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NOTE ON A GROUP OF PERFORATED STONE HAMMERS REMARKABLE FOR THEIR SIMILARITY OF FORM AND ORNAMENTATION. BY JOSEPH ANDERSON, LL.D., ASSISTANT SECRETARY AND KEEPER OF THE NATIONAL MUSEUM OF ANTIQUITIES.

The group of perforated stone hammers which is the subject of the present notice is remarkable for its similarity of material, form, and ornament. The material is a hard, light-coloured hornstone, or chalcedony, or quartz; the form is identical, and the pattern of the ornamentation is also identical. Yet the first example comes from Wales, the second and third from Scotland, and the fourth from England.

The form is approximately ovoid, with flattened sides, the ends rather flatly rounded and similar, but the lower end larger than the upper. This particular form, although one which is extremely suitable and serviceable as a hammer form, is scarcely known unless in connection with the peculiar ornamentation,¹ from which the presumption arises that the form was specially adapted to receive and show the ornament to the best advantage. The ornamentation is peculiar, in that it is a diaper pattern, carried out over the whole surface. No other form of hammer is known to have been ornamented with a diaper pattern.

The first known example (fig. 1) is the largest which has the pattern completely carried out. It was found by a labourer stubbing up a wood on the Maesmore estate, near Corwen, Merionethshire, about the year 1840. Some considerable time afterwards it passed into the possession of the Rev. Edward Lowry Barnwell, of Ruthins, North Wales, a Corresponding Member of this Society, who presented it to the Scottish

¹ I have only seen one example of this special form of hammer which is unornamented. It is in the Falconer Museum, Forres, *Proceedings*, vol. xxii. p. 353.

National Museum of Antiquities, Edinburgh, in 1864.¹ The material has been described as a dusky white chalcedony, so hard that a steel point produces no effect on its surface. It measures 3 inches in greatest length, 2 inches in breadth at the broader end, in a line parallel to the haft-hole, and $1\frac{3}{4}$ inches at the other, while the greatest thickness is

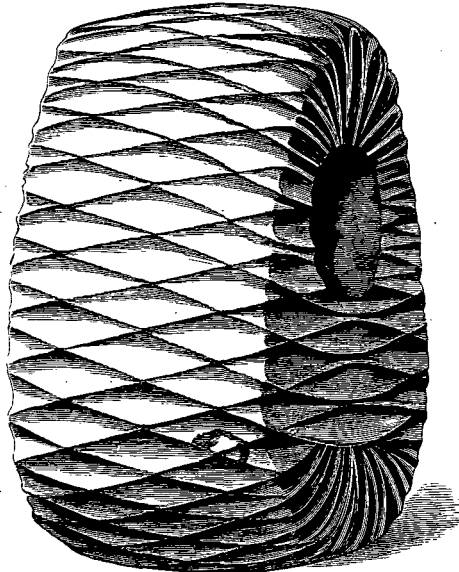


Fig. 1. Ornamented Stone Hammer found at Maesmore, Corwen, Merionethshire. (†.)

2 inches in the middle of the lower part. The haft-hole, $\frac{3}{4}$ of an inch in diameter, is pierced through from one flat face to the other, just above the middle of the length. It has been bored from both sides, but so accurately that the junction of the two borings is scarcely perceptible. The weight of the implement is $10\frac{1}{2}$ ounces.

As has been said, the principal interest of the hammer is the symmetry and beauty of its decoration. The pattern is simple, but

¹ *The Archaeological Journal*, vol. xix. p. 92; *Proc. Soc. Antiq. Scot.*, vol. vi. p. 42.

exceedingly effective. In the flat it is merely a lattice design of straight lines crossing each other obliquely, so as to mark off lozenge-shaped spaces of the surface. But here it is carved or rather ground by hand, out of the solid, with a patient precision of most admirable quality. Each lozenge is ground out, or sunk, with a regularly ovoid curvature of surface, so that while the margins of the lozenge spaces remain at the same original level, the curves of the central lines sink to a depth of almost a sixteenth of an inch below the marginal lines. Hence every space is lozenge-shaped as to its marginal outline which stands out in relief, while its surface sinks in graceful curvature towards the median lines of its length and breadth, to a depth proportioned to its size, the sizes varying in proportion to the dimensions of the part of the surface to which they are applied, being larger towards the wider end and smaller towards the narrower end of the hammer. The modification of the pattern to meet the exigencies of the shape, by which the lines of the lozenge-shape are made to converge upon the rounded ends above and below the haft-hole, is a remarkably clever piece of design, and the whole effect is like the meshes of a net drawn tightly over the hammer. The hollowing out of each of the lozenge-shaped spaces could only have been accomplished by hand-grinding. The stone is so hard that the amount of time consumed in the process of grinding out the spaces one after another must have been enormous, the number of spaces to be ground being over 190.

The significance to be attached to such a laborious and costly fashioning of the hammer as a skilful work of art takes it clearly out of the category of tools or weapons intended for common purposes. In the entire absence of relevant evidence as to the exact import of this distinction, various conjectures have been offered, without much likelihood of one being more pertinent than another. Sir John Evans gives his opinion "in favour of regarding it as a weapon of war, such as, like the jade *mere* of the New Zealander, implied a sort of chieftainship in its possessor."

The second hammer (fig. 2), which is also completely covered with the

same ornament, except for a small space of about an inch by $\frac{7}{8}$ of an inch on one corner, where a chip has been broken off the surface, is in possession of Mr Donald Mackenzie, of the Inland Revenue, at Bonar Bridge, in Sutherland, and forms the gem of his collection of antiquities. Mr Mackenzie was good enough, in answer to a communication from me, to send it for exhibition to the Society at its meeting in April last,

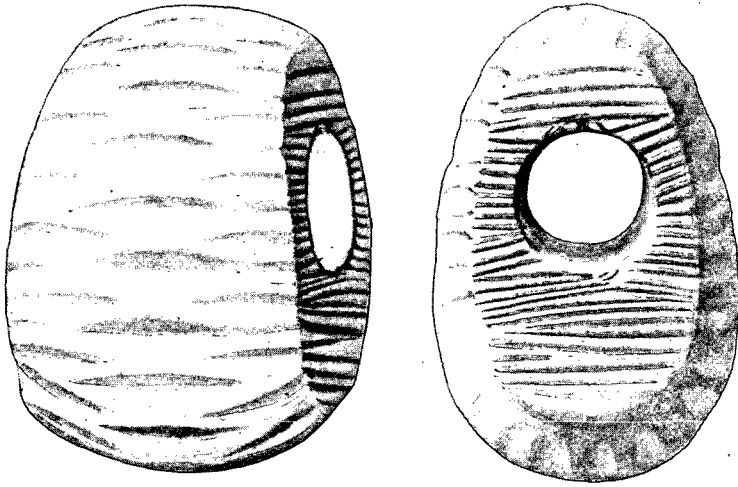


Fig. 2. Ornamented Stone Hammer found at Airdens, near Bonar Bridge, Sutherland. (†.)

and to allow me to describe and figure it in the *Proceedings*. In his letter sending it he says:—"It was found by a man in the bottom of an old ditch that he was cleaning out at Airdens in this locality (Bonar Bridge). It was chipped when he found it. It was apparently perfect in all respects, and must have been a beautiful little article before it was chipped. It will probably ultimately find a resting-place in your museum." It is almost precisely of the same shape as the Welsh example, but considerably smaller, measuring $2\frac{7}{8}$ inches in greatest

length, $1\frac{3}{4}$ inches in breadth at the broader end, in a line parallel to the haft-hole, and $1\frac{1}{2}$ inches at the other end, while the greatest thickness is $1\frac{5}{8}$ inches in the middle of the lower part. The haft-hole, $\frac{1}{8}$ of an inch in diameter, has been bored from both sides, but the borings have not met each other accurately in the middle, and a subsequent grinding out of the inequality has been resorted to. The material is apparently a paler variety of the same chalcedonic quartz or hornstone as the Welsh specimen, and reveals a conchoidal fracture in the part where it is chipped. The weight is $5\frac{1}{2}$ ounces.

The ornamentation is quite the same as on the Welsh hammer, with the exception that the lozenge-shaped decoration is not carried over the margins of the flat faces, which are only decorated by horizontal lines drawn roughly parallel and quite close to each other. The lozenge-shaped spaces are not ground quite so deeply nor the marginal lines finished so sharply as in the previous case, but the arrangement is the same, with a vertical row of lozenges occupying the middle of the face, the difference being that the half-lozenges on each side of the middle row are not finished by carrying the other half over on the flat side, as the Welsh artist has done. Allowing for the absence of those represented by the chipped surface, the number of ground spaces would be about 80, and the number of the lines ground on the flat sides about the same, the short lines on either side of the haft-hole having been done from opposite sides—first the one set, and then the other.

The third example (fig. 3) is a hammer of the same form, finished in all respects except with regard to its decoration, which has been completed on the smaller end, and blocked out down its four sides, but not further carried out. It was found before 1871 near Kenny's Hillock, in the parish of Urquhart, Elginshire, and presented to the Scottish National Museum of Antiquities¹ by Rev. James Morrison, of the F.C. church, Urquhart. It is of a rather coarser variety of quartz than the others, but of the same form, measuring $2\frac{7}{8}$ inches in extreme length, $1\frac{3}{4}$ inches in breadth at the broader end, in a line parallel to

¹ *Proceedings*, vol. ix. p. 258.

the haft-hole, and $1\frac{3}{8}$ inches at the smaller end, and $1\frac{11}{16}$ inches in greatest thickness. The weight is $7\frac{3}{4}$ ounces. The haft-hole, which is $\frac{5}{8}$ of an inch in diameter on the one side of the hammer, widens to $\frac{11}{16}$ of an inch at the other. It has been bored from both sides, and the borings have not met exactly in the middle, there being a considerable

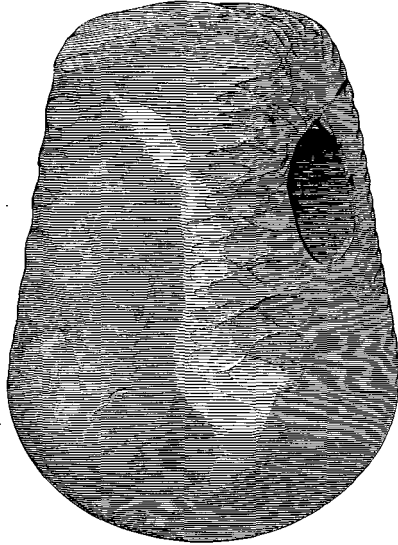


Fig. 3. Ornamented Stone Hammer found at Urquhart, Elginshire. (†.)

cavity in the lower side of the hole towards the wider end, where the stone seems to have been broken out, and the broken part left unsmoothed. There is a chip about $\frac{3}{4}$ of an inch in length in one of the flat sides at the lower end, where there has been apparently a flaw in the stone, and an extensive irregular dark brown stain extends from the one end to and across the other, on one side.

The special interest of this example lies in the fact that the ornamentation of the surface has been commenced, partially carried out, and left unfinished. The smaller end of the hammer has been actually

finished by the grinding out of the pattern to the extent of seventeen lozenge-shaped spaces, which cover the whole of the rounded surface of that end. Seventeen small nicks are blocked out at equal distances on each of the margins of the one side-face as guides for the commencement of the grinding out of the pattern on that side. On the opposite side-face the work has been carried further, and along each margin one can see eight incipient lozenge-shaped spaces almost half ground out. It is difficult, however, to reconcile the blocking out of the pattern on the one side, where seventeen nicks are made, with that of the other, where only eight incipient lozenge-spaces are visible; and one is disposed to wonder how the pattern would have turned out if the operator had proceeded with it to a finish.

The fourth example (fig. 4) is also unfinished with respect to its decoration. I have not seen it, but it is described and figured in the *Anti-quary* (vol. 37, p. 99), where it is said to have been found some time since (before 1901) in the parish of Quarnford, Staffordshire, and to be now in the possession of Mr M. Salt, of Buxton, who has kindly presented a cast of it to the National Museum. The stone of which the hammer is made is said to be hornstone. It is of the same form as the others, but somewhat larger in size than any of them, being $3\frac{1}{4}$ inches in greatest length by $2\frac{3}{8}$ inches in greatest breadth and $2\frac{1}{4}$ inches in greatest thickness. The shaft-hole is similarly situated, but is rather larger and lower down, and is $\frac{7}{8}$ of an inch in diameter; having been bored from both sides, the one orifice is slightly larger than the other, and the borings have not met accurately in the middle. Like the previous specimen from Urquhart, Elginshire, the ornament only occurs on one end of the hammer, but in this case it is the larger end, and there is no blocking-out of the pattern down the sides. The number of lozenge-shaped spaces of the decoration is seventeen, and they are somewhat more deeply hollowed out than in any of the other examples.

As yet no example of these stone hammers with this peculiar ornamentation has been found in connection with a burial, or in association with any other objects which might have afforded a definite clue to the

period to which they belong. But there can be no doubt of the survival of the highly finished and perforated, but unornamented, hammers of stone into a comparatively advanced period of the Bronze Age. They have been found in England associated with burials, and accompanied by bronze flat axes, several varieties of bronze-tanged dagger-blades and

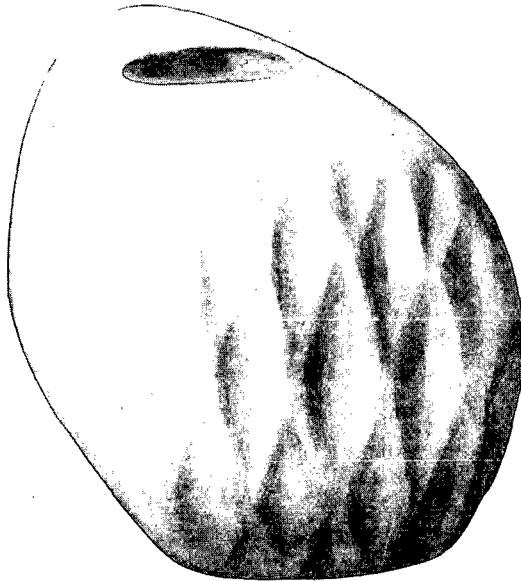


Fig. 4. Ornamented Stone Hammer from Quarnford, Staffordshire. (†.)

pins. And the style of lozenge decoration is found in the flat on bronze axes and tanged blades, and on the jet necklaces and cinerary urns of the Age of Bronze. The ornamentation on the hammers is, however, of a more advanced style; and from all these considerations they may be referred, with considerable probability, and in the absence of direct evidence on the subject, to some time in the latter half of the Bronze Age.