 17, has a single superficial groove running up from the small repair hole in its chest both in front and in back. It is difficult to tell if these grooves were made deliberately or if they were worn in the stone by the string or wire used to tie the head/neck to the body.

22. Exactly how the three holes were utilized is unclear. I was unable to fasten the head/neck onto the body effectively with a leather thong, perhaps because the thong was not fine enough to pass through each hole more than once. Also, the hole in the neck is positioned quite far above the break (and therefore far from the shoulder holes), which adds to the difficulty of tying the parts together securely. Perhaps a wooden support was used under the bindings in back. (The surviving repair hole in the neck of no. 23, Figures 50 and 51, is likewise located rather far from the break.) As noted below, from the EC II period on, ordinary figures were meant to recline rather than stand, a fact which might have made the mending of broken figures somewhat easier: in the reclining position the join would not have had to be quite as fast.

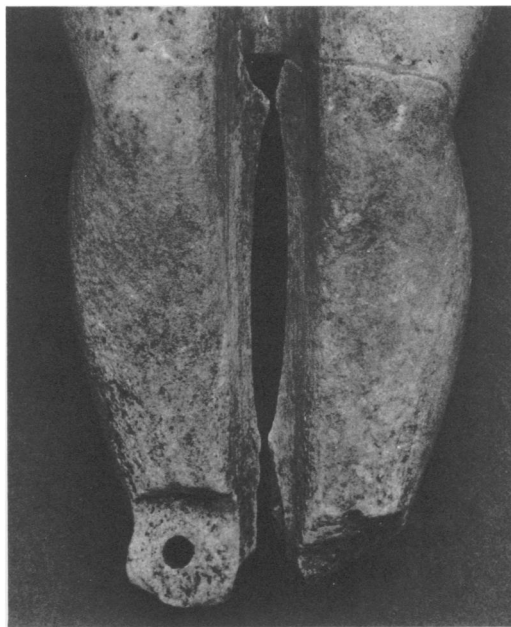


39–42. Female folded-arm figure, Kapsala variety. No. 16. The Metropolitan Museum of Art, Bequest of Alice K. Bache, 1977.187.10a,b



43, 44. Female folded-arm figure, early Spedos variety.
No. 18. Basel, Erlenmeyer Collection (photos: W.
Mohrbach, Badisches Landesmuseum, Karlsruhe)

44. Detail of no. 18 showing dowel hole in right foot
(front view)



The only other example in which two holes were completed on one side of a fracture is the little head from Aghios Onouphrios on Crete (no. 27). It is unclear just what purpose was intended by the double perforation in the neck of this fragment; possibly a second hole was made to balance one that had inadvertently been made off center.

Toward the end of the transitional phase, if my dating of a curious figure in Oxford is correct (no. 13; Figures 28, 29), a new, "invisible" mending technique was introduced and for a time used concurrently with the old perforation method. This was the insertion of a pin or dowel, probably of wood, into a cylindrical hole drilled into each of the parts to be reunited (Figure 30).²³ In the three certain cases known to me in which this technique was used, a foot was reattached (nos. 13, 18, 19).²⁴ One of these examples, an early

23. By this time, too, the horizontally pierced, vertical suspension lug had gone out of use on stone vases and new shapes were replacing the old ones. In the EC II period the tubular lug (based on earlier models in clay) makes its appearance on a series of covered containers or pyxides (ACC, nos. 338, 344–348, 361, 362). These lugs are often found in pairs on cylindrical vessels—one on the body, one on the lid—where they were designed to secure the latter by means probably of a wooden pin inserted into aligned vertical perforations in each pair, in much the same way as dowels were used to join the broken parts of a figure. Like the dowel holes, the perforations in these EC II lugs were roughly cylindrical in shape and were no doubt made with the same tool. Another type of vertically perforated lug is seen on an EC II spherical pyxis of marble on loan to the Metropolitan Museum (L. 1974.77.1). This is the horizontal ledge lug which in this case is pierced with two small cylindrical holes.

24. In each of these examples one part is now missing, with the result that the dowel hole in the surviving portion is exposed to view. There may well be cases in which the broken part survived with the rest of the figure, only to be reattached in modern times with an adhesive, or even with metal pins, thereby

Spedos-variety figure in the Erlenmeyer collection, shows a further refinement: the break-sites were first evened off and smoothed in order to improve the join (no. 18; Figures 43, 44).

From the point of view of stability dowels must have been superior to the perforation technique, and a good deal safer, especially for reattachment of small parts such as feet. Yet the old method continued in use. One cannot help wondering if some sculptors at least found their highly visible repair holes and ties to be decorative.

Another quite visible method of making a rigid restoration may be seen on the later of the two Bache Bequest pieces in the Metropolitan Museum (no. 21; Figures 45–48). This unusual Chalandriani-variety statuette,²⁵ which was carved near the end of the period of production of Cycladic sculpture in the Early Bronze Age, is unique in the manner in which its head (now lost) was once refastened to the neck by means of lead attachments. These were applied to both sides of the neck, each one straddling the break. The lead pieces, portions of which are preserved in situ, were held in place by being partially inserted into channels cut in the marble, much like the clamps used in classical Greek architecture to join two blocks of marble. The channels, in the form of a broad groove with a roughly circular termination, presumably continued on the other side of the break, ending in a similar fashion on the sides of the head (Figure 49).

With the exception of this figure, the use of lead as an Early Bronze Age mending agent is confined to riveting on damaged pottery.²⁶ It is found once again, however, on a fragmentary Late Bronze Age cruciform figurine of marble from the excavations at Ayia Irini on Keos.²⁷ In a curious way this piece seems to combine all three of the Early Bronze Age techniques I have described: it has a dowel hole drilled into the site where the “arm” (now missing) broke off, another hole drilled through the front surface to meet the dowel hole, and a lead plug filling this second hole.

In addition to the sculptures which were restored by the methods just described, there are two Spedos-variety works not included in the census that I believe suffered serious damage and were rendered serviceable without a reattachment of the broken part. In effect, they appear to have been reworked rather than repaired. The first is a large figure in the Goulandris collection (Figures 52, 53) from the hand of the Copenhagen Master,²⁸ a sculptor named after a partially

preserved figure in the Danish National Museum. I suspect that the legs of this extremely thin sculpture sustained a fracture at roughly knee level and that the sculptor, in an effort to salvage his piece, telescoped the legs in such a way that rudimentary feet now take the place of the knees as originally executed or intended. The resulting figure is disproportionate, and

concealing the existence of the original dowel holes. In other cases in which only one part of the figure is preserved, the ancient dowel hole could have been used in modern times to insert a support for mounting the piece. A possible example is the upper half of an early Spedos-variety figure in Oxford (Figures 31, 32), which has a hole drilled into its core. There is no record to indicate whether or not the hole was present when the piece was acquired by the Ashmolean Museum around the turn of the century. Since an X-ray photograph (Figure 33) shows the hole to be quite regular in shape, I am not entirely convinced of its antiquity (an opinion shared by technicians of the Ashmolean's laboratory who very kindly examined the piece for me) and for this reason have not included it in the census. Traces of shellac indicate that the hole was at one time used for mounting the piece. (Similar traces of shellac are present in the hole of no. 13, suggesting that at some point it was probably used for mounting purposes, but the irregularity of the hole should preclude the possibility that it is modern.)

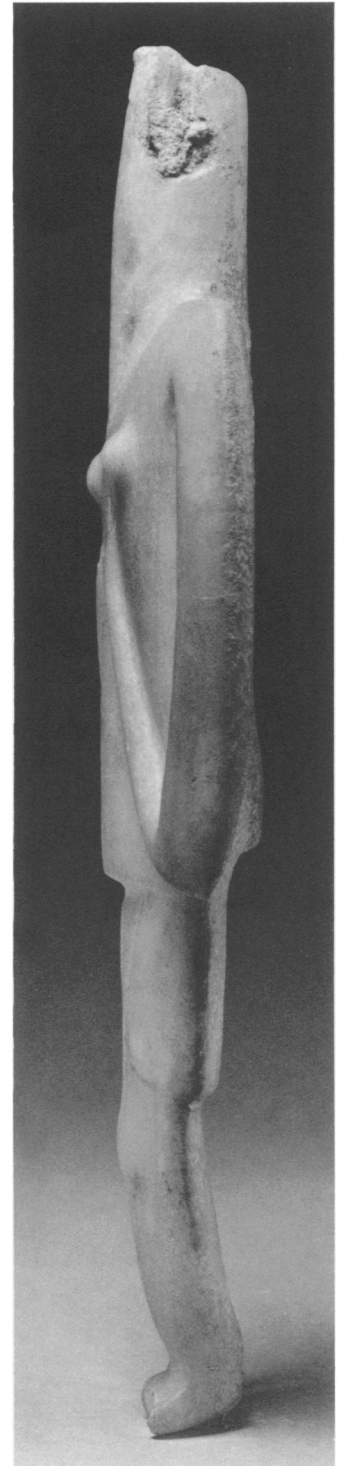
25. The arms are exceptionally long and curving, and the lower part of the figure is carved in a plane slightly below that of the rest. The position of the arms is unusual but not unparalleled: see P.G.-P. in *MMJ* 15, figs. 61, 63a.

26. C. Renfrew, “Cycladic Metallurgy and the Aegean Early Bronze Age,” *American Journal of Archaeology* 71 (1967) p. 4 with n. 29, pl. 2b. Lead, which was mined principally on Siphnos and at Laurion in Attica during the Early Bronze Age, was also used in rare cases to make entire figurines (e.g., ACC, nos. 251, 252; Renfrew, “Cycladic Metallurgy,” pp. 4–5, pl. 2:1) as well as other objects found in Cycladic graves, including boat models and a stamp seal. See N. H. Gale and Z. Stos-Gale, “Lead and Silver in the Ancient Aegean,” *Scientific American* (June 1981) pp. 176ff., esp. 184–185, 190–191.

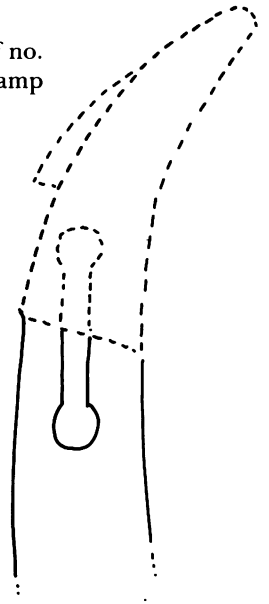
27. Caskey, p. 121, no. 31; fig. 5, pl. 22. On the dating of the figure see pp. 123–125. Of the repair methods known to have been used in the Cyclades in the Early Bronze Age, the inconspicuous doweling technique is the only one to foreshadow developments in the repair and separate piecing of Greek marble sculpture which took place in the archaic period and beyond. See S. Adam, *The Technique of Greek Sculpture in the Archaic and Classical Periods*, British School of Archaeology at Athens, supplementary vol. 3 (London, 1966) esp. pp. 48–50, 59, 66, 81–82; G. M. A. Richter, *The Sculpture and Sculptors of the Greeks*, 4th ed. (MMA, New Haven/London, 1970) p. 123.

28. Doumas, *Goulandris*, no. 257; Doumas, *Cycladic Art*, no. 143. (Detailed discussion of all the masters mentioned by name in this article will be found in my forthcoming book on Cycladic sculptors.)

45–48. Female figure, Chalandriani variety. No. 21. The
Metropolitan Museum of Art, Bequest of Alice K.
Bache, 1977.187.11



49. Hypothetical reconstruction of the head/neck of no. 21, showing channel cut to receive lead clamp (drawing: P.G.-P)

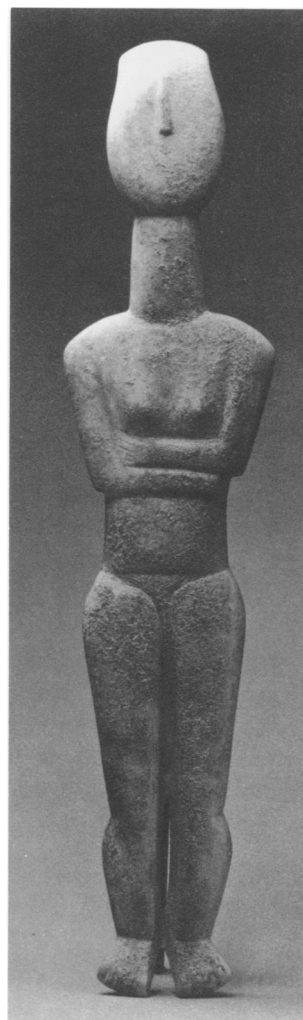




50, 51. Female folded-arm figure, late Spedos variety.
No. 23. Oxford, Ashmolean Museum AE.173 (photos: Ashmolean Museum, Department of Antiquities)

52, 53. Female folded-arm figure, early Spedos variety.
Athens, Goulandris Collection 257. H. 70 cm.
"Naxos." A work of the Copenhagen Master (photos: courtesy D. Goulandris)

54, 55. Female folded-arm figure, early Spedos variety.
London, N. Horiuchi Collection. H. 56.2 cm. A work of the Copenhagen Master (photos: courtesy N. Horiuchi)

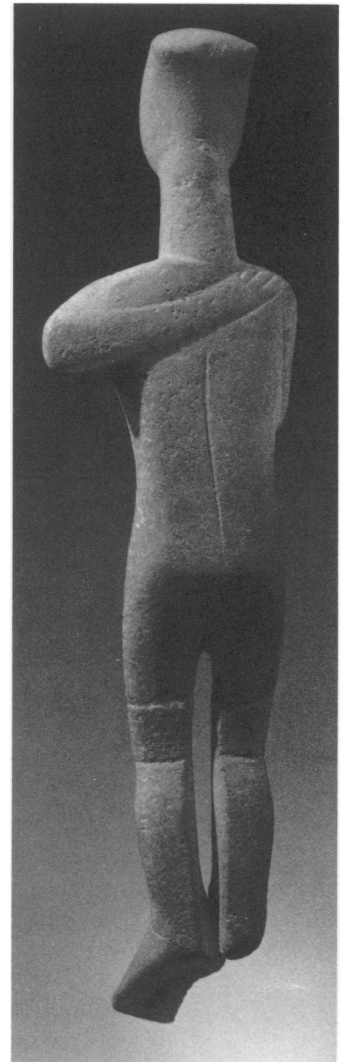


the form of the feet inelegant by comparison with the rest. That the Copenhagen Master was able to achieve this transformation at all is largely due to his stylistic preference for unusually elongated thighs, a distinguishing characteristic which can best be seen on another work I have attributed to him (Figures 54, 55).

The second piece that shows evidence of reworking is also in the Goulandris collection (Figures 56, 57).²⁹ It is my belief that this curious image was initially conceived as part of a composition in which two figures clasping each other about the shoulders were set side by side.³⁰ When a break occurred in the extended arm, it appears that the sculptor simply smoothed over the break-site, making the Goulandris figure look as if she were scratching her back. With a humorous twist, the original composition was thus broken up into component parts. If the companion figure was similarly saved, the two could then have been used independently.

With very few exceptions, almost all of which involve later Bronze Age reuse, Cycladic figures and stone vessels have been found in secure contexts only in graves, and it is very likely that they constitute a class of specifically sepulchral objects.³¹ Many scholars claim, however, that the traces of mending found on some of them show that these objects have been *used* by the living for a religious purpose prior to their interment with the dead.³²

There is, of course, no way of knowing when or under what circumstances the damage to mended objects occurred, but it is quite possible that some pieces at least broke—and were repaired—before they ever left the workshop, perhaps during the final stages of manufacture. Even if they broke after their completion, this need not be construed as evidence to deny their primary function as grave goods. It seems plausible to suppose that the objects buried with the dead would have been their personal possessions. Certain things, such as figures and stone vases, which were not domestic items, could have been acquired by persons of some means and status—they are found in relatively few graves—for the express purpose of preparing for death, burial, and the afterlife. If so, they would have been kept and presumably displayed until their owners' demise. In the close quarters of an Early Bronze Age domestic setting such objects would have been subject to hazards ranging from playful children to earthquakes. This theory, incidentally, would also



56, 57. Female figure, early Spedos-variety style. Athens, Goulandris Collection 330. H. 23 cm. (photos: courtesy D. Goulandris)

help to account for the one or two instances in which Cycladic figures have been recovered in habitation contexts of the EC II period or earlier.

This is not to imply that the mended objects were the only ones that broke before they were buried. On

29. Dumas, *Cycladic Art*, no. 135.

30. See P.G.-P. in *MMJ* 15, p. 32, n. following no. 25.

31. The exact meaning of the figures remains a mystery. For a summary of current theories see Höckmann in *ACC*, pp. 42–43. On the subject of EC graves and their contents see: C. Dumas, "Early Cycladic Burials," *ACC*, pp. 33–36; Höckmann in *ACC*, pp. 40–42.

32. See, e.g., Dumas, *Goulandris*, p. 92 with n. 109; Höckmann in *ACC*, pp. 45–46; Renfrew, *Emergence*, p. 424; Xanthoudides, p. 24. But cf. Thimme in *ACC*, p. 455.

the contrary, it is a puzzling fact that incomplete figures, small fragments of figures, stone vases without their lids, broken vessels, and even lids alone sometimes occur in Cycladic tombs. As we have seen, even the figures that had been repaired are in many cases missing the part or parts that had been painstakingly reattached, or missing other parts, or both. Of the three once-mended figures found in graves by archaeologists (nos. 1, 12, 17), one provides a case in point. This is the small figure, imported from the Cyclades, found in the cemetery at Aghios Kosmas (no. 17). It lacks parts of both legs as well as the head/neck which had been refastened to the torso by the perforation method.

The burial of incomplete objects has been viewed, like the traces of ancient mending, as evidence for their use before burial. But unless we look upon the figures as insignificant children's toys or unless we consider the Cycladic people of the Early Bronze Age to have been childishly irresponsible, this seems to me entirely untenable. Surely the marble objects—figures as well as vases—must have been precious to their owners. Made by craft specialists,³³ they were the possessions of only a privileged few, who clearly would not have treated them so carelessly as to lose parts of them, leaving in the end only a torso or a pair of legs to take along to the grave. On the other hand, one cannot rule out the possibility that hatred, envy, or fear may in certain cases have motivated individuals to vandalize a dead person's property. Some sort of funeral custom may have existed—a rite beyond our own experience—involving the intentional breaking of objects and even the deliberate discarding of parts of them. Recent excavation of Cycladic cemeteries has revealed that the images were not always accorded conventional respect at their interment: they were sometimes buried face down or weighted down by other objects.³⁴ In the light of these considerations, I would suggest that damage to a once-mended piece occurred accidentally before it left the sculptor's workshop or during its owner's lifetime,³⁵ whereas other damage and loss of parts (including further damage to the mended figures) occurred largely after the owner's death, possibly at the funeral. In some cases, of course, damage may have been caused by natural phenomena after the object was buried.³⁶

We do know of at least one case of deliberate breakage. The largest completely preserved figure known,

a nearly life-size image from Amorgos in Athens, had to be broken into several pieces in order to fit the grave in which it was found.³⁷ This fact, too, has been taken to mean that the figure had served a nonsepulchral function, in this case—because of its great size—as a cult statue. However, its size may simply indicate that the owner was an unusually prosperous person who sought to increase his prestige in this life or the next, or both, by obtaining it for his burial. Indeed, if it had been a cult statue of some importance to the community, one wonders why it was put in a grave at all, let alone in one which was much too small for it (the Cycladic dead being buried in a severely contracted position within a confining space).

Cycladic figures break easily when dropped. Susceptibility to fracture was, I believe, an important factor to be reckoned with in their manufacture. The most vulnerable points are, as we have seen, the juncture between the neck and torso and, on the more representational types, the knee and ankle joints. Certain types of figure tended to sustain fractures more readily than others, however. Some 16 or 17 percent of all known Plastiras figures were repaired in antiquity as compared to only 2 or 3 percent of the Cycladic figures carved subsequently. Repairs are proportionally somewhat more numerous among the EM II Koumasa-variety statuettes. These Minoan versions of the Cycladic folded-arm figure are small, flat images which are so thin and delicate as to be particularly vulnerable, especially at the neck/torso juncture. Of the six figures recovered at Koumasa, three—all Koumasa-variety and probably fashioned by one sculptor—were found broken. All three have

33. See P.G.-P. in *ACC*.

34. Doulas, *Goulandris*, p. 93; Doulas, "Burial Habits," p. 63.

35. It is my belief that the sculptors who made the figures also repaired them and that some may have done more repair work than others. Two sculptors are each represented by two mended works (Metropolitan Museum Master, nos. 4 and 5; Kontoleon Master, nos. 15 and 16), while the three mended figures from Koumasa (nos. 24–26), and perhaps a fourth (no. 27), were also the work of a single craftsman.

36. See P. Getz-Preziosi, "The 'Keros Hoard': Introduction to an Early Cycladic Enigma," D. Metzler and B. Otto, eds., *Antidoron Jürgen Thimme* (Karlsruhe, 1982).

37. Athens, National Archaeological Museum 3978 (*ACC*, fig. 22; also *GAAI*, no. 11). See J. Thimme, "Die religiöse Bedeutung der Kykladenidole," *AK* 8 (1965) p. 78.

repair holes: two at the neck, one in the pubic area (nos. 24–26).³⁸

To a significant degree the development of Cycladic sculpture may be viewed as a gradual yet continuous process of risk reduction and simplification, presumably to permit speedier and more effective production.³⁹ Generally speaking, the earliest figures have much more exaggerated proportions than the later ones, and the representational Plastiras-type images show a much greater concern for anatomical forms and details. For example, the Plastiras as well as the violin figures of the EC I period and the Louros figures of the transitional phase all tend to have dangerously long, slender necks (nos. 1–6, 9–12). The head/neck unit of the Plastiras figure usually occupies fully one-third of the total height, while the neck prong of the violin statuettes is often still longer proportionally. By adopting a conservative neck length, the EC II sculptor was able to decrease the vulnerability of this part of his work. It is noteworthy that the two Bache Bequest figures (which are at present the only EC II examples of head or head/neck reattachment in which all or nearly all of the neck is preserved) are somewhat atypical: their necks are unusually elongated (nos. 16, 21).

Another characteristic feature of the Plastiras-type figures is the complete separation of the legs from the crotch, with knees and ankles often carefully modeled and reduced in thickness. Much work was required in the process and the results were quite fragile, as shown by the number of leg repairs that ensued (nos. 4–9). Sometime toward the end of the transitional phase, presumably, figures began to be made which were sturdier and more compact than the Plastiras ones, and less extreme in their proportions. Considerable attention was still paid to individual forms and to details, but already we see this as a diminishing concern. To reduce the risk of fracture, the legs were now carved separately for only about half their length, roughly from the knees downward (e.g., nos. 12–16).

This measure did not, however, sufficiently decrease the degree of fragility of the sculptures (nos. 12–15) or the amount of labor required, and soon a further attempt was made to strengthen the legs at vulnerable points: they were now carved as a single unit, separated only by a broad, deep cleft which was perforated between the knees and ankles (e.g., nos. 17, 18). At first the perforation of the leg-cleft was

often quite long; later it tended to be shorter. At this point repairs at the knee seem no longer to have been needed.

Somewhat later in the EC II period most sculptors cautiously chose not to perforate the leg-cleft (e.g., no. 19). The Goulandris Master, for example, an extremely prolific sculptor of late Spedos-variety figures, apparently never perforated the marble membrane between the calves.⁴⁰ Another major sculptor, the Bastis Master, from whose hand we have only a few works, took the same precautionary measure on at least one piece. This is a small, stocky figure which I believe he carved early in his career (Figures 58, 59). His “later” works, however, including his name-piece in the Metropolitan Museum (Figures 60, 61), which are larger, more elaborate, and more refined, do have a perforated leg-cleft.⁴¹ Evidently the Bastis Master came to regard the perforation as a refinement worth a certain amount of risk.⁴²

Toward the end of the period of production, the legs were usually separated merely by a shallow incision (e.g., no. 21). Only a few bold sculptors reverted to the earlier practice of perforating the leg-cleft.⁴³ In general, though, sculptors seem to have lavished less care on their works, whose severely stylized forms—particularly those of the Chalandriani variety—were well suited to easy and hasty execution.

38. Xanthoudides, p. 24 and pl. 21.

39. This idea was first developed and expressed by Thimme (J. Thimme, “Ein monumentales Kykladenidol in Karlsruhe. Zur Typologie und Deutung der Idole,” *Jahrbuch der Staatlichen Kunstsammlungen in Baden-Württemberg* 12 [1975] p. 15; see also Thimme in ACC, p. 454).

40. P.G.-P. in ACC, pp. 84–87 with fig. 70 and nos. 167, 168, 178, 180.

41. See ACC, no. 166 and p. 87. I shall discuss the work of the Bastis Master further below.

42. Thimme (ACC, no. 166, p. 468), at least partly on the basis of the perforation of the leg-cleft on the larger figures of the Bastis Master, dates this sculptor somewhat earlier than the Goulandris Master—i.e., he assigns the Bastis Master to his “middle” Spedos group, the Goulandris Master to his “late” Spedos group. He is apparently unaware of the existence of the smaller, unperforated figure by the Bastis Master, which actually resembles the smaller, immature work of the Goulandris Master. I regard the presence or absence of the perforation as a matter of choice and not strictly of development or chronology, and I consider the Goulandris and Bastis Masters to have been roughly contemporary.

43. GAAI, no. 17; Zervos, fig. 296.

Along with the measures taken to strengthen the legs, a basic change was also made in the posture of the figures. The earlier ones—the Plastiras, Louros, and precanonical—are all represented as standing, even though they do not do so unsupported. It is perhaps no coincidence that mending of the legs occurred primarily among these “archaic” types. The damage to such figures, whose legs were delicate in any case, may well have resulted from their being propped up in a niche or on a ledge either in the sculptor’s workshop or in their owner’s house: unable to stand by themselves, they could easily have slipped and fallen.

By the beginning of EC II the figures adopt a reclining posture. Their feet, rather than directed forward horizontally, were now made to point outward at an angle and downward on tiptoe. I like to think that the reclining posture was introduced by the sculptors themselves through a gradual process of experimentation, not because of any change in religious symbolism or practice, nor because of any foreign influence. Their reasoning may have gone something like this: since the figures were to be laid on their backs in the grave anyway, and since they could not be propped up safely for display, why not make them recline from the start? From then on figures meant to stand were carved with a small rectangular base.⁴⁴ Leg repairs became much less common.

To continue this line of discussion, the rendering of the arms of Early Cycladic figures was, I believe, also influenced by the risk factor, although the area is not one in which repairs are found. Together with the standing posture, the EC I sculptors inherited from their Late Neolithic predecessors the arrangement of the arms in which the hands meet beneath the breasts. In actuality, this position involves moving the elbows and upper arms well away from the torso, thus creating a large triangular space on either side of it. An effort to indicate or at least to acknowledge this gap was made by a few sculptors of Plastiras-type figures. One, the Athens Master, simply perforated the bend of the elbows with his boring tool.⁴⁵ A second sculptor began to make similar perforations, but for some reason stopped before he had gone very far; perhaps he thought it wise not to risk irreparable damage to his figure.⁴⁶ A third sculptor showed the gap more realistically by completely separating the upper arms from the torso of his figure.⁴⁷ This perilous procedure was not attempted again, evidently, for

a very long time. Instead, along with the conservative measures undertaken in the areas of the neck and legs, the sculptors began to seek a safer solution to this problem as well. Once again it was their initiative, I believe, rather than a shift in religious meaning or gesture, or any external influence, that set in motion the gradual development of the folded-arm position.⁴⁸ This arrangement creates no extraneous space between the arms and the body, especially if the elbows and upper arms are held close to the sides. Indeed, many of the early folded-arm figures seem to be tightly clasping themselves.⁴⁹

The folded-arm position, with the upper arms clamped against the torso and the forearms held right below left, remained the norm for perhaps several hundred years.⁵⁰ It was not until the end of the period of production, which saw an unprecedented freedom in the arrangement of the arms, that a number of sculptors once again began to free the upper arms, partly perhaps as a way of diminishing the highly exaggerated breadth of the torsos (e.g., no. 21). This was a daring move, one fraught with danger, especially since a broken arm could not have been easily reattached with the mending methods available. The male folded-arm figure in the Metropolitan Museum is a case in point.⁵¹

The figures that show traces of ancient mending vary in height (or length) from a scant 9.4 centimeters (no. 3) to a maximum of approximately 37 centimeters (estimated for no. 18). Most are, or were, less than 25 centimeters—a size about average for Cy-

44. See ACC, fig. 37, nos. 256, 258.

45. P.G.-P. in AK, pls. 17, 18.

46. ACC, no. 72. This figure also has a hole bored just above the crotch. Apparently it was made to receive a separately carved penis, although there is no way of knowing if this was part of the original figure or a replacement; if the latter, it would constitute another example of mending. On this figure see also my remarks in *MMJ* 15, no. 4, esp. p. 6 n. 4. (For separate piecing of the penis in later times see J. Boardman, *Greek Sculpture, The Archaic Period: A Handbook* [London, 1978] fig. 59.)

47. ACC, no. 71.

48. See Thimme in ACC, p. 449.

49. E.g., MMA 34.11.3 (ACC, no. 124) and MMA 1972.118.102 (ACC, no. 125).

50. It is my feeling that the right-below-left arrangement was also influenced by practical rather than magico-religious considerations, in that right-handed craftsmen would find it easier to execute the arms in this way.

51. See P.G.-P. in *MMJ* 15, no. 33; also: ACC, nos. 232, 239, and n. 38.



58, 59. Female folded-arm figure, late Spedos variety. Naxos, Archaeological Museum 168. H. 22.5 cm. Phionta, Naxos. An early work of the Bastis Master (photos: S. Tsavdaroglou, courtesy C. Doumas)



60, 61. Female folded-arm figure, late Spedos variety. H. 63.5 cm. The name-piece of the Bastis Master. The Metropolitan Museum of Art, Gift of Christos G. Bastis, 68.148

cladic sculptures as a whole. It is interesting to note that, with the exception of the unusually narrow figure illustrated in Figures 52 and 53, no large pieces exhibit repairs or reworking; nor, with the exception of the piece illustrated in Figures 56 and 57, do any of the special or occupational figures—seated and standing musicians, seated females and cupbearers, two- and three-figure compositions. This is not to say that such figures never sustained damage prior to being interred, but, as already suggested, perhaps they did not do so under the same circumstances as the figures that were repaired (or salvaged).

Smaller figures are probably on the whole more fragile than larger ones, because they tend to be thinner in section and less substantial in certain parts.

Smaller figures, therefore, although perhaps less time-consuming, were in some ways more difficult to carve than larger ones, or at least offered the sculptor fewer possibilities to exercise his talents for elegance and refinement of expression. The two works of the Bastis Master mentioned earlier illustrate this point (Figures 58–61).

The maximum thickness of the Bastis Master's small, early figure is about 3.25 centimeters, whereas that of his name-piece, a late or mature work, is 5.48 centimeters. Yet, although actually thinner than the larger figure, the smaller one has a maximum thickness which is 14 percent of its length, as compared to 8.6 percent for the other. As a result, the smaller image has a rather thick, stocky appearance when viewed in profile. This

is in distinct contrast to the profile of the Metropolitan Museum figure, whose relative narrowness adds significantly to its elegant appearance. In order to achieve a similar effect with the smaller piece, the sculptor would have had to reduce its thickness drastically, a step he might have regretted.⁵²

In addition to the refinements in structure and mass made possible by increased size, the treatment of details was also facilitated. It is clear, for example, that it would have been impossible for the Bastis Master to incise fingers neatly (and in the correct number) on his smaller figure. There was simply not enough space. It was possible to do so on the larger work because the space allowed for each arm is just slightly greater than the minimum of 1 centimeter needed for this purpose. Because of this requirement, it is rare for folded-arm figures with a length of less than 40 centimeters to be embellished with fingers.⁵³

Surely the most difficult of all Cycladic sculptures to carve were the special occupational types, particularly the harp players, whose fragile instruments have extremely narrow frames carved in the round. These compositions tend also to be quite small, a fact which must have added to the hazards involved in their manufacture as well as in their survival. Not one of the harpers was found intact; in fact, only two—the two largest, incidentally—have all their parts preserved. One of these is the Metropolitan Museum harper, whose instrument, presumably at some point following burial of the work, broke into three pieces.⁵⁴

It seems a logical supposition that both large-scale and more complex works were fashioned by sculptors who first mastered their craft and polished their skills by painstakingly making small, standard figures. Although, admittedly, there are no such unusual figures that we can attribute to any of the sculptors of once-

mended works, we may nevertheless speculate that by the time sculptors were ready to carve large figures and virtuoso pieces with their special risks and difficulties, they had become masters at preventing fractures during the actual process of manufacture.

It is probably no coincidence that really large figures and special ones, too, were as a rule not even attempted until the craft itself had progressed to the point where most of the measures to reduce the risk of fracture mentioned above had been taken, and repairs were needed only rarely even on small pieces. By making standard figures recline and by furnishing special figures with bases, if they were meant to stand, or with stools or chairs, if they were meant to be seated, these highly skilled sculptors may also have been able to forestall damage to their work once it had left their hands.

CENSUS OF CYCLADIC MARBLE FIGURES WITH TRACES OF ANCIENT REPAIRS

EARLY CYCLADIC I

1. (Figure 1). Violin type. Athens, National Archaeological Museum 4959. H. ca. 10 cm. A mending hole on either side of break at base of neck prong. Grave 147, Akrotiraki, Siphnos. C. Tsountas, "Kykladika II," *Archaiologike Ephemeris* (1899) cols. 75–76, 97–98 (fig. 28).
2. (Figure 1). Violin type. Athens, National Archaeological Museum 3937. H. 22.6 cm. A mending hole on either side of break at base of neck prong. "Kimos." Zervos, fig. 146.
3. (Figures 1, 3). Violin type. Athens, Goulandris Collection 337. H. 9.4 cm. A mending hole above and below break at waist. Doumas, *Cycladic Art*, no. 12.
4. (Figures 1, 4–6). Plastiras type with *polos*. New York, MMA 45.11.18. H. 21.6 cm. (right foot missing). A mending hole on either side of break at right knee. Name-piece of the Metropolitan Museum Master. ACC, no. 65.
5. (Figures 1, 7–11). Plastiras type with *polos*. Geneva, Barbier-Müller Museum BMG 202.75. H. 18.3 cm. A mending hole on either side of breaks at top of

52. By comparison, the maximum thickness of the figure illustrated in Figures 52 and 53 is 6.45 percent of its length, or 4.5 cm. Clearly this work was particularly vulnerable at its thinnest points.

53. The minimum dimension of 1 cm. was arrived at in an experiment conducted by E. Oustinoff. To simulate ancient conditions as closely as possible, she used a piece of Melian obsidian to make incisions on a piece of Naxian marble. When fingers are incised on small figures, they tend to be haphazardly marked and/or too few in number (e.g., nos. 13, 21, and Figures 28, 45). It should be noted that incised toes are commonly seen on works much smaller than 40 cm. because the feet of Cycladic figures are usually considerably wider than the arms.

54. MMA 47.100.1. See P.G.-P. in *MMJ* 15, nos. 9, 11–17.

neck and right thigh. Attributed to the Metropolitan Museum Master. *ACC*, no. 66.

6. (Figures 1, 12, 13). Plastiras type with *polos*. Oxford, Ashmolean Museum 46.118. Pres. H. 20.8 cm. (lower legs missing from knees). A mending hole above break at left knee. "Naxos." *ACC*, no. 68.
7. (Figures 1, 14, 15). Plastiras type with abdominal bands. Oxford, Ashmolean Museum AE.151. Pres. H. 9.2 cm. (fragment of lower torso and upper thighs). A mending hole above break across right thigh; a mending hole partially preserved in break across left thigh. "Amorgos." Attributed to the Athens Museum Master. P.G.-P. in *AK*, pp. 47–50, pl. 19:1–3.
8. (Figures 1, 16–18). Plastiras type, male figure. Geneva, Barbier-Müller Museum BMG 202.13. H. 13.4 cm. A mending hole on either side of break across left thigh; another, incomplete hole in back above break. Attributed to the Doumas Master. P.G.-P. in *MMJ* 15, no. 2; *ACC*, no. 77.
9. (Figures 1, 19, 20). Plastiras type without forearms. Malibu, J. Paul Getty Museum 71.AA.128. H. 14.2 cm. (right leg missing from above knee). A mending hole above break across right thigh. H. Georgiou, "Cycladic Figurines in the J. Paul Getty Museum," *J. Paul Getty Museum Journal* 5 (1977) pp. 69–70.

EARLY CYCLADIC I-II

10. (Figures 1, 21, 22). Hybrid type. New York, Pomerance Collection of Ancient Art 74. H. 12 cm. A mending hole on either side of break at neck. *ACC*, no. 102; Gwinnett and Gorelick.
11. (Figures 1, 23, 24). Louros type with abdominal bands. Private collection. Pres. H. 16.3 cm. (head and part of neck missing). A mending hole below break at neck. Previously unpublished.
12. (Figure 1). Louros type. Athens, National Archaeological Museum 6140.9. H. 21.5 cm. A mending hole on either side of break at right knee; another, incomplete hole in back above break. Grave 26, Louros Athalassou, Naxos. Attributed to the Stephanos Master. Papathanasopoulos, p. 135, pl. 70b; *ACC*, fig. 35.
13. (Figures 2, 28–30). Precanonical type. Oxford, Ashmolean Museum AE.177. Pres. H. 15.2 cm. (part of right leg with foot and part of left foot missing). Dowel hole in break in right leg. "Amorgos." Zervos, fig. 51.
14. (Figures 2, 34–36). Precanonical type. Geneva,

Barbier-Müller Museum BMG 202.9. H. 15.9 cm. (left leg missing from knee). A mending hole above break at left knee. *ACC*, no. 114.

EARLY CYCLADIC II

15. (Figures 2, 37, 38). Kapsala variety of the folded-arm type. Basel, Erlenmeyer Collection. Pres. H. 17.2 cm. (head/neck and legs from knees missing). Damaged mending hole above break at left knee. Tentatively attributed to the Kontoleon Master. Erroneously included in the group photograph of fragments from the "Keros hoard" (*ACC*, fig. 71), to which it does not belong; otherwise unpublished.
16. (Figures 2, 39–42). Kapsala variety of the folded-arm type. New York, MMA 1977.187.10a,b (Bequest of Alice K. Bache). H. 30 cm. (right foot missing). Two mending holes below and one above break across base of neck. Attributed to the Kontoleon Master. Previously unpublished.
17. (Figure 2). Early Spedos variety of the folded-arm type. Athens, National Archaeological Museum 8971. Pres. H. 6.2 cm. (head/neck, right foot, and left leg from knee missing). A mending hole below break at base of neck. Grave 5, Aghios Kosmas. G. E. Mylonas, *Aghios Kosmas, An Early Bronze Age Settlement and Cemetery in Attica* (Princeton, 1959) p. 81, no. 2; fig. 163.
18. (Figures 2, 43, 44). Early Spedos variety of the folded-arm type. Basel, Erlenmeyer Collection. Pres. H. 26.8 cm. (head/neck and feet missing). Dowel hole in break at right ankle. M.-L. and H. Erlenmeyer, "Von der frühen Bildkunst der Kykladen," *AK* 8 (1965) pl. 19:5. (See also *ACC*, fig. 71, which by error includes this figure, like no. 15, in the "Keros hoard.")
19. (Figure 2). Late Spedos variety of the folded-arm type. Athens, Goulandris Collection 107. H. 12.7 cm. (part of left foot missing). Dowel hole in break at left foot. Doumas, *Cycladic Art*, no. 111.
20. (Figure 2). Dokathismata variety of the folded-arm type with abdominal bands. Keos, Chora Museum K9.8. Pres. H. 11.6 cm. (fragment of lower torso and upper thighs). A mending hole above break across left thigh. Ayia Irini, Keos. Caskey, p. 115, no. 3; pl. 17:3.
21. (Figures 2, 45–49). Chalandriani variety of the folded-arm type with the forearms bent upward. New York, MMA 1977.187.11 (Bequest of Alice K. Bache). Pres. H. 27.3 cm. (head with part of neck missing). Cuttings partially filled with lead on either

side below break across top of neck. J. R. Mertens in *Notable Acquisitions 1975–1979* (MMA, New York, 1979) p. 13.

NOTE: The head and neck of a Spedos-variety figure found on Keros (Naxos Museum KE.67/4183, unpublished) has what appears to be the beginning of a repair hole just above the break at the base of the neck. The perforation was not completed.

**FOUND ON CRETE:
EARLY CYCLADIC II AND EARLY MINOAN II**

22. (Figure 2). Late Spedos variety of the folded-arm type. Present location unknown. Pres. H. ca. 18 cm. (head with part of neck missing). A damaged mending hole below break at neck. "Aghios Onouphrios Deposit." Evans, fig. 131.
23. (Figures 2, 50, 51). Late Spedos variety of the folded-arm type. Oxford, Ashmolean Museum AE.173. Pres. H. 12.9 cm. (head with part of neck and legs from knees missing). A mending hole below break at neck. "Siteia, Crete." Evans, p. 124, fig. 133.
24. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 126. Pres. H. 15.5 cm. (legs missing from above knees). A mending hole on either side of break at base of neck. Koumasa, communal tomb. Xanthoudides, pl. 21; ACC, fig. 137.
25. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 125. H. 11 cm. A mending hole on either side of break at base of neck. Koumasa, communal tomb. Xanthoudides, pl. 21.
26. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 127. Pres. H. 7.3 cm. (legs missing from above knees). A mending hole above break across thighs. Koumasa, communal tomb. Xanthoudides, pl. 21.
27. (Figure 2). Koumasa variety of the folded-arm type. Herakleion, Archaeological Museum 91. Pres. H. 3.6 cm. (head/neck fragment only). Two mending holes above break at neck. "Aghios Onouphrios Deposit." Evans, fig. 132; ACC, fig. 144.

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Appendix

SOME EXAMPLES OF MENDING (AND PIECING) BY THE PERFORATION METHOD

Stone Sculpture

Mellink and Filip, fig. 13 (gray-blue limestone female figure with leopards from Catal Hüyük, ca. 6000 B.C.); J. Thimme, ed., *Kunst und Kultur Sardiniens vom Neolithikum bis zum Ende der Nuraghenzeit* (Karlsruhe, 1980) no. 12; E. Atzeni, "La dea madre nelle culture prenuragiche," *Studi Sardi* 24 (1975–77) pls. 36:1, 37:1, 39:3 (marble figures of the Ozieri culture, 2500–2000 B.C.). Not easily distinguished from the repair hole technique of mending broken sculpture is the practice of attaching parts of a figure separately from the start: see D. H. Trump, *Malta: An Archaeological Guide* (London, 1972) p. 45 and pl. 2 (female figures from Hagar Qim, third millennium B.C.); M. E. L. Mallovan, *Early Mesopotamia and Iran* (London, 1965) p. 53 and ill. 48 (alabaster heads from Tell Brak, ca. 3000 B.C.).

Stone and Obsidian Vases

Mellink and Filip, fig. 123 (andesite basin from Khirrokithia, 5800–5250 B.C.); G. A. Wright, *Obsidian Analyses and Prehistoric Near Eastern Trade: 7500 to 3500 B.C.*, Museum of Anthropology, University of Michigan, Anthropological Papers, 37 (Ann Arbor, 1969) p. 41 (obsidian spouted jar from Tepe Gawra, fourth millennium B.C.); Strommenger, pls. 19–21 (alabaster vase from Uruk, 3250–3000 B.C.; on this piece the copper clamps are still in place); Foster, pp. 238–240 with fig. 2 and ill. 4 (serpentine goblet fragment from Mochlos, 1600–1450 B.C.); S. Marinatos, *Excavations at Thera*, V (Athens, 1972) pl. 67 (marble chalice from Akrotiri, 1600–1450 B.C.). An intriguing example of obsidian vessel repair was described to me by L. Pomerance: in an unpublished vase of rhyton shape

from Acemhöyük (Assyrian trading colony period, second millennium B.C.), a break along the length of the vase has evenly spaced holes on either side through which gold wire is used to lace the two sections together.

Pottery

Mellink and Filip, fig. 150b (bowl from Franchthi Cave, sixth millennium B.C.); Strommenger, pls. 2, 1 (bowl from Hassuna, ca. 5000 B.C.); C. Tsountas, *Ai Proistorikai Akropoleis Diminiou kai Sesklo* (Athens, 1908) pl. 17:1 (jar from Dimini, fifth millennium B.C.); G. A. Papathanasopoulos, "Spilaia Dirou: Ai Anaskaphai tou 1970–1971," *AAA* 4 (1971) color pl. 11:3 opp. p. 16 (sherds from Alepotrypa Cave at Dirou, Mani, fifth millennium B.C.); G. Papathanas[s]opoulos, *Neolithic and Cycladic Civilization* (Athens, 1981) nos. 21, 22 (Dimini-style vases from Sesklo, fourth millennium B.C.); MMA 48.98.5 (unpublished Iranian bowl, fourth millennium B.C.); E. J. Forsdyke, *Catalogue of Greek and Etruscan Vases in the British Museum: I*, pt. 1. *Prehistoric Aegean Pottery* (London, 1925) pl. 1:A20, A30 (jugs from Yortan, third millennium B.C.); see also note 26 above. The practice of repairing pottery by this method continued in the historical period: see A. Choremis, "Tholotos Taphos eis Messenian," *AAA* 1(1968) p. 208, fig. 3 (skyphos from Karphophora, Messenia, 1100–1000 B.C.); M. B. Moore and D. von Bothmer, "A Neck-Amphora in the Collection of Walter Bareiss," *American Journal of Archaeology* 76 (1972) pp. 1–11, esp. 9–11 (neck-amphora by the Bareiss Painter, 530–520 B.C.); G. M. A. Richter, *Attic Red-Figured Vases: A Survey* (New Haven, 1946) p. 35 with n. 145 (kylix by the Euaion Painter, MMA 06.1021.188, 470–450 B.C.).

ABBREVIATIONS

- AAA—*Athens Annals of Archaeology*
 ACC—J. Thimme, gen. ed., *Art and Culture of the Cyclades in the Third Millennium B.C.* (Chicago, 1977)
 AK—*Antike Kunst*
 Caskey—J. L. Caskey, "Marble Figurines from Ayia Irini in Keos," *Hesperia* 40 (1961) pp. 113–126
 Doulas, "Burial Habits"—C. Doulas, "Early Bronze Age Burial Habits in the Cyclades," *Studies in Mediterranean Archaeology* 48 (Gothenburg, 1977)
 Doulas, Gouladris—C. Doulas, *The N. P. Gouladris Collection of Early Cycladic Art* (Athens, 1968)
 Doulas, *Cycladic Art*—C. Doulas, *Cycladic Art: Ancient Sculpture and Ceramics from the N. P. Gouladris Collection* (National Gallery of Art, Washington, D.C., 1979)
 EC—Early Cycladic
 EM—Early Minoan
 Evans—A. J. Evans, *Cretan Pictographs and Prae-Phoenician Script with an Account of a Sepulchral Deposit at Hagios Onouphrios* (London/New York, 1895)
 Foster—K. P. Foster, "Four Stone Vase Fragments from Mochlos," *Athens Annals of Archaeology* 12 (1979) pp. 237–241
 GAAI—*Greek Art of the Aegean Islands* (MMA, New York, 1979)
 Gwinnett and Gorelick—A. J. Gwinnett and L. Gorelick, "An Ancient Repair on a Cycladic Statuette Analyzed Using Scanning Electron Microscopy" (forthcoming)
 Höckmann in ACC—O. Höckmann, "Cycladic Religion," J. Thimme, gen. ed., *Art and Culture of the Cyclades in the Third Millennium B.C.* (Chicago, 1977) pp. 37–52
 Mellink and Filip—M. J. Mellink and J. Filip, *Frühe Stufen der Kunst, Propyläen Kunstgeschichte* 13 (Berlin, 1974)
 Papathanasopoulos—G. A. Papathanasopoulos, "Kykkladika Naxou," *Archaiologikon Deltion, Meletai* (1961–62) pp. 104–151
 P.G.-P.—P. Getz-Preziosi
 P.G.-P. in ACC—P. Getz-Preziosi, "Cycladic Sculptors and Their Methods," J. Thimme, gen. ed., *Art and Culture of the Cyclades in the Third Millennium B.C.* (Chicago, 1977) pp. 71–91
 P.G.-P. in AK—P. Getz-Preziosi, "An Early Cycladic Sculptor," *Antike Kunst* 18 (1975) pp. 47–50
 P.G.-P. in MMJ 15—P. Getz-Preziosi, "The Male Figure in Early Cycladic Sculpture," *MMJ* 15/1980 (1981) pp. 5–33
 Pres. H.—preserved height (or length, where appropriate)
 Renfrew, *Emergence*—C. Renfrew, *The Emergence of Civilisation: The Cyclades and the Aegean in the Third Millennium B.C.* (London, 1972)
 Strommenger—E. Strommenger, *5000 Years of the Art of Mesopotamia* (New York, 1964)
 Thimme in ACC—catalogue introductions, texts, and appendices in J. Thimme, gen. ed., *Art and Culture of the Cyclades in the Third Millennium B.C.* (Chicago, 1977)
 Xanthoudides—S. Xanthoudides, *The Vaulted Tombs of Mesará* (London, 1924)
 Zervos—C. Zervos, *L'Art des Cyclades du début à la fin de l'âge du bronze, 2500–1100 avant notre ère* (Paris, 1957)