The Finds Research Group AD700-1700

DATASHEET 31

Drinking Glasses with Mould-Blown Stems *c.* 1500-1640

by

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Stemmed drinking glasses are found in medieval contexts in England from the 13th century onwards. These early goblets are relatively rare and generally take two forms, of two or three part construction: those with more widely flaring stems, and those with thin tall solid stems and applied feet. However, during the course of the 15th century more diverse forms of stemmed drinking glasses evolved. These commonly were made from three pieces: a bowl, a knop stem and an applied foot. By the 16th century, goblets made from three pieces became the standard form of higher quality Venetian and *façon de Venise* glasses, and many variations of free-blown stem knop can be identified. Whilst the majority of stem knops were free-blown, a particular group can be identified that required a more sophisticated manufacture. These are stems blown into a two-piece mould to produce a complex and highly intricate design.

Mould-blown stems are traditionally seen as a 16th-century Italian innovation, but by the early 17th century they are found across Western and Central Europe, and were probably produced in most countries with strong manufacturing traditions. In England drinking glasses with mould-blown stems are rarely found after the mid 17th century. In mainland Europe they appear to be made for a couple of decades longer, but certainly had ceased production by the end of the 17th century.

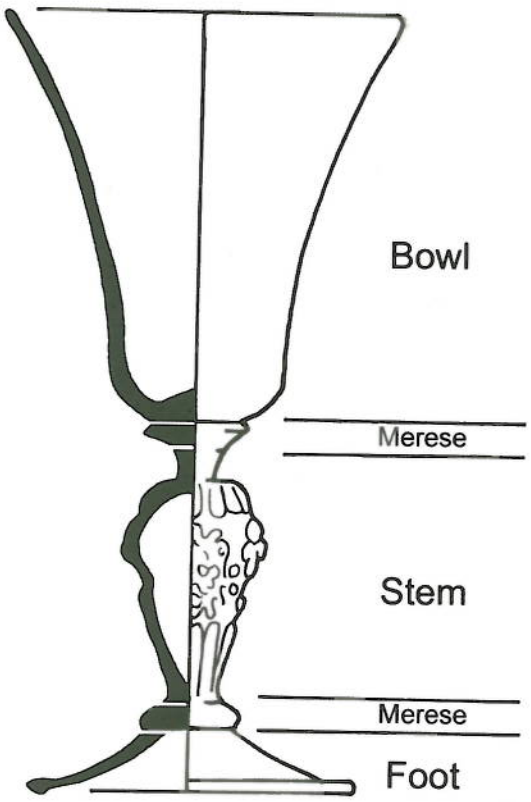

Figure 1: General features of a goblet with a mould-blown stem

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Manufacture *(Figure 1)*
With the manufacture of most drinking glasses made from three pieces of glass, the first element to be blown is the bowl. When it is formed (but still attached to the blowing iron), the stem knop is added to it, usually with a decorative disc of glass known as a merese. Finally a foot is applied to the lower portion of the stem (again with a merese) and only then is the glass removed from the blowing iron and the rim of the vessel finished. Glasses with mould-blown stems are made in a similar way, although to form the stem a blob of glass is inserted into the two-piece mould, inflated to impress the pattern and allowed to cool sufficiently so that it can be removed whilst still retaining its pattern, yet hot enough to be applied to the bowl. With a mould-blown stem particular care must be taken when it is attached to the bowl, so that the overall design is not distorted or compressed.

The form of the moulds used to produce these stems remains uncertain. Despite the excavation of numerous glasshouse sites in many countries, no evidence for a two-piece mould has been found. It is unlikely that any organic material, such as wood, could have endured contact with the hot glass for very long. Likewise, a clay, plaster or stone mould is also unlikely, partly due to the corrosive nature of the glass when in contact with these materials. Furthermore, all mould-blown stems are perfectly smooth and do not show a pot-marked surface, which is characteristic of Roman vessels blown into a clay mould (Price 1991, 58). The final possibility is a metal mould, possibly made from copper alloy. Although there is no direct evidence for this, the absence of a single fragment of clay, plaster or stone mould from any production site suggests the moulds were made in a material that was infrequently disposed with and recyclable.

Although it is uncertain what material the mould was made from, it is interesting to note that the quality of the casting of the stem can be quite variable. Stems that can be identified as having come from the same mould often show a difference in the sharpness or definition of their features. While this might be due to subsequent handling of the item whilst it was hot, it might also reflect a prolonged usage of, and wearing to, the mould. So until such a mould is found on a glassworking site, its form must remain purely speculative.

Lion mask stems (*Figures 2-3*)
Lion masks are the most common of mould-blown stem design, and are found across Europe. Despite many slight variations occurring, their design is strikingly formulaic, whether they are found in England, France or Italy.

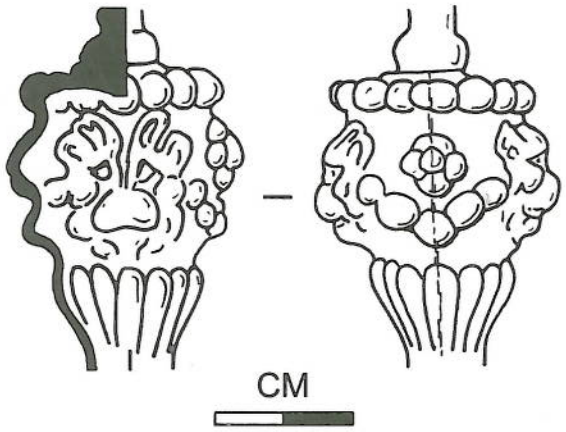

Figure 2: Lion mask stem

Features that all lion mask stems possess can be easily characterised. The main decorative elements are two opposed frontal lion faces, usually with distinct snouts, ears and manes (Figure 2). The top and the bottom of the stem are formed by two zones of raised and distinct vertical gadrooning. In the majority of examples the side of the stem between the lion masks, and where the two mould seams run, is occupied by raised central bosses and a swag of roundels below. However, in some stems found in France and the Low Countries (e.g. Goetz 1990, 191-3) the area of the seam is decorated with devices that are almost heraldic in appearance. Very occasionally lion mask stems appear to have been further decorated by the application of surface gilding, although this rarely survives archaeologically.

In England lion mask stems are generally found in archaeological contexts of the second half of the 16th and early 17th centuries. A recent study undertaken on a group of 66 stems from London attempted to identify the individual and unique moulds from which each stem was produced (Willmott 2000a). Perhaps surprisingly, 57 of these (or approximately 85%) could be shown to fit into just seven different mould varieties. Furthermore, of these seven groups, two were particularly common, and matched a large number of stems found elsewhere in England. This led to the suggestion that at least some lion mask stems were produced domestically. Whatever the case might be, the relatively limited numbers of moulds used to produce this form of stem might indicate that they were precious items, with each glasshouse only owning one pair of moulds.

A slight variation on the lion mask stem, sometimes known as a 'Neptune mask', has also been found in England, and elsewhere (Figure 3).

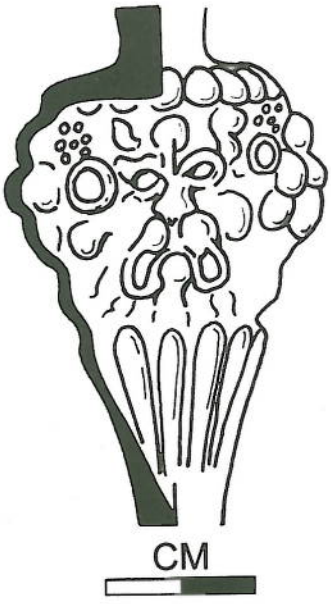

Figure 3: Neptune mask stem

It takes the same form as the lion mask, with gadrooning above and below, and raised bosses at the seams. However, the frontal faces are more anthropomorphic and resemble a bearded man rather than a lion. Further distinguishing features are clear circular ears, with a rosette pattern of raised dots above. Nevertheless, despite the obvious anthropomorphic differences, the Neptune mask is sufficiently similar to the lion mask to categorise them together.

Lion mask stems are found in a variety of contexts, from the high status sites of Nonsuch Palace and Basing House (Charleston 1971, 65), through to more ordinary 17th-century urban assemblages, such as the 16 found at Gracechurch Street, London (Willmott 2000b). Despite the occasional find to the contrary (e.g. Brain 2000, 2) the lion mask stem does not seem to continue in use in England after the Civil War.

Ladder stems (*Figure 4*)

The other major group of mould-blown knops found in England is the ladder stem. The origin of this name is uncertain, but the stem is so-called due to a series of diamond-shaped bosses that run in vertical panels up the stem, creating a negative 'ladder' impression.

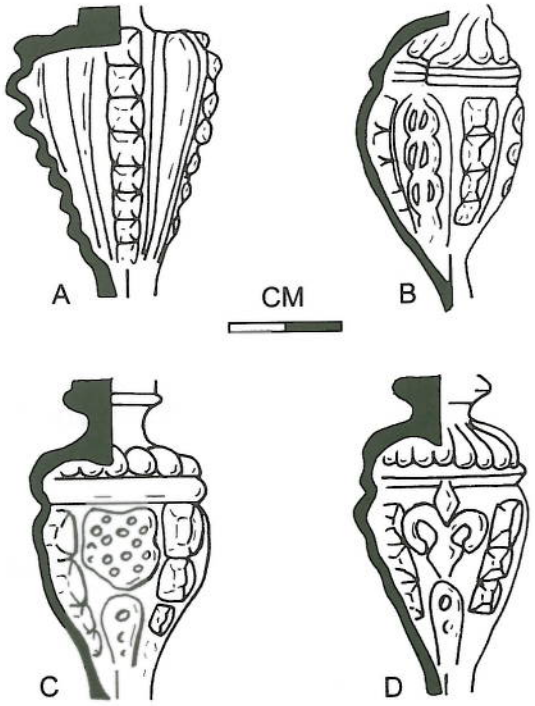

Figure 4: Ladder stem variations

Traditionally ladder stems have been seen as exclusive English products (e.g. Thorpe 1961, 128-9) and despite very occasional finds on the continent this remains the current view.

The ladder stem can be subdivided into four distinct types. The first (Figure 4A) is the earliest and plainest. It takes the form of alternating panels of large bosses and vertically drawn teardrops. The earliest example is found on an English glass, decorated with the engraved date of 1590 (Willmott 2002, 65), and it would seem that most if not all of this design date to the late 16th or very early 17th century.

The remaining ladder stems all share some common characteristics. They all have a distinct zone of gadrooning at the top, delineated from the rest of the stem with a raised horizontal band. Additionally, these three ladder stems have fewer and less pointed bosses, but instead of alternating with elongated teardrops have more complex designs. The first (Figure 4B) takes the form of panels of raised circles or guilloche pattern. This design was definitely made in England, as a half-formed example has been found in the working waste associated with Sir Robert Mansell's 17th-century glasshouse at Old Broad Street, London. The remaining two ladder stem designs are similar in form, except that the panel of guilloche is replaced with either a rosette design (Figure 4C) or a *fleur de lys* (Figure 4D). Although the provenance of these latter two stems is not known for certain, their similarity to the guilloche-decorated example indicates that they also were produced in London during the early 17th century.

Other mould-blown stems (*Figures 5-6*)
Given the inventiveness and ingenuity of early glassmakers, it is perhaps strange to note that in England the only two forms of mould-blown stem found are the lion and ladder varieties. It might be expected that once the technological requirements to produce such stems had been met, that a whole variety of designs would have been produced. Nevertheless, this was not the case in England, and even in mainland Europe the vast majority of mould-blown stems are lion masks. Perhaps it was the strength of the imagery associated with the lion, or the uniformity of design that prevented experimentation with other forms. Whatever the case may be, it was certainly within the skill of 16th- and 17th-century glassmakers to produce a wider variety of designs than they actually did.

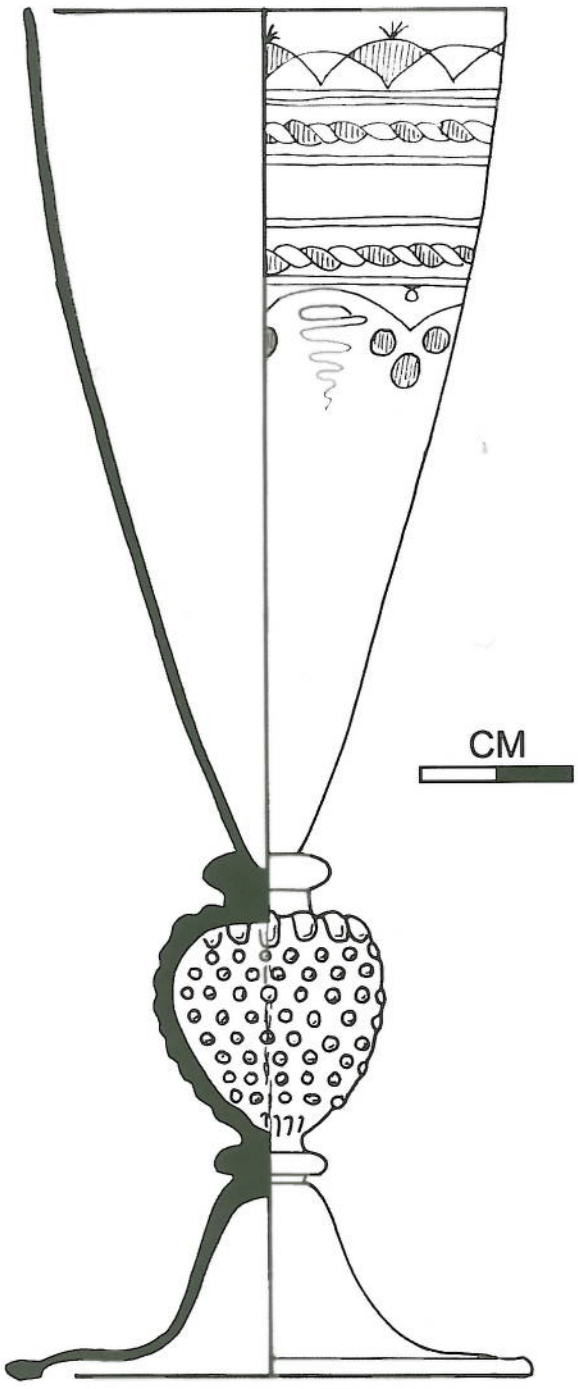

Figure 5: Raspberry stem from Olomouc (after Sedlácková 1998, no. 12.1-4)

Occasionally some variations of the mould-blown stem do occur, although thus far these have all been found outside of England. A notable example of one of these is the 'raspberry stem', sometimes found on glasses in the Bohemian tradition (Figure 5). This stem is more spherical in shape, usually has an upper zone of short gadrooning, and a large number of raised dots on its surface, making it resemble the skin of a raspberry.

Another recently discovered, and more complex, variety is a 'shell stem' from Rennes (Figure 6). This has a clear zone of gadrooning at the base and a flat shell on the face. Either side of the shell is a raised cruciform boss with a swag of roundels above. Interestingly, by way of contrast with the lion mask, the mould seams in this stem do not run through the side boss, but rather through the shell itself.

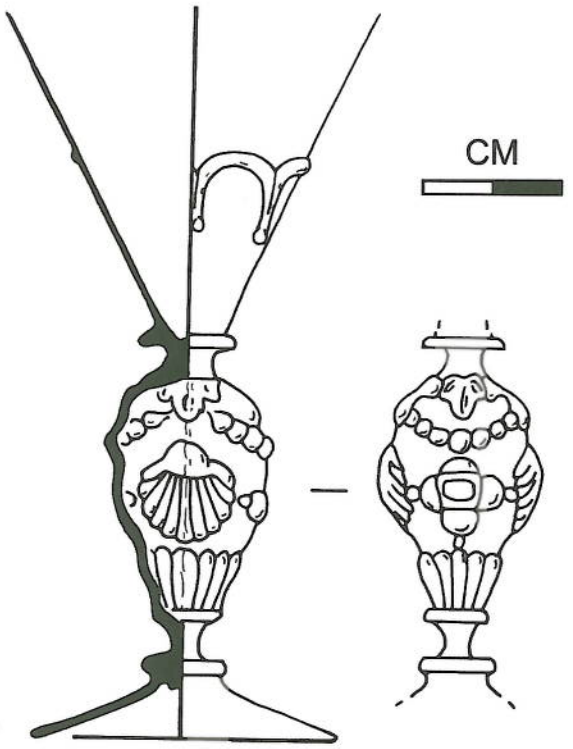

Figure 6: Shell stem from Rennes (after Labaune in press, no. 69)

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