

Complementary investigation of the Dune cup – a close parallel to the cup of Sivin

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In his publication *Medieval Drinking Bowls of Silver Found in Sweden*, Aron Andersson gives an elaborate description of the Dune cup (Andersson 1983:56, no. 15). The major part of this account concerns the shape of the vessel, its decoration motifs and its secondary inscriptions. However, some traces of production methods and use can also be observed on the vessel. In the following analysis some complementary comments will be presented.

The production of a beautiful and well-functioning metal vessel is a difficult task. A great deal of knowledge and skill is necessary for a good result. Crucial factors are the composition of raw-materials, the handling of a specialized set of tools, the working process with its different steps and presumably the use of magic formulas. The latter are necessary in order to deal rationally with the number of mysterious failures which do appear in a primitive industry, often caused for instance by invisible impurities in the raw-materials of the process.

Having studied metal-vessels at a general level (Trotzig 1991) my firm opinion is that production techniques, once learned and perfected by a craftsman/workshop are likely to be stable over considerable time and that they will be more long lasting than shape and ornament which follow variations in taste among users and

customers. In the case of the latter various traits and patterns can easily be picked up and changed according to the local needs and preferences.

When holding the Dune cup in your hands you can immediately make two important observations bearing on the techniques of its production: it is remarkably heavy and gives a stiff and solid feeling.

Andersson gives only general suggestions about the way the cup was produced. He says: "Embossed, carved and cast (handle) relief decoration". "Embossing" or chasing means to produce a relief pattern on sheet metal by indenting, using various hammers and punches, working on both sides of the work piece. On a bowl for instance, this normally means a protruding adornment on the outside with a negative equivalent on the inside.

Looking at the Dune cup, it has a relief adornment on the outside, but the inside is mainly plain (fig. 1). Only just above the bottom of the cup the negative impression of the outside ornament can be observed. This means that the decoration on the cup has not been executed by chasing, and indeed various facts indicate that the body of the vessel was cast in one piece.

During our analysis the cup was X-rayed and the images that resulted revealed a rather solid and homogenous structure. No beating marks could be observed. In the centre of the bottom both inside and outside is a tiny dent, as from the point of a pair of compasses. The handle gives the impression of being soldered on to the body which Andersson also believes to be the case.

There are many uncertain elements in soldering, all of which have to be dealt with in order to make a successful joint: the cleanliness of the material, the purity and efficiency of the flux, the alloy of the solder and, above all, the correct temperature when heating. Soldering therefore is the most difficult and delicate activity in the silver-smith's work.

Normally a vessel when cast, is made in one single piece. Soldering a loose handle onto the body as is suggested in this case, is no doubt the most unpractical method one could think of. Unless the handle was added secondarily, it ought to have been cast as a primary part of the vessel. This suggestion called for a very thorough examination of the joint between the body and the handle.



Figure 1. The inside of the Dune cup. Photo by Gustaf Trotzig.

The pattern on the vessel is composed in two halves, each consisting of a lion and a bird separated by a leaf ornament. Where the two halves meet there is a leaf ornament of different shape than the ones between the animals. The handle is attached in one of these two areas. Observations were hampered by a crack which somewhat dislocates the handle. However, it is obvious that there has been no attempt to adjust the pattern to the handle as could have been expected had the handle been an integrated part of the design from the beginning.

It is not possible to observe a clearly soldered joint between the handle and the wall, but just below the rim of the cup above the handle, superfluous and disfiguring solder can be observed (fig. 2). Solder is also found on the inside close to the crack. The explanation of this solder almost certainly is that it derives from an unsuccessful attempt to mend the crack by soldering. Possibly this was also the time at which the footring was added, as the latter is equally inexpertly soldered. As the solder is covered with sheet-gold, the gilding has obviously taken place after the soldering. However it cannot be established that the handle has been fixed to the cup by soldering. The available X-ray facilities did not permit a photo that could give the final information.

To sum up, it seems almost certain that the cup is produced by casting. Consequently the patterns are not embossed directly, nor has a punched background filling between the main ornaments been performed on the cup. It is likely that the cup was either modelled in wax on top of a clay core and then covered with clay and cast *à cire perdue*, or, perhaps more probably, that the cup was made as a copy of an original vessel which was produced by hammering and which did have a chased pattern. The parts of the mould were then made as impressions in clay, one for the inside and another for the outside. In order to add thickness to the wall, most of the pattern chased on the inside was then filled in with clay, when the mould



Figure 2. The Dune cup. Note the superfluous and disfiguring solder just below the rim of the cup above the handle. Photo by Gustaf Trotzig.

was adapted for casting. A combination of these two casting methods is also possible.

A hypothetical procedure like this would give a plausible explanation for the marks at the centre of the cup bottom, which obviously derive from the point of a pair of compasses and would explain the only partially preserved impressions of the pattern on the inside. It is possible that the cup had no handle originally, but that this was added when the copy was made. Such a thought is supported by the fact that the pattern on the handle slightly differs in its details from that on the body.

Finally, when looking for traces of use, apart from the secondary inscriptions and incised symbols and patterns, one can observe that the ring of the handle is somewhat worn (fig. 3). The wear has occurred in a way that indicates that it may have been carried around hanging from a belt or saddle by some leather strap.

These complimentary observations do not in any way contradict the results of the previous study. On the contrary, both the production techniques and the traces of wearing could be expected in a nomadic environment.

References

- Andersson, A. 1983. *Mediaeval Drinking Bowls of Silver Found in Sweden*. Kungl. Vitterhets-Historie- och Antikvitetsakademien. Stockholm.
- Trotzig, G. 1991. *Craftsmanship and Function. A Study of Metal Vessels found in Viking Age Tombs on the Island of Gotland, Sweden*. The Museum of National Antiquities/Stockholm. Monographs 1. Stockholm.



Figure 3. The Dune cup. The ring of the handle is somewhat worn. Photo by Gustaf Trotzig.