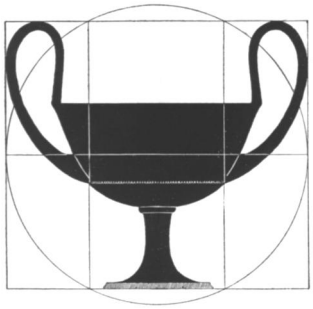
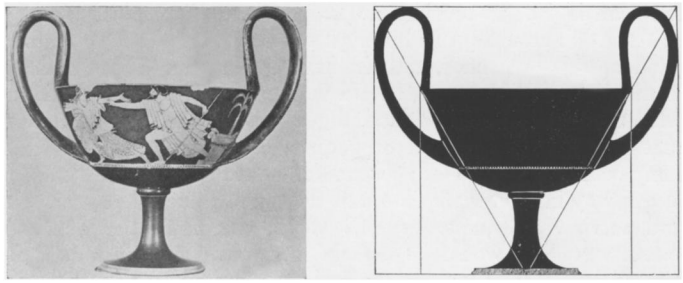


Geometrical Analysis of a Kantharos



Greek, fifth century; from the Museum Collection

Geometry of Greek Vases

BY L. D. CASKEY

UNDER the above title the Museum is about to publish, as Volume V in the series of "Communications to the Trustees," a study of the proportions of the Attic black-figured and red-figured vases in the Museum in accordance with the geometrical principles set forth by Mr. Jay Hambidge in his book, "Dynamic Symmetry: The Greek Vase." In Mr. Hambidge's book a remarkable connection is traced between the proportions of Attic vases and those of certain rectangles derived from the square by a simple process which was familiar to Greek geometers. Mr. Hambidge finds that if the over-all proportion of a vase — that is, the ratio existing between its height and greatest width — is expressible in terms of one of these rectangles, then the heights and widths of all its parts can be expressed in terms of that rectangle, and of no other. The vase possesses symmetry in the sense that all its elements are commensurable, the common factor, or coördinating principle, being a rectangle whose sides illustrate one of the simple ratios $1:\sqrt{1}$, $1:\sqrt{2}$, $1:\sqrt{3}$, $1:\sqrt{5}$. Except for the first, these proportions are commensurable in square, but not in line; they can be studied in terms of geometry, but not in terms of arithmetic.

A simple illustration of these proportions is afforded by the drinking vessel (kantharos), from the factory of Brygos, which has long been recognized as one of the finest examples of Greek pottery in the Museum collection. The kantharos is in excellent preservation, except that one of the handles has been broken into several pieces and put together with some restoration in plaster, making it half a centimetre higher than the intact handle. A photograph of the vase is here reproduced, together with two diagrams illustrating the geometrical scheme. The first of these diagrams shows that if the diameter of the lower member of the bowl (emphasized by a ridge and a painted tongue pattern on a red ground) be taken as unity, then the total height of the vase equals 2 and its total width equals $\sqrt{5}$. The second diagram shows that the vase has the same proportions without its handles as it has with its handles $(2:\sqrt{5})$. The proportions of all the details can similarly be expressed in terms of $\sqrt{5}$, within a margin of error which is in most cases less than a millimetre.

Mr. Hambidge's conception of Dynamic Symmetry as opposed to Static Symmetry deserves the most careful attention. It marks an epoch in the study of Greek design as the first comprehensive theory of that subject. In view of the greater development of geometry in ancient Greece as compared with arithmetic, the antecedent probabilities seem all in its favor. To some students, including Dr. Caskey, the theory has strongly appealed, and by others it is warmly opposed. The "Geometry of Greek Vases" aims, not to argue the case, but to aid in its intelligent discussion by providing a body of fact upon it, drawn from a branch of art in which the Greek genius signally manifested itself.

G.

The Annual Report of the Museum for 1921

THE reports of the President and Director were distributed to the Annual Subscribers to the Museum late in January. The issue of the complete report is expected to follow shortly.

During the year just past the visitors to the Museum numbered 319,895. In 1920 they were 288,312, and in 1919, 280,187. These figures show a resumption since the war of the previous rate of growth in attendance. In the past ten years the number of visitors has increased nearly fifty per cent.

The number of Annual Subscribers to the Museum and the amount of annual subscriptions continued to increase during 1921. The subscribers were 2,890 and the subscriptions $56,342.50. In 1920 the subscribers numbered 2,476 and the subscriptions $51,878. The larger figures in 1921 may well be looked upon as proof that the awakened interest of the public in the Museum is not ephemeral, but permanent. It should be realized, nevertheless, that these subscriptions pay but about one-quarter the annual expenses of the Museum. The income of the Museum from all available sources fell short during 1921 by $25,220.44 of meeting its current expenses. The deficit, like those of previous years, is to be attributed to the higher cost of living, especially the higher cost of coal and wages.

Unlike the museums of many other cities, the