ART. III.—Roman glass in Tullie House Museum. By DOROTHY CHARLESWORTH, M.A.

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A SMALL collection of Roman glass from sites in Cumberland and Westmorland has accumulated at Tullie House over the years. Many pieces have come from private collections formed in the last century and few have a provenance record. Those of known provenance are all from Carlisle or Roman fort sites such as Kirkby Thore, Hardknott, Birdoswald and turret 48b (Willowford West).

So far there is no glass from any of the native settlements which have been excavated, but few in this area have been thoroughly explored, and in any case Roman glass is rare on native sites in Britain. The import of glass vessels into Britain began immediately after the invasion of A.D. 43. Some of the earliest glass may have reached the country among the personal equipment of the army officers. Certainly the earliest glass in the north is found on sites first occupied by Cerealis or Agricola, in our area Kirkby Thore, Carlisle and Nether Denton. The millefiori fragment from the Nether Denton is now in Chesters Museum and so not listed below but the other pieces are in Tullie House.

From then on glass was imported in considerable quantity into Britain and the import did not cease until the end of the Roman occupation. Not very much of it survives for it is generally very fragmentary and in the past excavators have not always taken care to preserve what has been found. Complete vessels are often found in graves where a stone or wooden cist or coffin has protected them and often a glass vessel may
be found in use as cinerary urn in the 1st and 2nd century. It was normal for the ashes to be buried in an ordinary domestic vessel, but it was more often pottery than glass. Two square bottles in Tullie House were used this way.

The glass came from many places, Egypt and Syria, Italy and Gaul, and, above all, the middle Rhineland. In the early years of the occupation, Italy or southern Gaul together with Egypt and Syria were the sole centres, but c. A.D. 70 glass houses were established in the Seine/Rhine area and thereafter this area became the main source of supply. Some glass was made in Britain, but probably not until the 2nd or 3rd century, at Wilderspool near Warrington (which is not far from the principal centre of the modern industry at St. Helens), Caistor-by-Norwich and Colchester. Very little, however, is known about the industry in Britain and it is as yet impossible to identify any of its products.

The Tullie House collection is too small to give any idea of the variety of both shape and metal used by the Roman glass worker or to indicate his skill. The three basic techniques of the industry, however, are represented — mould-pressing, mould-blowing and free-blowing, so the collection has been grouped under these headings rather than in the more familiar typological sequence based on shape.

MOULD-PRESSED VESSELS.

The technique of forming glass vessels by pouring and pressing molten glass into an open mould probably dates back to c. 1500 B.C., but its use did not become common until the second century B.C. For two centuries this was the normal method of making glass vessels, until the discovery at about the beginning of the Christian era of the art of blowing glass. From that time the practice of mould-pressing grew less frequent and by the end of the first century A.D. it seems rarely to have been used.
Two different types of vessel in Tullie House were made in this way:

1. Emerald green plate with a straight outsplayed rim, mould pressed and finished on the wheel. The lathe mark can be seen in the centre of the base. True ring base. H. 1.6 cms. D. 13.2 cms. Fig. 1.

   This plate was possibly made in Italy but so little is known of the continental parallels that it is impossible to be certain. It is closely related to an Alexandrian type, well represented in Egypt at Karanis¹ and found in Britain on various sites, e.g. in London (Fig. 2).² The difference lies in the details of rim finish. The typical Alexandrian plate rim has an overhang at the tip and rounded mouldings at the angles, the other a simpler rim, which is also found on 2nd century Alexandrian bowls. Both plate types seem to be contemporary and the British evidence suggests a Flavian/Trajanic date.

2. Fragment of a pillar-moulded bowl in deep amber glass. The bowl is formed in a ribbed one-piece mould and the smooth inside is polished on the wheel; on the outside the ribbed surface is fire polished, the rim finished on the wheel. D. 16 cms. (TH 1892, 2), see Pl. Ia.

   There are several other fragments of bowls of this type in the collection but none is large enough to give the complete dimensions. In depth and in diameter the bowls vary considerably. The shape of the amber bowl must have been very similar to that of the complete bowl in the Victoria and Albert Museum (Pl. Ia). Others are shallower. The earliest bowls in either millefiori or monochrome glass were made in the first century B.C. In the early years of the first century A.D. they must have been made in many different centres, for the pillar-moulded bowl is one of the most common types of glass found on Roman sites of that period. The richly coloured bowls in deep blue, purple or amber glass belong mainly

¹ D. B. Harden, Roman glass from Karanis, p. 496.
to the early and middle 1st century and in the Flavian period they are infrequent. The more common green and blue-green bowls seem to continue in production, and certainly continue in use, until the very end of the century, but they are not normally found in 2nd century contexts.

MOULD-BLOWN VESSELS.

Since the discovery of the art of blowing glass at about the beginning of the Christian era, vessels have been made either by free-blowing or by blowing into a mould. Many decorated flasks were made this way and the technique was widely used in the bottle glass industry.

The only mould-blown vessels in the Tullie House collections are two complete square bottles and fragments of many others. They are quite impossible to date accurately, for the first examples appear in mid first century A.D. contexts and they continue without substantial change until the end of the 2nd century or perhaps later.

The 3rd century square bottles on the whole, however, tend to be of thin metal or poor quality which contrasts with the strong green and blue-green glass of the earlier bottles.

As well as square bottles cylindrical, hexagonal and octagonal bottles of a similar type were made in the 1st-2nd centuries.
1a. Complete bottle with an infolded rim, mould blown square body with the letter M surrounded by two concentric circles on the base, ribbed handle. H. 30.4 cms. D. 13.9 x 13.9 cms. It was found in Grey Street, Carlisle, enclosed in a stone cist and containing a cremation, Pl. Ib. *British Arch. Ass. Journal*, xx p. 84-5 pl. 4.

b. Smaller bottle of the same type also found in Carlisle, used as a cinerary urn. H. 13.5 cms. D. 7.3 x 7.3 cms., Pl. Ib.

c. Base only of a square bottle with a moulded base marking, a St. Andrew’s cross in the centre and four letters. D. 8.5 x 8.5 cms. Fig. 6.

d. Rim fragment from Birdoswald (TH 44.01).

e. Fragment from Turret 48b, level 1 (38.24). CW2 xxvi 445.

The tops of two cylindrical bottles, probably dating from the 3rd century, were found in Carlisle. They are not unlike the earlier examples of this type, but whereas the early ones are always in natural green or blue-green glass, these are in colourless or nearly colourless metal which was generally used for better quality vessels. Cylindrical flasks in colourless glass with cut decoration are quite common in the 3rd century. There is an example from Corbridge with groups of wheel-cut lines and others from Cambridge. Not enough of the body of Carlisle bottles survives to show whether or not either was decorated.

2a. Rim, neck and shoulder of cylindrical bottle in colourless glass, with a ribbed handle. Found in Carlisle (78.1935.23). H. remaining 7.3 cms. D. 10.6 cms. Fig. 4.

b. Neck and shoulder of a cylindrical bottle in greenish-colourless glass with a reeded handle. H. remaining 8.9 cms. D. 10.7 cms. Fig. 5.

### FREE-BLOWN VESSELS.

Only three different types out of the immensely wide range of free-blown Roman glass vessels are represented in the Tullie House collection.

1. Fragments of a carinated beaker in colourless glass decorated with two groups of wheel cut lines. H. 10.5 cms. D. 12 cms. It was found in the south angle tower at Hardknott and
preserved until recently at Muncaster Castle. Fig. 3. CW1 xii 436 no. 4.

Carinated beakers are found on many Roman sites and seem to date to the 2nd and 3rd centuries. One fragmentary example dated c. A.D. 180 was found at Leicester, others, undated, at Corbridge, Richborough, Crundale and South Shields.

2. Neck of a flagon in blue-green glass with an infolded rim and part of the upper attachment of the handle. On the lower part of the neck the end of ribbing continued from the body of the vessel can be seen. H. remaining 10 cms. (TH 1892, 9). Fig. 7.

This is part of a flagon made in the Seine/Rhine area in the late first or the second century A.D. It has broken off short at the constriction at the base of the neck so that it is impossible to determine whether it belongs to the globular bodied or the conical bodied class. These flagons are extremely common throughout Britain. They are not a homogeneous type. Within the two main subdivisions there are many variations.

3a. Small flask in green glass with a firepolished rim and narrow drop-shaped body. H. 8 cms. D. 16 cms. (4.05). Fig. 8, a.

b. Similar flask, the rim has been broken in Roman times
and the top of the neck smoothed for re-use. Found in Carlisle. H. 7.5 cms. D. 2 cms. (15. 20. 15). Fig. 8, b.

c. Similar flask found in Carlisle. The rim is broken off. H. remaining 10.2 cms. D. 2.6 cms. (15. 20. 14). Fig. 8, c.

d. Part of a small flask with a conical body. H. remaining 6 cms. D. .21 cms. (TH 1892, 17). Fig. 8, d.

e. Base of another similar to the last. D. 3.5 cms. (5. 05. 314). Fig. 8, e.

These small perfume flasks are referred to as unguentaria or unguent bottles or in the early archaeological literature as "tear bottles" or "lachrymatories". They date from the 1st and 2nd centuries and in general the fire polished rim is earlier than the infolded rim and the narrow drop-shaped body earlier than the conical or wide blown bulbous body but there is a considerable overlap. All the Tullie House pieces are in natural green or blue-green glass but coloured metals were also used.

Some unguentaria were found in excavations on the site of the Roman cemetery at Gallows Hill, south of Carlisle at the same time as a "much broken bottle with lettering on it". This material went into the Morton collection and then to Ferguson and from him to Tullie House.\(^3\)

\(^3\) CW2 xii 367 f.
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