

## TWO GLASS VESSELS IN THE HERACLION MUSEUM

Although small decorative glass objects existed in great quantities during the Mycenaean period, glass vessels seem to have been extremely rare in Greek lands. Hardly more than a dozen pieces are known from the entire Mycenaean world. Two of these, which were found in Crete and are in the Heracleion Museum<sup>1</sup>, are particularly interesting.

The first (πίν. MH', 1) is a lentoid flask with a long neck and high base, and three handles. It has been put together from many fragments but it is almost complete<sup>2</sup>. The ground, now a brownish gray, is decorated with threads of yellow and white glass dragged into loops, or festoons, and marvered into the surface. These loops extend from the very top of the vase almost to the base, which is undecorated. The flask was found in a tomb of the Late Minoan III period at Karteros (now generally known as Amnisos)<sup>3</sup>.

The second specimen, which was found at Phaistos in a comparable context<sup>4</sup>, is much less well preserved (πίν. MH', 2). Somewhat similar in shape to the first piece, it has a shorter neck, a more bulbous body and only two handles<sup>5</sup>. The present color of the vase is a mottled grayish black shading to bluish white. The decoration now consists of a number of grooves crossing at a central point; its original appearance will be described below.

Professor Sp. Marinatos, who discovered the Amnisos flask, suggested<sup>6</sup> that both these vases came from Syria, the reason being their unlikeness to any glass vessels known from Egypt, as regards

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<sup>1</sup>) I wish to express my thanks to Dr. N. Platon and Dr. St. Alexiou for facilitating the study of these vases during several visits to Heracleion.

<sup>2</sup>) Height 0.126 m.; diam. of rim 0.025 m.; diam. of base (restored) 0.027 m. The two vases discussed here were made by the so-called sand-core technique.

<sup>3</sup>) Σπυρίδωνος Ν. Μαρτινάτου, «Ύστερομινωϊκὸς λαξευτὸς τάφος ἐν Καρτερῷ Κρήτης», in Ἀρχαιολογικὸν Δελτίον XI (1928), pp. 68 - 90.

<sup>4</sup>) Mon. Ant. XIV (1904), pp. 556 - 557.

<sup>5</sup>) Height (restored) 0.156 m.; diam. of rim 0.029 m.; diam. of base ca. 0.045 m.

<sup>6</sup>) Ἀρχ. Δελτίον XI (1928) pp. 83 - 84.

both fabric and shape<sup>7</sup>. Poul Fossing disagreed<sup>8</sup>, believing that they were local products influenced by Egyptian XVIIIth Dynasty prototypes. He stated that the Amnisos specimen «has a decidedly Egyptianizing festoon decoration» but he did not see a definite Egyptian influence in the vase from Phaistos. I shall attempt to show that both the Amnisos and the Phaistos vases—the latter even more than the former—are certainly Egyptian in ancestry and probably actually in origin.

There are three apparent points of difference between the two Cretan pieces and the normal types of XVIIIth Dynasty glass vases such as were produced at Tell el Amarna, where remains of a glass factory were found<sup>9</sup>. Each of these differences is actually more apparent than real.

The first point is the decoration of the Phaistos flask. This small vase was wrongly described by Fossing (who did not see it and misunderstood Marinatos' statement) as «chestnut-brown» and as having «a large white eight-pointed star formed of two diameter crosses one over the other»<sup>10</sup>. Actually, the ground is grayish white, and the decoration has entirely vanished. What is left is the grooves which held glass threads that formed the original decoration (πίν. ΜΘ', 1). (Marinatos remarked that the grooves were filled with white matter, but this seems to have disappeared). Just how this decoration originally looked is shown by a vase found in Egypt, now in a private collection (πίν. ΜΘ', 2). This flask is of a deep blue color, and the threads which decorate it are yellow, white and turquoise blue. The festoons on the neck are marvered into the surface, while the threads on the body are partially in relief. On each side of the body there is the same double cross as on the Phaistos flask, as well as threads outlining the neck of the vase and the sides. Traces of all these lines can be seen on the Phaistos vase.

<sup>7</sup>) The only example of such a glass vessel actually found in Syria seems to be a one-handed pitcher with neck and base rather like the Amnisos flask, which comes from a tomb at Minet-al-Beida (C. F. A. Schaeffer, *Ugaritica II* (Paris, 1949), p. 154, fig. 59, 11.

<sup>8</sup>) *Glass Vessels Before Glass-Blowing* (Copenhagen, 1940), p. 28. Fossing was also convinced that the Minet-al-Beida specimen came from Egypt, and likewise the glass vessels of the period found in Cyprus (op. cit., pp. 28-31).

<sup>9</sup>) W. M. F. Petrie, *Tell el Amarna* (London, 1894), p. 25 ff.

<sup>10</sup>) *Op. cit.*, p. 27.

The main differences between the flask from Egypt and that from Phaistos are: the position of the handles, and the absence of a base on the Egyptian example. Another flask similar to that illustrated in πιν. ΜΘ', 2 is in the Metropolitan Museum of Art<sup>11</sup>.

The second point of difference between the Cretan flasks and the Egyptian ones is the color of the material of which they are made. The Egyptian pieces are dark blue and are decorated with yellow, turquoise blue and white threads, whereas the Cretan vessels are a mottled gray (the Phaistos flask) and a dark brown (the Amnisos flask). I believe that originally the Cretan pieces were also dark blue with white, yellow and blue decoration, exactly like the well preserved Egyptian examples. The cause of the change in their color is the humid and destructive soil of the Greek area. This was suggested by Marinatos<sup>12</sup>, who pointed out that, on the contrary, the later sand-core vessels, of the Classical period, have withstood burial in Greek soil comparatively well. (This is doubtless to be explained by a difference in chemical constituents). The theory that chemical decomposition is the cause of the presumed change in color is confirmed by Dr. Robert H. Brill, Administrator of Scientific Research at the Corning Museum of Glass, Corning, New York. In a letter dated April 19, 1961, he says:

«Since the action of moisture on glass which produces the decomposition involves a leaching process, the copper oxide is quite likely to be leached out of the glass along with the alkali metal oxides (soda or potash)... One would have to associate this with a set of conditions which would certainly remove the soda, potash and much of the lime. Thus the residue would be a decomposition layer which would probably be somewhat fragile and not truly a glassy material... In the case of decomposition of the blue vessels the white and yellow areas of threaded decoration may decompose at different rates from the blue body of the vessel and produce a

<sup>11</sup>) Acc. No. 17.7.1. Height 0.10 m. (lower part of body restored); diam. of rim 0.032 m. Opaque dark blue body, festoons of light blue, yellow and white threads on neck. The vertical and horizontal threads on the body, as well as those outlining the sides of the vase, are white; the diagonal threads are yellow. The vase is shown in W. C. Hayes, *The Scepter of Egypt*, Part II (Cambridge, Mass., 1959), p. 404, fig. 255 (lower left corner), in a group of glass vessels assigned to the XIXth and XXth Dynasties. I am indebted to Dr. H. G. Fischer for assistance in studying this piece.

<sup>12</sup>) 'Αρχ. Δελτίον, loc. cit., p. 82, note 2.

series of «trenches» on the surface». This is, of course, exactly what has happened in the case of the Phaistos flask.

There is another glass fragment in existence which goes far to corroborate the theory of discoloration through decomposition. Part of a vessel found on the acropolis of Mycenae<sup>13</sup>, although identical in shape with a common type of Egyptian glass vase<sup>14</sup>, is, like the Cretan specimens, brownish in color, with thread decoration in white. It seems logical to suppose that this fragment was once the same color as the Egyptian vases. One might also point out that a large proportion of Mycenaean glass ornaments (which, however, were probably made at Mycenae itself) are encrusted with a white or gray layer which conceals their original blue color.

Finally, we come to the shape. While the shapes of the Cretan flasks are certainly not the most typical ones, they include to feature which cannot be paralleled in Egypt. The neck of the Amnisos flask is rather longer than most of those found in Egypt, but it is certainly not without a parallel<sup>15</sup>. The body shapes of both the Cretan pieces can be paralleled, as we have seen, and the decoration is the most characteristically Egyptian of all the features. The base is a common form, although usually found with somewhat different shapes<sup>16</sup>.

It is clear, then, that the two Cretan flasks are certainly Egyptian in inspiration if not actually in origin, and it seems most likely that they were manufactured in Egypt and exported from there to Crete.

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<sup>13</sup>) No. 4530. Unpublished, but mentioned by Marinatos in 'Αρχ. Δελτίον, loc. cit., p. 83.

<sup>14</sup>) E. g., Fossing, op. cit., p. 14, fig. 5.

<sup>15</sup>) Fossing, op. cit., p. 22, fig. 13.

<sup>16</sup>) Fossing, op. cit., figs. 2, 8; A. Kisa, Das Glas im Altertume (Leipzig, 1908), p. 23, fig. 11.