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A BRONZE BOWL FROM THE RHINNS OF GALLOWAY. BY THE REV. R. S. G. ANDERSON, B.D., F.S.A.Scot.

Early in 1937 a ploughman on the farm of Awhirk, in the Rhinns of Galloway, while at work, struck what seemed to be the green rounded

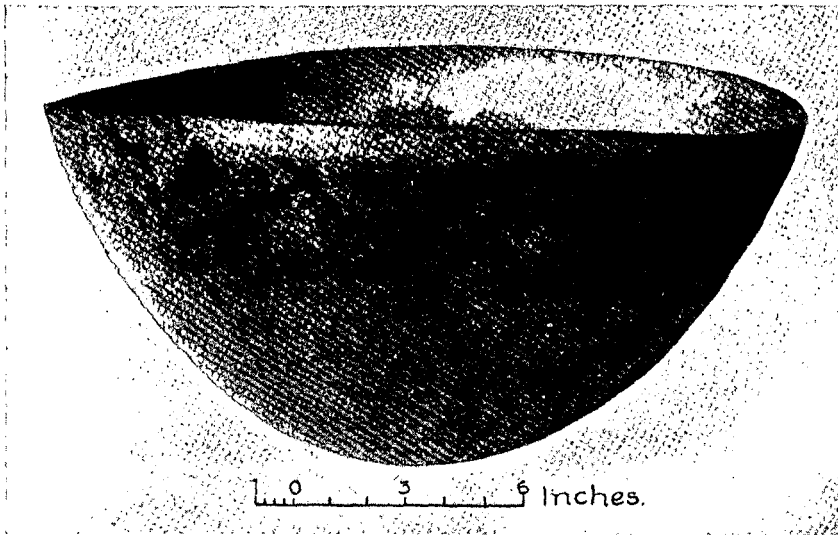


Fig 1. Bronze Bowl from Awhirk.

top of an embedded stone. The plough glanced off, but on the return furrow it collided with the same obstacle more directly, and wrenched it out of the peaty land. Examination proved the object to be a metal bowl that had been lying inverted in the soil (fig. 1). That the bowl was

only slightly indented and bruised, not burst open, speaks well for the quality of the bronze of which it was made. As the metal was badly tarnished, the finders concluded that it was only a worn-out utensil thrown away by its owner as useless; and for weeks it was allowed to lie in the open by the edge of the field. Fortunately the farmer, who had been disposed to think that the bowl might have some antiquarian interest, decided to put it in a place of safety, and to make inquiries as to its origin and use.

Awhirk is a farm on the watershed of the Rhinns, where this promontory divides the Irish Channel from the northern end of Luce Bay, the site of the farm being a little more than half-way on a line from Portpatrick to Stoneykirk village. The whole district is a jumble of low grassy hills, rounded by glacial action, and with irregular patches of level land in the intervening hollows. Near the north-eastern corner of such a basin that stretches for about half a mile in length and is a few hundred yards wide, the farm buildings of Awhirk stand on the foot of the encircling slope, with little more than the road separating them from an ancient moss which is now being brought under cultivation. This would originally be a lochan draining the seepage from the hills around, and discharging the overflow at both east and west ends. The gathered drift of the ages, as well as the living and decaying vegetation, would gradually choke the hollow so that it ended as bog and peat moss. On the south side of this moss, now a field, and a little farther west than the farmhouse, there is a bit of rising ground that may also have been islanded by bog in early days, but too high ever to have been covered by it. From this there runs a sharp spur into the field where a large number of bleached stones lie scattered for several yards out, evidently the relics of an ancient causeway disturbed by the plough. This seems to have ended at a circular stone platform, probably the site of a primitive hut. But there is no sign that this site was connected with the knoll at some distance to the north-east, where the bowl was found.

During its most recent phase, owing to drainage and evaporation, the moss has been shrinking, so that the surface of the field which was once almost level has become more undulating, and one knoll of considerable size has been disclosed almost in front of the farm buildings, and 40 or 50 feet to the south of the road. It was on the inner slope of this knoll, where the surface has sunk $4\frac{1}{2}$ feet in 17 years, that the inverted bowl was found suspended in the soil about three feet above the till, with its base just visible above ground. Owing to the field being under cultivation there was no opportunity for further exploration

at the time. Rumour speaks of a crannog having been found in the Rhinns, and says it was destroyed by a farmer unwittingly; but there is no certain evidence of a crannog here. A large number of oak-tree roots line the road alongside the field, evidently drawn from the old moss, all the trunks having been sawn off. Only two or three pieces of the trunks remain, and these are quite plain. There are no signs of any framework, and no tool-marks save those of the saw, and none of the older men could remember seeing any.

The Awhirk bowl is a simple bowl of hammered bronze, made from a single sheet of metal, almost $\frac{1}{16}$ of an inch in thickness. In shape it is the half of an oval, clean cut across, without any rim or handles; the diameter of the mouth varying from $18\frac{1}{2}$ inches to 21 inches, and the circular measurement of the lip 62 inches. It stands 11 inches high, and weighs $7\frac{1}{2}$ lbs. The base is rounded, but so well balanced is the bowl that without support it stands almost vertical. Though somewhat flexible owing to the thinness of the metal, it is strong and durable. There is nothing in the way of ornament, unless the hammer-marks that make a broad band round the lower part of the exterior can be so called.

The most distinctive feature of the Awhirk bowl is a small perforation in the centre of the rounded base. It is circular, almost $\frac{1}{8}$ inch in diameter, and has evidently been bored from the interior, as a slight fur can still be felt on the outside. A finely incised circle also surrounds the opening. The bowl is evidently a clepsydra, or water-clock; and as such is in a separate category from the other cauldrons in Scotland, which in all likelihood were intended for culinary purposes or brewing.

The clepsydra was at first a very simple affair—a plain bowl with a small perforation in the base, which could be floated on water and gradually filled by percolation till it finally sank—an attendant noting the time taken to fill, and the number of refills needed in a given period. Aristophanes (died 380 B.C.) mentions a water-clock in which the water ran gradually from one vessel into another. Presumably the under vessel would be graduated for hour measurement. In later days the clepsydra became more complicated in its mechanism; means having been devised to correct weaknesses inherent in the early system. It was 135 B.C. before Ctesibius of Alexandria invented a water-clock that would register accurately.¹ Cæsar was perhaps contrasting something of this kind with primitive styles still in vogue, when he wrote of measuring time in Britain by “accurate water-measures.” Clepsydræ continued in use in Britain till about the eleventh century, but cauldron-clepsydræ existed only in a few centuries before and after the beginning of our era.

¹ Vitruvius, ix. 9; Pliny, *Hist. Nat.*, vii, 125.

The technique of hammered-bronze work which is distinctive of the Late Bronze Age—Hallstatt complex on the Continent—is held to be the precondition of that Greek and Roman blend which was to provide the models for the cauldrons of the British Late Bronze Age.¹ The clepsydra was not invented early enough to be connected with this type since the Late Bronze Age in England closed about 500 B.C. It is only in the Iron Age that it is found in England represented by a bronze cauldron of a modified Carlingwark Loch type. The find was made at Baschurch, Shropshire; the cauldron being hammered up complete from sheet bronze, and not built up of several plates like the parent type. Two or three other clepsydræ, of similar shape but much smaller, have been found in Suffolk and the south of England.² It was in Suffolk also, at Santon Downham, that the large cauldron of the Carlingwark type was found with a mixed hoard of Celtic and Roman tools and ornaments. The location of the various finds suggests that this type of cauldron may have come to Britain from the Continent, from the coasts opposite. It has been found there “as far north as Denmark, and Willer illustrates specimens from Hemmoor, Hanover, and Korchow in Mecklenburg. He takes the view that they come from the south, either from Italy or the country behind Apuleia.”³ With this history it is very probable that the knowledge of the clepsydra, as well as the modified cauldron-clepsydra, arrived by this route. This does not preclude it having reached this country by a more westerly route also.

Clepsydræ have been found with cauldrons of the Blackburn Mill type, which were almost contemporary with the Carlingwark type of vessel. The former may, indeed, be a sub-type from the same source. At Walthamstow, Essex, there was found a cauldron-clepsydra, hemispherical, with traces of an iron band that had once been attached to the rim by rivets. Its dimensions were: diameter, $14\frac{3}{4}$ inches; height, $7\frac{1}{2}$ inches. A cauldron at Battersea had practically the same shape and size, the latter being: diameter, $14\frac{3}{4}$ inches; height, $7\frac{3}{4}$ inches.⁴ The Blackburn Mill cauldrons are much the same in shape, and have the characteristic rivet holes on rim and sides. The dimensions of the smaller one are: diameter, 13 inches; height, $7\frac{1}{2}$ inches, corresponding very nearly to those of the Walthamstow vessel.⁵ Along with this cauldron at Blackburn Mill there was a larger one of the same type:

¹ Childe, *Prehistory of Scotland*, p. 158.

² Smith, *Proc. Soc. Ant. Lond.*, vol. xxi. p. 319, 2nd Ser.

³ Curle, *Proc. Soc. Ant. Scot.*, vol. lxvi. p. 310.

⁴ *Proc. Soc. Ant. Lond.* vol. xxi. p. 319, 2nd Ser.

⁵ *Proc. Soc. Ant. Scot.*, vol. i. p. 43; *ibid.*, vol. lxvi. p. 314.

diameter, 21 inches; height, 10 inches; and it is interesting to note that at Walthamstow also a second large cauldron was found, measuring: diameter, 19 inches; height, 10 inches. At Kyleakin, Skye, a cauldron of similar design was found, measuring 18 inches in diameter and 12 inches in height. These various vessels have a close family resemblance. Their sites lie near to the coast, and are open and convenient to the traders from the same coastlands who may have provided the Santon Downham and Baschurch types. All the vessels are made of the characteristically thin, paper-thick bronze. Each of the two groups has provided a clepsydra, but none that show kinship with the Awhirk bowl, which can be described as hammered up from a sheet of (comparatively) thick bronze; its outline a simple arc, with its greatest diameter at the lip; and with no accessories, such as added rim and handles.

Though the Late Bronze Age closed in England some time before 500 B.C., its technique persisted in Ireland till almost 200 B.C.¹ A clue to the origin and design of the Awhirk bowl may be found in this fact. Among the earliest cauldrons there is a range of forms varying from the globular through varying curves to the conoid. One in the Belfast Museum from an unknown locality has the curves of its bowl a little fuller than those of the Awhirk specimen, and another from Portglenone has the curves only a little sharper. The bowl of the bronze cauldron from Hattenknowe, Peeblesshire,² has outlines very similar to those of the Awhirk find. It is in all likelihood an Irish-made cauldron, for Ireland supplied many to Britain. Its greatest diameter is 21 inches; its height 15½ inches; and its circumference at widest is 61¾ inches. The Awhirk bowl is 21 inches in diameter, and 62 inches in circumference at the lip. It bears to the Hattonknowe type of cauldron practically the same relationship that the Baschurch bowl does to the Carlingwark type. By the close of the Late Bronze Age in Ireland, the cauldrons were losing their large ring-handles and rims. The Awhirk bowl, which is of the Iron Age, is 11 inches in height, but with an added rim and shoulder of the Hattonknowe type it would probably have reached the 15½ inches of the latter. The change over from the technique of cauldrons built up of separate plates to that of the complete bowl hammered up from sheet bronze, as in the Baschurch type, is seen here also. But the earlier technique still lingers in the thick sheet bronze, which is a marked feature of the Awhirk bowl, in contrast to the paper-thin bronze of the Iron Age bowls found on the eastern side of the Irish Channel. Like

¹ Leeds, *Archæologia*, vol. lxxx. p. 29.

² *Proc. Soc. Ant. Scot.*, vol. xxxix. p. 15.

the Hattonknowe cauldron, the Awhirk one has been made of light-coloured bronze.

It seems probable that the unusual shape of the Awhirk bowl may be due to its having been originally designed for a clepsydra. The other cauldron-clepsydræ we have noticed could have been merely adaptations of the ordinary bowls of commerce. Cauldrons with in-turned rims, or bulging towards the base, would be much less suitable for frequent lifting when full, and emptying, than this Awhirk type, which would empty itself as it was lifted or pulled out at an angle from the water.

The Awhirk bowl may have come from Ireland to the Rhinns, and might be dated to the end of the second century, or in the first B.C.