

## III.

NOTES OF SMALL ORNAMENTED STONE BALLS FOUND IN DIFFERENT PARTS OF SCOTLAND, &c.; WITH REMARKS ON THEIR SUPPOSED AGE AND USE. BY JOHN ALEXANDER SMITH, M.D., F.S.A. Scot. (PLATES I., II.)

Stone balls, or rather round stones or pebbles, more or less circular in form, and of various sizes, are frequently found along with other ancient remains, or in the ruins of ancient structures, such as the numerous brochs of the north of Scotland. Many of these are simply natural pebbles of quartz or other stones, and frequently show traces on their sides of having been struck or rubbed against other hard surfaces; they are believed to have been used for bruising or rubbing such substances, as grain or dried fish, &c. Various examples of these rude natural balls are in the Museum.

There are other examples of rounded stones that have probably been used for cooking purposes, the stones being heated and then added to water contained in wooden or even skin vessels containing meat, &c., which may be cooked in this way, as indeed is still done among some of the aborigines, as the "Assinneboins," or "Stone Boilers," of Western America and in other parts of the world. The old system of cooking or baking of the New Zealanders was by heating stones with fire, then covering them with moistened leaves on which the meat was placed which in its turn was again covered with more leaves, and then all were covered over with earth; the whole process of baking going on in this way, until the experienced New Zealander knew that the food was sufficiently cooked. These and other uses of heated stones are well known, and it is possible that various stones in our museums may have been thus used as cooking or boiling stones.

Other stone balls of various sizes have been used as weapons of offence, being thrown from war engines of different kinds, as catapults, &c. One in my possession, formed of a white, hard, compact limestone almost like marble, is considerably chipped at its sides so as to make it irregularly circular in character; it measures 4 inches in diameter, and now weighs 2 lb. 10 $\frac{1}{4}$  oz. It was found, with numerous others, in the course of making excavations outside the walls of Jerusalem, and was given to me by my friend Adam C. Messer, M.D., R.N., who got it on a recent visit to Palestine.

Besides these, there are stone balls in the Museum of different sizes, and of more modern manufacture, which were probably used at a much later period as stone shot: I refer especially to those presented to the Society in July 1860, by Col. C. F. Skyring, R.E., which were found when excavations were made for the new battery at Broughty Castle, Fife. These varied from 4 to 8 inches in diameter. Others, from 2 to 3 inches in diameter, were presented by Mr Tod, Dirleton, in February 1862, which were found with a number of others in excavating at the ruins of Dirleton Castle, Haddingtonshire.

Other stone balls have been, and indeed are still, used as sinkers, or sink stones for fishing lines and nets. These, however, are generally much ruder in character and less worked or circular in form, being often simply oval-shaped stones pierced with a hole, or grooved in different directions for cords which tied them to the fishing line or net.

The stone balls, however, to which I wish now to call your attention, are of a different character, and were certainly put to a very different use. They are all more or less sculptured or ornamented on their surface, in various styles and patterns, and, from their appearance and their generally carefully finished character, seem rather to suggest something that had been attached, it may be, to a handle, and used as a favourite weapon either in the chase or in war, in the style of the ancient mace or mediæval "morning star." These balls are all about the same size—that of an orange—however much they may vary in the more or less elaborate character of their ornamentation. In the Museum of the Society we have a series of interesting examples of these balls shewing different styles of ornament.

The stones balls may be sub-divided into several classes, or rather varieties—first, those covered over all their surface with small rounded projections; and second, those with circular discs, either plain or ornamented, which project more or less from their surface. A third class may also include stone balls of a corresponding size, with their surface more or less carefully polished.

*I. Stone Balls carved over their whole surface with small projections in low relief.*

(1.) *Waterlair, Garvock Hill, Kincardineshire.*<sup>1</sup>—This stone ball was

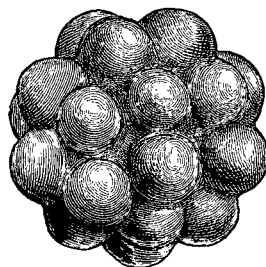
<sup>1</sup> Proc. Soc. Antiq. Scot. vol. iv. p. 292.

presented to the Museum in 1861, by Mr John S. Gibb. It is formed of a greenish-coloured gneiss, and a small vein of quartz runs through part of it. This ball is covered all over with small rounded projections in low relief. It was found among the roots of a large tree in trenching ground which had been covered with old Scots firs, on the farm of Waterlair, on the north east end of Garvoek Hill, Kincardineshire.

The ball measures  $2\frac{5}{8}$  inches in diameter, and weighs 17 ounces avoirdupois.

(2.) *Isle of Skye*.—A stone ball of a pale-coloured claystone was presented to the Museum by Sir Kenneth S. Mackenzie of Gairloch, Bart., in 1861. It is also covered over with small rounded projections; but these projections are a good deal larger and in higher relief than on the one first described (see the annexed woodcut).

This stone ball was found in the Isle of Skye in 1847. It measures  $2\frac{6}{8}$  inches in diameter, the projections being each about half an inch in height, and it weighs  $17\frac{3}{4}$  ounces.



Stone Ball found in the Isle of Skye.

(3.) *Main, Morayshire*.—In the Museum of Elgin there is preserved a stone ball, also covered with small rounded projections. It was found about a mile south of Elgin, half way between Birnie and Elgin, on the south side of Herd Hillock, on the farm of Main, 2 feet under ground, during trenching, July 20, 1863, and the finder, whom the Rev. Dr Gordon of Birnie, a Corresponding Member of the Society, saw recently, informed there was nothing about the spot to make it different from the surrounding ground, which was rough and heathery. The place is connected with the Elgin Asylum as an exercise ground.

It appears to be formed of gneiss, with very minute crystals of horn-blende and felspar. The ball measures  $2\frac{8}{10}$  inches in diameter, the projecting knobs measuring about  $\frac{3}{10}$ th of an inch in height,  $\frac{2}{5}$ th of an inch in breadth, and about  $\frac{1}{5}$ th of an inch between each knob at their bases. It weighs exactly  $19\frac{1}{2}$  ounces.

I am indebted both to Dr J. C. Howden of Sunnyside, Montrose, and to the Rev. J. M. Joass, LL.D., of Golspie, for sketches and details of this curious stone ball.

(4.) *Skaill, Orkney*.—There is in the Museum a plaster cast of a sandstone ball, carved all over with small projections in bold relief; but these projections are not so much of a rounded as of an angular character.

The ball was found between two stone divisions or boxes, amongst a quantity of ashes, in the curious underground dwelling at Skaill, Orkney, full details of which are given by George Petrie, Esq., Cor. Mem. S.A.Scot., vol. vii. p. 209 of our Proceedings (where the balls are figured).

It measures, like many of these balls, 3 inches in diameter.

In the same dwelling; discovered underground at Skaill, another stone ball, or rather oval stone, was found. It is covered like the last with similar small angular projections, cut over its surface.

This stone, however, is less regular in shape, being more oval, measuring  $3\frac{7}{8}$  inches in greatest diameter, and  $3\frac{1}{4}$  inches across. It is rather hollowed out on each side, where it is perforated by a hole 1 inch across, which tapers to  $\frac{1}{4}$  of an inch in the middle. From its size and the style of its ornamentation, although its shape is somewhat different, it may be supposed to belong also to the same class as the one last described. A cast of it is in the Museum, to which it was also presented by Mr Watt of Skaill.

It was found, Mr Petrie tells us in his paper on Skaill, already referred to, in one of the divisions or stone boxes of this curious underground house.

*II. Stone Balls ornamented with circles, cut with more or less projection on their surface.*

The stone balls of this division are the most numerous; they have a series of rounded divisions or circles, varying in number, cut more or less deeply over their surface; the surface of these circles themselves is in some instances plain, and in others cut into different ornamental patterns. The spaces left between the circles are also in some cases ornamented. In some stone balls these circles are simply cut, as it were, in mere outline over the surface of the ball, while in others

they are perhaps fewer in number, but so deeply cut that the small circles stand up as distinct discs or knobs, completely changing the outline of the circular ball into a regular or irregularly bossed or knobbed outline. Of these knobs some are plain, and others ornamented in different patterns. I shall refer first to those stone balls where the circles are numerous and only slightly cut or indented into the surface of the rounded stone, and next to those where they project, as more or less strongly defined bosses, from the surface of the ball.

In many of these balls there is one or more central discs, around which the others appear to be cut or grouped. In some cases this disc is larger and in others smaller than the rest, and it is sometimes left plain or unornamented, while the others are more or less ornamented. It seems thus to suggest the part of the ball to which a thong or handle of some kind might possibly be attached.

(1.) *Glenfarquhar, Kincardineshire.*—The first stone ball I shall notice is the one I have already described in the previous paper, which was found at Glenfarquhar, parish of Fordoun. Only a little more than half of the ball is preserved, and it shows traces of no less than five circles cut slightly in outline on its surface. The ball is formed apparently of a dark fine-grained hornblende rock. It measures about  $2\frac{5}{8}$  inches in diameter, and now weighs  $10\frac{3}{4}$  ounces.

The next stone ball I shall refer to, is one showing also a number of circles very slightly cut on its surface, indeed, merely in outline; these circles, however, are ornamented in various ways.

(2.) *The Paton Collection, Dunfermline, Fife (with 15 discs).*—This stone ball is one of five specimens which Sir Noel Paton has kindly sent at my request for exhibition to the Society. It was formerly in the collection of his late father Mr Neil Paton, F.S.A. Scot. Of all these five balls the history has now by Mr Paton's death been most unfortunately lost. It is probable they all belong to Scotland; most likely they may have been found in some of the counties surrounding Dunfermline, where Mr Paton long resided, and was well known as a collector of Scottish antiquities, but no record of their discovery or the localities in which they were found has apparently been preserved. This stone ball

is entirely covered over with small circles cut in outline, and projecting very slightly from the surface of the ball. The circles are irregularly placed over the surface of the ball, the interspaces being larger between some circles than others; they are also ornamented in various ways, some being covered with a series of concentric circles, and others with interlacing lines crossing one another diagonally, while one or two others have their surfaces picked out into small dots or holes. These small circles are no less than fifteen in number. The ball has been apparently blackened artificially, or simply by long handling, and seems to be formed of a hard heavy basalt or trap rock. It measures 3 inches in diameter, and the circles cut upon it vary from  $1\frac{1}{8}$ th to  $1\frac{3}{8}$ th inch across. It weighs 21 ounces.

(3.) *Paton Collection, Dunfermline, Fife (with 12 discs).*—The next stone ball from the Paton Collection is irregularly divided into nine circles projecting nearly a quarter of an inch from the ball, and three smaller oblong or somewhat oval figures; occupying thus, with the deep grooves between them, the whole surface of the ball. The circles average about  $1\frac{1}{2}$  inch across; and the oblong figures, the largest one  $1\frac{1}{4}$  inch long by 1 in breadth, the others 1 inch in length by about half an inch in breadth. This stone ball measures 3 inches in diameter, and weighs 21 ounces; it is formed of a dark green or rather black crystalline hornblende-like rock.

(4.) *Inverkeithny, Aberdeenshire (with 7 discs).*—The Rev. Mr Sutor, parish minister of Inverkeithny, presented to the Museum in 1872, through Mr A. Jervise, Cor. Mem. S.A. Scot., an ornamented stone ball more irregular in shape than the other stone balls described, which has seven circular bosses projecting from its surface. It is formed apparently of a porphyritic-like clay slate, measures  $2\frac{5}{8}$  inches in diameter, and weighs  $14\frac{1}{4}$  ounces.

(5.) *Budfield, Leochel-Cushnie, Aberdeenshire (with 7 discs).*—A stone ball having apparently seven irregularly projecting circular knobs or discs with curved tops; each knob being 1 inch in diameter, is ornamented with an incised pattern of lines crossing one another nearly at right angles. It was found in a tumulus on the farm of Budfield, in

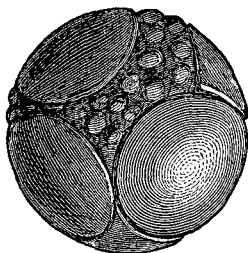
the parish of Leochel-Cushnie, and was exhibited by W. M'Combie, Esq. of Tillyfour, at the Archæological Exhibition at Aberdeen in 1859. It is stated to be formed of a stone resembling flint, and measures 3 inches in diameter.

(6.) *Strathwilkie, Coul, Cromar, Aberdeenshire (with 7 discs).*—I am indebted to the kindness of the Rev. Dr Joass of Golspie for the notes and drawing of this curious stone ball, which is in the possession of Her Majesty at Balmoral. Dr Robertson informs Mr Joass that "this ball was found in 1860, upon the farm of Strathwilkie, Parish of Coul, Cromar, Aberdeenshire. It is less regular in shape and ornamentation than the other stone ball at Balmoral Castle (to be afterwards described), which was found at Buckhall. Arranged in one circular line, there may be seen five bosses of very rude carving and rather irregular shape, but somewhat approaching to circular outline. On the two spaces thus left free by the garland of five bosses there are two larger ones raised, of which one is divided by two furrows, which gives it the appearance of a rudely carved cross. A similar cross appears on one of the five above-mentioned bosses, which are arranged as a sort of garland around the ball."

This stone ball appears to be formed of a serpentine rock, it measures  $2\frac{7}{8}$  inches in diameter. (See figure I, Plate I., from a careful sketch by Mr Sahl.) This ball corresponds in character to the one described as just found at Budfield. It is interesting as having discs of larger size on two of its sides, and also two of the discs divided by crosses or grooves, it may be for giving additional firmness to the tie by which any handle might be attached to it. It is probable that handles had been fixed to these balls by straps or thongs of leather.

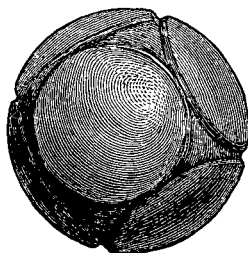
(7.) *Lochnagar, Ballater, Aberdeenshire (with 6 discs).*—This stone ball was found near Lochnagar Distillery, Ballater, Aberdeenshire, on the top of Craighbeg, where three short stone cists were also discovered. The cists contained ashes and bones. The stone ball was found about a foot from one of the cists. Each of the cists was surrounded by a circle of stones weighing apparently from 5 to 15 cwts., the diameter of the circle was about 15 feet; these might probably be the retaining stones of a cairn which

had formerly covered the stone cists. The ball has cut on its surface six circular discs, varying in size from an inch to two inches across, and leaving between them interspaces also varying considerably in size, some of which show small knobs; as if it had been intended to cut with a knife all these interspaces, so as to cover them with a series of small knobs, corresponding to those on the first described class of ornamented balls. It appears to be formed of a clay stone or slate stone. It measures  $2\frac{7}{8}$  inches in diameter, and weighs  $18\frac{1}{2}$  ounces, and was presented to the Museum in 1864 by Mr John Begg, Lochnagar Distillery. (See woodcut.)



Stone Ball found at Ballater,  
- Aberdeenshire.

(8.) *Migvie, Turland, Aberdeenshire (with 6 discs)*.—This stone ball was presented to the Museum in 1872 by Mr Jeffrey, schoolmaster there. It is formed of reddish syenitic-like rock, and has six circular discs cut on its surface, each about  $1\frac{1}{2}$  inch across, the ball itself measuring  $2\frac{1}{2}$  inches in diameter. It weighs  $13\frac{3}{4}$  ounces full. It was found at Migvie, and its surface appears to be considerably worn.



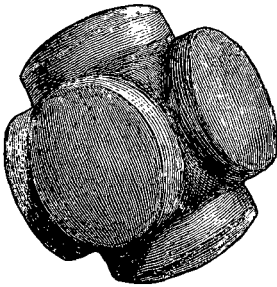
Stone Ball found in  
Dumfriesshire.

(9.) *Dumfriesshire (with 6 discs)*.—A stone ball in the Museum, to which it was presented by the late James Brown, Esq., Edmonston, Biggar, is stated by Dr D. Wilson to have been found near the line of the old Roman way which runs through Dumfriesshire on its northern course from Carlisle.<sup>1</sup> It is formed of a felspathic greenstone, and is divided into six nearly regular circular discs, one a little larger than the others, which are separated by grooves and angular interspaces slightly sunk into its surface. It measures  $2\frac{6}{8}$  inches in diameter; one of the circles measures  $1\frac{7}{8}$ , the others about  $1\frac{6}{8}$  inch across. It weighs  $17\frac{3}{4}$  ounces full. (See the annexed figure.)

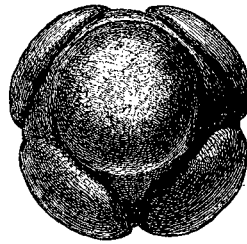
<sup>1</sup> Prehist. Annals of Scot. p. 138.



(10.) *Mountblairy, Banffshire*<sup>1</sup> (with 6 discs).—A stone ball of greenstone or trap, which has six projecting circular unornamented discs, about  $\frac{1}{8}$  inch in diameter, but varying slightly in size. It measures 3 inches in diameter, and weighs 18 ounces. It was found at Mountblairy, Banffshire, and was presented to the Museum by Mrs Morison of Bognie, in December 1864. (See the drawing annexed.)



Stone Ball found at Mountblairy, Banffshire.



Stone Ball found at Dudwick, Aberdeenshire.

(11.) *Dudwick, Aberdeenshire* (with 6 discs).—A spherical stone ball, displaying six incised circles in relief, each rather rounded in outline (as shown in the annexed woodcut), was exhibited to the Society by Lieut-Colonel W. Ross King of Tertowie, F.S.A. Scot., in 1867, and is described and figured in vol. viii. of the Proceedings of the Society, p. 102. Col. Ross King informs me that it measures  $9\frac{1}{2}$  inches in circumference, weighs 1 lb. 5 ounces avoirdupois, and is formed either of greenstone, or fine dark granite. It was turned up by the plough on the estate of Dudwick, in Aberdeenshire. (See the annexed figure.)

(12.) *Park, Aberdeenshire* (with 6 discs).—A beautifully formed stone ball covered with six circular facets, slightly indicated by narrow lines or rather grooves, and slightly depressed angular spaces left between each of the three adjoining circles. It is the property of our Vice-President, Sir Noel Paton, R.S.A., F.S.A. Scot., who has kindly sent it at my request, along with the four other specimens from his late father's collection at Dunfermline, now exhibited to the Society. This

<sup>1</sup> Proc. Soc. Antiq. Scot. vol. vi. p. 11.

ball is formed of a dark-coloured stone like a fine-grained red sandstone. It was found a few years ago when drains were being cut near the Loch of Park, Aberdeenshire. The circles are placed as in some of the other balls in a regular order; one circle is directly opposed to another, and a band of four other circles fill up the space between these two as it were polar circles. It measures  $2\frac{7}{8}$  inches in diameter, and each of its six circles about  $1\frac{7}{8}$  inch, and it weighs 16 ounces.

(13.) *Paton Collection, Dunfermline, Fife (with 6 discs)*.—Another stone ball of this collection has six circles cut on its surface, and projecting like distinct bosses about  $\frac{1}{2}$  an inch from the depth of the grooves around them. These bosses are plain or unornamented, and are rather rounded in outline. The ball appears to be formed of a finer, more crystalline like rock, somewhat like claystone or slate. It measures 3 inches in diameter, each of the circles measuring about  $1\frac{5}{8}$  inch across, and weighs  $20\frac{1}{2}$  ounces.

(14.) *Paton Collection, Dunfermline, Fife (with 6 discs)*.—The last of the stone balls of this collection is more ornamented in character. It displays six rounded circles like the former, placed regularly round the ball, and leaving intervening spaces of  $\frac{1}{4}$  of an inch in breadth between each circle. The circles measure each about  $1\frac{1}{2}$  inch across, and they project about  $\frac{3}{8}$  of an inch. Three of them have a round pit, the others a small projection in the centre, and two concentric circles or grooves are cut round it on their surfaces, making them thus slope gradually down at their margins, towards the general surface of the ball. The angular spaces between the circles are all dotted over with small depressions, giving thus a finished appearance to its ornamental character. This ball appears to be composed of a hornblende-like schist or slate, and like most of the others, especially those formed of clay-slate, its surface has become of a uniform black colour, probably caused by being much handled; it is heavy for its size, and, like the others, rather soft in character. It measures  $2\frac{3}{4}$  inches in diameter, and weighs 16 ounces. (See figure 2, Plate I.)

(15.) *Parish of Urquhart, Morayshire (with 6 discs)*.—A stone ball with 6 projecting circular knobs or discs, all of them unornamented, and

each measuring  $1\frac{1}{2}$  inch across, found near a stone circle in the parish of Urquhart, was exhibited at Aberdeen in 1859 by Alexander Young of Fleurs, Esq. It is formed, like some of the others, of a syenite or fine-grained stone of minute crystals of hornblende and felspar. The discs project about  $\frac{1}{2}$  an inch from the mass of the ball. Dr J. C. Howden of Montrose has sent me a sketch and description of this stone ball, which is now preserved at Fleurs. Each of the discs are slightly rounded in character, and the groove running round them is about  $\frac{2}{5}$  of an inch deep. The Rev. J. M. Joass also sent me details of this stone ball. He tells me the Rev. Dr. Gordon of Birnie considers it to be made of the same stone as the knobbed one found at Main, now in the Elgin Museum. It measures 3 inches in diameter, 9 inches in girth, and weighs 1 lb.  $1\frac{1}{2}$  oz.

(16.) *Old Deer, Aberdeenshire (with 6 discs).*—In February 1874, William Ferguson, of Kinnundy, Esq., F.S.A. Scot.,<sup>1</sup> read a communication to the Society giving details of various stone weapons, &c., which he exhibited. Among these was a stone ball, found in a cairn at the parish of Old Deer, Aberdeenshire, which is now in the possession of James Cooper, Esq., M.D., Old Deer. The ball has six circular discs deeply and regularly cut on its surface, and each of the discs is surrounded by concentric lines; their surfaces being also covered with incised lines crossing them diagonally. It measures 3 inches in diameter, Mr Ferguson informs me, weighs  $1\frac{1}{4}$  lbs., and is formed of a heavy close-grained dark-coloured stone, with grey streak, probably hornblende schist.

(17.) *Buckhall, Glen Muick, Aberdeenshire (with 6 discs).*—This stone ball, for a note of which I am indebted to the Rev. Dr J. M. Joass, Golspie, is in the possession of Her Most Gracious Majesty the Queen, at Balmoral Castle. Dr Andrew Robertson sends the following account of it to Mr Joass:—

“This ball was found upon the property of Buckhall, near the Linn of Muick, in 1858. It was discovered by labourers employed in forming a new road, embedded in black mould, about 3 feet under the surface. The mould was contained in a scooped-out hollow in the rock, from 6 to

7 feet in length by about 3 feet in width, having much the appearance of a grave, but no bones or indications of its having been a place of sepulture were observed."

"The ball is neatly carved and shews a very regular shape. There are six circular bosses raised above the surface of the globe; they are arranged like the faces of a dice, and altogether this ball might be described as being like a dice, in which all lines and surfaces are circular. The ball is formed apparently of serpentine rock, and measures  $2\frac{3}{4}$  inches in diameter."

It is of much interest, from having been found in what might apparently have been an ancient grave. It corresponds closely in character with other stone balls already described, as that found in Dumfriesshire, and another found at Dudwick, Aberdeenshire, of which figures are already given.

(18.) *Cairn Robin, Kincardineshire (with 6 discs).*—A stone ball was preserved in the museum of the late Alexander Thomson, of Banchory, Esq. It was also exhibited at Aberdeen in 1859, along with several other specimens which I have described. It has six ornamented discs or projections from its surface, each measuring 2 inches across; but these discs, instead of being rounded in outline, as is generally the case, were each cut into a series of concentric circles, surrounding a central small rounded projection, and in this way each disc was cut as it were into a series of three concentric steps or stages, increasing thus in size towards the circumference of the circular disc. It corresponds somewhat to one of the balls already described and figured (Plate I. figure 2), the property of Sir Noel Paton. The ball was apparently formed of a trap or igneous rock. It was found in Cairn Robin, parish of Banchory-Devenick, Kincardineshire, in 1854, and was presented to Mr Thomson by Mr John MacDonald. It is now preserved in the Museum of the Free Church College at Aberdeen, to which Mr Thomson bequeathed his collection. This ball is accurately cut, and though now much time-worn, it shows, by patches of its original surface still remaining, that when perfect it was probably beautifully polished. It measures 3 inches in diameter, and weighs  $16\frac{1}{2}$  ounces. I am indebted to Mr William Beveridge, Curator of the Museum, for sketches and detailed descriptions of this stone ball, and also of a polished ball to be afterwards described.

(19.) *Glasterlaw, Frioekheim, Forfarshire (with 6 discs).*—Dr J. C. Howden, Sunnyside, Montrose, gives me details of a stone ball found at Glasterlaw, near Frioekheim and kindly sent me a careful sketch of it.

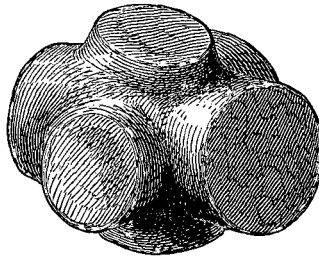
It is ornamented with six circular discs, which are plain or unornamented, and are rounded in outline, rising slightly above the general surface of the ball, and leaving considerable plain spaces between each.

The ball measures  $2\frac{8}{10}$  inches in diameter, the average diameter of the circular facets being  $1\frac{1}{2}$  inch, and it weighs  $17\frac{3}{4}$  ounces.

(20.) *Biggar, Lanarkshire (with 6 discs).*—"A stone ball of spherical form, having six regularly arranged circles in relief, presenting intervening spaces, giving it an aspect of remarkable beauty. It was found in Biggar Parish." This description is published, along with a figure of the ball, showing the circles unornamented projecting slightly from the surface of the ball, and leaving somewhat angular depressed spaces between each, in a series of papers on "Lanarkshire Antiquities," in the Journal of the British Archæological Association, vol. xvii. 1861, p. 20. The ball was then in the collection of the late Mr Adam Sim, F.S.A. Scot., Cultermain, Lanarkshire. Mr William Hunter, in his interesting work, entitled "Biggar and the House of Fleming," Edinburgh, 1867, refers to these stone balls, and figures this one, which has six plain or unornamented projecting circular discs. He states that it was found at Biggar Shields.

This stone ball is 3 inches in diameter, the circular discs measuring  $1\frac{6}{8}$  inches across.

(21.) *Muckle Geddes, Nairn (with six discs).*—In the Museum of Nairn, the Rev. J. M. Joass also informs me, there is a stone ball which was presented by Dr Grigor, F.S.A. Scot. A boar's tusk and the ball were found in a field at Muckle Geddes



Carved Stone found at Muckle Geddes, Nairn.

near a half-demolished tumulus about 400 yards south from the public road.

It is formed of quartzite, and is rather irregular in shape, having two large discs opposite each other, and four slightly smaller ones, one being oval, the others rudely circular, projecting from its surface between them. It looks, Mr Joass says, like the nave of a wheel with four shortly truncated spokes.

It measures  $2\frac{7}{12} \times 2\frac{4}{12} \times 2\frac{2}{12}$  inches, and weighs  $11\frac{1}{2}$  ounces.

I am indebted to the Rev. J. M. Joass for the accompanying sketch and the details of this curiously cut stone.

(22.) *Thurso, Caithness (with 6 discs)*.—A stone ball, cut symmetrically into six projecting bosses or discs, was found many years ago in the Thurso river, and was preserved by the late Mr Robert Dick, F.G.S. It is now in the Thurso Museum. The bosses are plain or unornamented, and deeply cut so as to project considerably above its surface; they are each slightly convex on the surface. It is formed—the Rev. J. M. Joass, to whom I am indebted for a sketch and description of the ball, informs me—of a calcareous sandstone from the lower beds of the flagstone series of the middle Old Red Sandstone, which is found close to Thurso, and abounds a few miles to the westward.

The ball measures  $2\frac{3}{4}$  inches in diameter, and weighs 17 ounces.

(23.) *Kilpheadar, Kildonan, Sutherland (with 6 discs)*.—The Rev. J. M. Joass, LL.D., Golspie, also sends me a beautiful sketch of a stone ball with six projecting circles; these, however, are in such relief as to form bosses, giving it almost the appearance of a cluster of balls. It is formed of the native sandstone which occurs in the middle oolite of East Sutherland, and was found in 1870, Mr Joass informs me, in trenching at Kilpheadar, in the parish of Kildonan, near some faint traces of a building said to be those of a chapel dedicated to St Peter (*Cill Pheadair*). Half-a-mile straight up the hill, at the base of which the ball was found, is the Broch of Kilpheadar; near this is a hut-circle with underground or eirde-house attached, and the intermediate slope is studded with burial cairns. Mr Joass says the stone ball, we believe, did not belong to the era of the old chapel, but probably to the earlier remains which cluster all around the locality. (See Plate I., fig. 3.)

It is now preserved in the Duke of Sutherland's Museum at Dunrobin Castle. It measures  $2\frac{5}{8}$  inches in diameter, and weighs  $8\frac{3}{4}$  ounces.

(24.) *Kingussie, Inverness-shire (with 4 discs)*.—There is now in the possession of Cluny Macpherson, of Cluny Castle, a stone ball with four projecting circular discs, which was found some thirty years ago, the Rev. J. M. Joass informs me, by Mr M'Pherson, late postmaster, Kingussie, when digging in his garden.

Cluny Macpherson politely informs me that the "ball has four projecting circular discs, the cutting between them being prettily engraved, the discs being ornamented." It measures  $8\frac{1}{2}$  inches in circumference, and appears to be formed of a rock resembling basalt, and weighs rather more than a pound.

(25.) *East Braikie, Forfarshire (with 4 discs)*.—Another stone ball, but beautifully cut and smoothed, is now preserved in the Montrose Museum; it shows four circular discs projecting slightly from its surface, the intervening spaces being smooth. It was found in a cairn at East Braikie.

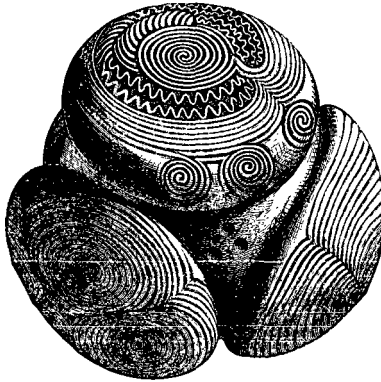
This ball is formed of a close-grained trap or metamorphosed sandstone. It measures rather more than  $2\frac{1}{2}$  inches in diameter, the diameter of each disc being 2 inches, except one which is  $\frac{1}{10}$ th of an inch less, and it weighs  $15\frac{1}{4}$  ounces.

I am indebted to Dr James C. Howden of Montrose for these details. He was also polite enough to send for my perusal the Directors' Report for 1867 of the "Montrose Natural History and Antiquarian Society," where this ball is figured and shortly described.

(26.) *Towie, Aberdeenshire (with 4 discs)*.—In May 1860 a beautifully ornamented stone ball was presented to the Museum of the Society by Mr James Kesson, Upper Drummellachy, through the Rev. John Christie of Kildrummy. It was found several feet under ground when digging a drain on the Glas (or Grey) Hill, in the parish of Towie, Aberdeenshire.

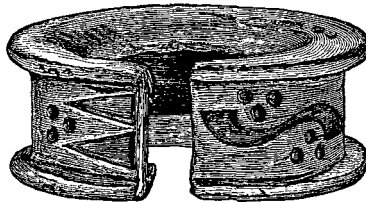
This ball has four rounded circular projections on its surface. Three of these discs are covered with different patterns of spiral, zig-zag, and parallel incised lines, some of them suggesting the style of the lines on the front of the human thumb. The disc most elaborately ornamented

is slightly larger than the other three, which are about a size, and one of these is quite plain or unornamented. The largest measures about 2 inches across. Between this more elaborately ornamented disc and the other two ornamented ones, in the triangular space left between them, we



Stone Ball found in the Glas Hill, Parish of Towie, Aberdeenshire.

find three small dots or depressions cut in the stone. They are arranged in a triangular manner, and at least suggest a similar arrangement of these



Pennanular Ring of Silver Chain found at Parkhill, Aberdeenshire.

three dots cut on some of the old sculptured stones or crosses found in Scotland; I may also remind you that we find these triple dots in the concave sides of the doubly bent figure, which is one of the so-called



symbols of the "Sculptured Stones of Scotland," at least they are cut in this relation on the large silver clasp or large ring of the ancient silver chain of plain rings found at Parkhill, Aberdeenshire, now preserved in our Museum, which I have described in the paper "on Ancient Silver Chains."<sup>1</sup> Indeed, on this large ring the figure of these triangularly arranged dots is repeated no less than three times. (See woodcuts).

The presence of this triangular group of dots would seem to suggest a relation so far, between this ball, the silver chains, and the "Sculptured Stones, of Scotland."

This ball is formed of a fine-grained clay-slate, black in colour, with a white streak when cut. It appears to be one of the most elaborately ornamented specimens that has yet been described.

It measures nearly 3 inches in diameter, and weighs  $18\frac{3}{4}$  ounces.<sup>2</sup>

(27.) *Elgin, Morayshire (with 4 discs).*—The Rev. J. M. Joass tells me he is informed by the Rev. Dr Gordon, Birnie, that in the possession of Mrs Leslie, West Road, Elgin, there is a remarkable specimen of a stone ball. Its history is not known; but it has been long in the possession of her family.

Through the kindness of our Secretary, Dr Stuart, and Dr Taylor, of Elgin, I have since been able to get this ball for examination, and a cast of it will be taken for the Museum. It closely resembles in character the ball found at Towie, just described, having four projecting bosses, each measuring  $2\frac{3}{10}$  inches in diameter; one of these bosses is also carved with figures formed of incised lines, forming alternate volutes or spiral figures; the commencement of similar figures is seen on another of the bosses, and the rest are unornamented. It has been suggested that the commencement of some of the curved lines on this ball resembled the head of a serpent—that, in fact, the lines might represent serpents curled together. On comparing, however, the ornamentation with that of the Towie ball, it would appear that this fancied resemblance has been simply caused by the tool being pushed through the loop connecting the spirals together, dividing them in this way, but not apparently with any intention of finishing them with heads of any kind. Mr Joass says—"Judging

<sup>1</sup> Proc. Soc. Antiq. Scot. vol. x. p. 330.

<sup>2</sup> Proc. Soc. Antiq. Scot. vol. iii. p. 439.

from the unfinished volute on one of the bosses, I should think that the artist must have been working from an idea in his head or from memory, and not from a copy, as he has evidently not been thinking of the incised lines as a copyist would, but of the ridge between them, which, from the two lines stopping together, he seems to have intended to carry round and round as long as the size of the boss would permit, *i.e.*, till he touched its nearest edge. Two faces are unornamented." It is the only specimen known which corresponds to the Towie ball in its style and ornamentation. The ball is formed of a hard black argillaceous rock, which, when touched with the knife, shows a light grey streak, but blackens on being wetted, like clay-slate. It measures  $2\frac{7}{8}$  inches in diameter, and weighs  $18\frac{1}{4}$  ounces. (See figure 4, Plate I.)

(28.) *Perth Museum, Perthshire (with 4 discs.)*—In the Museum of the Literary and Antiquarian Society of Perth three ornamented stone balls are preserved. Through the kindness of a friend in Perth and the courtesy of John Bower, Esq., M.D., the Secretary of the Society, I have had an opportunity of examining these specimens. They are all similar in the general character of their ornamentation, each having 4 discs cut on their surface. One of these discs is slightly larger than the others, and if we place the ball with this larger disc below, the other three rise up from it over the ball towards the top, leaving a triangular space between them; in this way bearing a somewhat general resemblance to the arrangement of the leaves of an unexpanded bud of a plant. One of these stone balls has the discs plain; but the others are ornamental in character. From their general resemblance, it is probable they may belong to the same district of country, probably the large county of Perth, though apparently nothing is now known or recorded of the localities in which they were found. Professor Wilson, however, when referring to these stone balls in his "Prehistoric Annals," vol. i., states that "several decorated examples, dredged up in the Tay, are preserved in the Perth Museum," p. 195. I shall first describe the unornamented ball.

A stone ball, globular in form, with its surface divided into four unornamented discs projecting slightly from its surface; it is not regularly circular in form, and the discs are rather oval than circular in outline. The larger disc measures 2 inches in length by  $1\frac{3}{4}$  in breadth; the others,

slightly smaller, rise up rather unsymmetrically over the ball, leaving triangular spaces between each, the whole being gently rounded. The ball measures  $2\frac{1}{2}$  inches in greatest diameter. It is formed of a fine-grained rather soft sandstone or clay-slate, with some parallel veins of quartz running through it, and weighs 13 ounces.

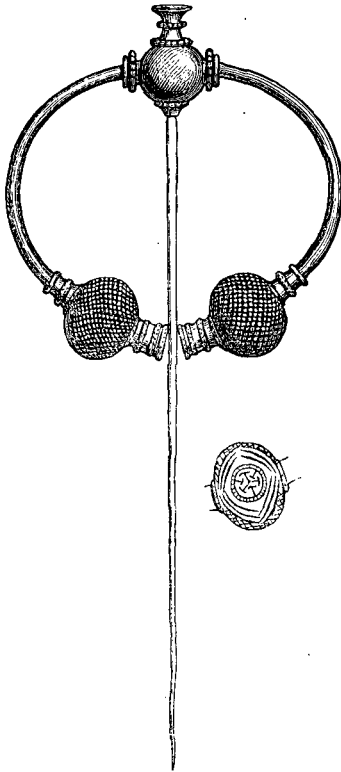
(29.) *Perth Museum, Perthshire (with 4 discs).*—This stone ball is similar in character, but more circular in form. It is ornamented in the same way with 4 discs which project more abruptly from its surface, but these discs are covered with patterns of incised lines crossing one another diagonally, one disc is apparently unfinished, and shows a pattern of parallel lines covering only a part of its surface. The triangular interspaces between the circles are plain or unornamented, with the exception of one, which is slightly pitted over its surface. The larger circle measures  $2\frac{1}{8}$  inches in diameter, the others are very slightly less. This ball is coarser in character, and appears to be formed of a reddish coloured stone, from the presence of oxide of iron; it is probably a much weathered sandstone or perhaps greenstone. This stone ball measures  $2\frac{3}{4}$  inches in greatest diameter, and weighs nearly 18 ounces.

(30.) *Perth Museum, Perthshire (with 4 discs).*—The third ball is also of a similar pattern, but it is formed of a finer grained stone, and is more carefully ornamented. It has four circular discs, the principal or large one measuring  $2\frac{1}{8}$  inches across, the others about  $\frac{1}{8}$  part less. The circular discs are all ornamented with incised lines, crossing one diagonally, as if cut by a sharp-pointed tool; the intervening knobs being larger and more projecting. On the principal disc these knobs have again been cut by a sharp-pointed instrument into a more rounded character than the others. Incised circles are also cut partially round the discs, and the intervening triangular spaces are covered with incised patterns of converging lines. (See figure 5, Plate I.)

The style of its ornamentation reminds me strongly of that of the thistle-like heads of the large silver brooches and pins found with Anglo-Saxon and Cufic coins of the tenth century, on the shore of the bay of Skail, parish of Sandwick, Orkney; now preserved in the Museum. (See the annexed figure of one of these brooches.) The ball is formed of

a fine-grained clay-slate; it measures  $2\frac{1}{8}$  inches in diameter, and weighs  $15\frac{1}{2}$  ounces.

Another stone ball, probably resembling these stone balls at Perth, with its projecting discs apparently so arranged round a central one as to suggest the idea of a flower or bud, was found in the adjoining county of Fife.



Bulbous Ring-Brooch, found at Skail, with ornament on the reverse of the bulbs. (The ring of the brooch is  $5\frac{1}{2}$  inches in diameter.)

(31.) *Clachard, Newburgh, Fife.*—Mr Alexander Laing, F.S.A. Scot., Newburgh, has kindly sent me a proof-sheet of his forthcoming volume, “Lindores Abbey and its Burgh of Newburgh, their History and Annals,” giving some details of an ornamented stone ball, which was found in the old British camp or fort, with its stone enclosing ramparts, on the picturesque craig of Clachard (the stone point or craig) which almost overhangs the ruins of Lindores Abbey. Mr Laing says—“The ball found at Clachard was of hard sandstone, and about the size of an orange, elaborately carved in relief, leaves being represented as springing from the stalk, and covering the lower half of the sphere.” “This ball passed into the hands of the Rev. Dr Anderson of Newburgh, but was not found in his collection after his death.”

It appears to me, from this description, that this ball had been probably somewhat allied, in the character of its ornamentation, to those just described from the Perth Museum, as it really does not require a

great strength of imagination to describe the projecting discs as leaves, covering more or less the surface of the ball.

It is to be hoped, however, it may still be traced and compared with the other ornamented stone balls found in Scotland.

(33.) *Tullo of Garvock, Kincardineshire (with 3 discs.)*—A stone ball in the Museum at Montrose was found on the Tullo of Garvock, Kincardineshire, in 1854. It is very rough and quite unpolished, and is divided into three lobes or rounded discs, which project from its surface, grooves of considerable depth being cut around them. The stone is apparently a rough-grained trap or granite, but from the weathered and altered state of its surface, it is difficult to know with certainty what it is composed of. It measures about  $3\frac{1}{4}$  inches in diameter, and weighs 20 ounces. I am indebted for these details to James C. Howden, Esq., M.D., Montrose, who has also kindly supplied me with notes and sketches of various stone balls, now described.

There is still another variety of these stone balls, which may, perhaps, be added as a third class to those I have now described; I refer to globular stone balls of a nearly similar size, which have been carefully smoothed or polished over their surface. It is not impossible that some of these rounded and smoothed stone balls may, indeed, really belong to the same class as the others, but are simply in an unfinished state; the cutting and ornamenting of the surface of the ball following naturally after its being first cut and smoothed into the usual rounded form. Indeed some of the cut and ornamented stone balls, as that found at Cairn Robin, Kincardineshire, show traces of this polished surface still remaining on the ball.

### *III. Stone Balls carefully smoothed or polished over their whole surface.*

(1.) In the Museum of the Society there is a small stone ball having its whole surface carefully smoothed. Unfortunately its history is not known. This ball is formed apparently of limestone (magnesian limestone?); it measures  $2\frac{6}{8}$  inches in diameter, and weighs 18 ounces full.

(2.) *Orkney*.—Another example of a fine polished small stone ball is, I understand, in the possession of George Petrie, Esq., Corresponding Member S.A. Scot. It appears to be formed of a stone resembling flint, and was found somewhere in Orkney, but I have not been able to ascertain its history.

(3.) *Glenquicken, Kirkmabreck, Kirkcudbrightshire*.—In the “New Statistical Account of Scotland,” the Rev. John Muir, in his account of the Parish of Kirkmabreck, Kirkcudbrightshire, tells us that—“About the year 1809, Mr M’Lean of Mark, while improving a field in the moor of Glenquicken, in Kirkmabreck parish, found it necessary to remove a large cairn, which is said by tradition to have been the tomb of a king of Scotland, who is not in the genuine series—Aldus, M’Galdus, M’Gillus, or M’Gill. When the cairn had been removed, the workmen came to a stone coffin of very rude workmanship, and, on removing the lid, they found the skeleton of a man of uncommon size. . . . There was also found with this skeleton a ball of flint about 3 inches in diameter, which was perfectly polished, and the head of an arrow, that was also of flint, but not a particle of any metallic substance was found.”<sup>1</sup>

This notice is interesting as showing a polished variety apparently of these same stone balls, found in a cairn, if not in the cist itself, beside a skeleton, which appears to have been the case. From the view I take of the comparatively recent character of the other stone balls, I would be inclined to believe this cairn had also belonged to a not very remote period.

(4.) *Hill of Tillygrieg, Aberdeenshire*.—There is now preserved in the Museum of the Free Church College of Aberdeen a specimen of a plain or unornamented stone ball, which may be also included in this class of unornamented balls; its surface, however, is not polished, but somewhat decomposed with age and weathering. It belonged to the private museum of the late Mr Thomson of Banchory, which he bequeathed to the College. The ball was discovered on the hill of Tillygrieg, in the parish of Udney, Aberdeenshire, in 1854; it was then presented to Mr

<sup>1</sup> Captain Dennistoun’s letter to Mr. Train of Newton-Stewart, dated 22d October 1819.

Thomson by Arthur Harvey, Esq. It is formed apparently of greenstone, measures  $2\frac{1}{2}$  inches in diameter, and weighs 14 ounces. I am indebted for these particulars and sketches of the ball to the politeness of Mr William Beveridge, the curator of the Museum of the Free Church College of Aberdeen.

(5.) *Cochno, Dumbartonshire*.—Professor Daniel Wilson, in his “Pre-historic Annals of Scotland,” vol. i. 1863, states, that “two stone balls were shown me in 1850, as a part of the contents of a cist recently opened in the course of farming operations on the estate of Cochno, Dumbartonshire, one of which was made of highly polished red granite, a species of rock unknown in that district.”

As far as I am aware, these stone balls have as yet been noticed only in Scotland, with one single exception, found in Ireland, to which I shall also refer. This ball is now preserved in the British Museum.

#### IRELAND.

*Ballymena, Co. Antrim*<sup>1</sup> (with 6 circular discs).—A. W. Franks, Esq., &c., of the British Museum, exhibited this ornamented stone ball at the meeting of the Archæological Institute, in December 1853, and the following notice of it is published in their Journal:—“A singular stone ball was found at Ballymena, Co. Antrim, in 1850, and is now preserved in the British Museum. The material of which it is composed is the hornblende schist of geologists. This object presents six circular faces, which have a considerable projection, and are placed at uniform distances. Its diameter is  $2\frac{3}{4}$  inches.”

#### IV. *The Age and Use of the Ornamented Stone Balls.*

John Evans, Esq., in his valuable work on “The Ancient Stone Implements, &c., of Great Britain” (London, 1872), describes these stone balls in his chapter on “SLING STONES AND BALLS.” He refers to the specimens in our Museum, and gives figures of two of them. In describing what he considers the most remarkable of them all, the ornamented stone ball found at Towie, Aberdeenshire, he says—

<sup>1</sup> Archæological Journal, vol. xi. p. 58.

"From the character of the patterns, this object would seem to belong to the Bronze Period, rather than to the Stone." Mr Evans gives an excellent summary of the different uses which have been suggested for these balls, and I cannot do better than quote the greater part of it here.—

"These balls," Mr Evans says, "appear to me to differ most essentially from the ordinary sink stones found in Denmark and Ireland, with which they have been compared. It is not, however, by any means easy to suggest the purpose for which they were intended. The only suggestions that I have seen are—that they were used in some game or amusement,<sup>1</sup> or for defence when strung on a long thong or line, or else for purposes of divination.<sup>2</sup> I must confess that I hardly see in what manner the last purpose can have been served, especially as in most instances all the faces of the ball are alike. Nor do I see in what manner they can have been used in games, though, of course, such a use is possible. It seems more probable that they were intended for use in the chase or war when attached to a thong, which the recesses between the circles seem well adapted to receive. Among savage nations of the present day we find the use of the *bolas*, or stones attached to the end of thongs, over great part of the southern continent of America;<sup>3</sup> while the principle is known to the Esquimaux, whose strings of sinew, weighted with bunches of ivory knobs, are arranged to wind themselves round the bird at which they are thrown, in just the same way as the much stouter cords, weighted at the ends with two or three heavy stone balls, which form the *bolas*, twist round, and hamper the movements of larger game." After describing the *bolas*, &c., more particularly, Mr Evans continues—"Assuming a difficulty in securing a ball of stone in a leather case, and that, therefore, it would be necessary to fasten it by means of a thong, some channeling of the surface would become a necessity, and the natural tendency of savages to decorate their weapons might lead to regular circular discs being left between the channels on the ball, and even to their being engraved in patterns, the side next the cord being [as in the Towie specimen] left undecorated. In the Christy collection is a

<sup>1</sup> Report, Montrose N. H. and Ant. Soc. 1868.

<sup>2</sup> Arch. Assoc. Journ. vol. xvii. p. 20.

<sup>3</sup> Tylor, "Early Hist. of Mank," p. 179.



*bola* formed of a polished spherical red stone, mounted in such a manner as to show a considerable portion of its surface, which has evidently been regarded as too handsome to be entirely concealed by the leather. These stones are sometimes wrought so as to present a number of rounded protuberances. Of these there are specimens in the Christy collection and in that of Mr J. Bernhard Smith. Even if the use of the *bolas* or the single *bola* were unknown," Mr Evans tells us, "a *bola* of small size, cast of lead or copper, with a single thong, about 3 feet long, forms both the sling and its stone, and is also used as a weapon for striking in close encounters. There is a form of military flail or 'morning star,' a sort of modification of the staff-sling, though the stone never quits the cord by which it is attached to the staff, for which such balls as these might serve." Mr Evans then refers to various weapons, such as the flail of Gog and Magog at the London Guildhall, and to others described by Squier and Davis in their "Ancient Monuments of the Mississippi Valley," as the *pogamoggan* of the Chippeways, a wooden handle, 22 inches long, covered with leather, with a thong 2 inches in length, which has attached to it a stone about 2 lbs weight.

"Another form of club," Mr Evans says, "in use among the Algonquins, consisted of a round boulder sewn in a piece of fresh skin, and attached to the end of a long handle, to which, by the drying of the skin, it became firmly attached. An engraving of a drumstick-like club of this character is given by Schoolcraft.<sup>1</sup> Unfortunately, however, the existence of such a weapon in early times is not susceptible of proof. Whatever the purpose of these British balls of stone, they seem to belong to a recent period, as compared with that to which many other stone antiquities may be assigned." Pp. 377-379.

By the kindness of my friend, Dr Albert Günther of the British Museum, I have been able to examine a set of the *bolas* given to him by a friend as a reminiscence of South American travel. It is formed of three stone balls, differing slightly in size and weight, each being enclosed in a tight-fitting leather bag, which is drawn together round the mouth by a leather thong. These balls have attached to them plaited leather thongs of slightly different lengths, which are also tied together at their opposite extremities. In using the *bolas*, one ball, the heaviest, is taken in

<sup>1</sup> Indian Tribes, vol. i. pl. xv.

the hand, and by means of it the other balls are swung round in a circle until a considerable velocity is acquired, when the ball is thrown from the hand at a definite object or animal, so that all go together, and on any part of the thongs striking the object or limbs of an animal, the balls at their extremities, thus suddenly checked in their course, immediately swing round the part touched, stop the course of the animal and throw it to the ground; when it is immediately seized and bound by the hunter before it is able to extricate itself. The largest stone ball of this *bolas* measures  $2\frac{1}{2}$  inches in diameter, and weighs  $10\frac{1}{4}$  ounces. The second is nearly the same, about  $2\frac{3}{8}$  inches in diameter, and weighs 10 ounces full; and the third, or smallest, which is more egg-shaped, measures  $1\frac{6}{8}$  inch in diameter, and weighs 6 ounces. These sizes and weights, of course, include the tight leather case which nearly covers each ball. The plaited leather thongs which connect the balls together, also vary slightly in length from the centre knot, which ties them all together. That of the largest ball measures 3 feet  $5\frac{3}{4}$  inches in length; the second, 3 feet 5 inches; and the third, or smallest, 3 feet  $4\frac{1}{2}$  inches in length.

We know nothing of any similar apparatus being formerly used in Britain, though, strange to say, the only other part of the world where a corresponding apparatus is used is in the distant northern country of Greenland, already referred to by Mr Evans. It consists of a bunch of pierced ivory knobs, like large rude beads, tied together by sinews, which the Greenlander uses approaching a flock of sea-fowl, seated, it may be, on a ledge of ice or rock; he throws it at them as they rise, the centrifugal force of the flying implement spreads out the balls like a charge of shot, and it strikes, entangles, and knocks down some of the birds, which are immediately seized by the fowler. Had the stone balls I have described been used like the *bolas*, we would have expected to have found them occasionally in groups of two or three corresponding balls; this, however, has not been the case, as they have been invariably found singly, and entirely apart from any other. As far as I am aware, there is no evidence even to suggest that such an instrument as the *bolas* was ever used by any of the ancient inhabitants of Britain.

No remains of any thong or handle has as yet been noticed as attached to, or even found near, any of these balls, though, of course, a piece of decayed leather or still more decayed wood might have been easily over-

looked by the unskilled discoverer of the stone, which from its peculiar form had attracted the finder's curiosity so as to make him take the trouble to preserve it. The absence of anything of this kind found with the balls may also suggest that, if they once had handles of any kind attached to them, these must have been formed of some material which had soon got weathered and decayed away altogether.

It would appear, therefore, as more probable that one stone ball was all that was required to complete the implement for use, and not two or three different balls like the *bolas*.

On looking over the variety of specimens which I have now been able to gather together, I am struck first by their great general resemblance in size and weight, the stone of which they are formed being generally a heavy, and, at the same time, of a soft though rather tough character. From the altered, and generally much weathered character of these stone balls, some being also blackened over their surface, possibly by being much rubbed by the hand, it is almost impossible to ascertain the actual stone of which each is composed, and, of course, you cannot spoil the specimen by breaking it, to decide the question. There seems, however, to be generally a considerable correspondence in mineralogical character, as well as in size and weight, in the different specimens. Looking at the various ways in which they are cut and ornamented, it seems at once apparent they have been formed by metal, probably iron tools; and on showing some of the more ornamented specimens to one of our most skilled lapidaries, he said the style of cutting looked wonderfully like what would be done with one of his own steel sculpers or gouges for lapidary work. The stone balls do not appear to have been formed for rolling about, some being symmetrical and others angular and unsymmetrical, and they show no appearance of having been worn by rolling; but on a closer inspection, some do show a rubbed appearance on the sides of their discs or projections, as if they had been worn there by the rubbing of a soft or leather thong. The various projecting knobs or discs, and ornamental patterns cut on these balls, also suggest, at least, a fitness for allowing them to be attached firmly by a thong, it may have been of leather, to a handle of some kind, and the fact of the varying size of some of the discs themselves, and their relation to the others, as well as the unornamented character of some of

them, seem all to suggest additional facilities and advantages for a similar purpose.

I have already pointed out the presence of the triangular group of dots cut on the Towie stone ball, and its resemblance in this respect to the same triangular markings on some of the sculptured stones of Scotland, and on the large penannular ring of the ancient silver chains described by me.<sup>1</sup> Also the close correspondence, as it appears to me, of the ornamentation on the stone balls in the Perth Museum, with that of the large thistle-like heads of the silver pins and brooches in the Museum, which were found at the bay of Skaill, Orkney. Supposing these correspondences of ornament to be correct, we cannot but recollect that the age or period of the sculptured stones and silver chains belongs to that of the Pictish people from the sixth to the ninth centuries; while with the silver ornaments found at Skaill were also silver Cufic coins of the ninth and Anglo-Saxon coins of the tenth century. Considerations such as these make me incline to the opinion that, instead of belonging to Stone or Bronze ages, or any such indefinite or ancient period, it was much more likely these curious stone balls might belong to the ancient, though comparatively historic periods of the sculptured stones, these silver chains and brooches, and Cufic and Anglo-Saxon coins. The places where some of these stone balls have been found, as for example, the two found in an underground dwelling at Skara, bay of Skaill, Orkney, or of that found at Kilpheadar in Sutherland, &c., seem also to tell against any idea of their being relics of a very great antiquity.

I have looked in vain for any corroborative evidence on this subject from the usages detailed in our early historical periods, or allusions in our early literature, and telling our highly-valued curator, Mr Joseph Anderson, my views of the probable age of these stone balls, asked if he could help me to any references or suggestive allusions in the writings of these early periods. Mr Anderson has the excellent habit, which I myself have to a certain extent, of jotting down in a common-place book any references to ancient customs, facts, or statements he may come upon in the course of his reading, and think worth taking a note of. Accordingly, he soon favoured me with what we both thought was a most apt and suggestive quotation, viz. :—That William of Poitiers, in his account of the Battle of

<sup>1</sup> Proc. Soc. Antiq. Scot. vol. x. p. 321.

Hastings, fought on the 14th October 1066, when he describes the mode of fighting employed by the Saxons on the field of battle, says—"Jactant cuspides ac diversorum generum tela, sævissimas quasque secures, et lignis imposita Saxa: iis, veluti mole letifera, statim nostros obrui putares."<sup>1</sup> Here we have several weapons referred to, the (*cuspis*), the pointed spear or javelin; different kinds of darts or arrows (*telum*); most cruel axes (*securis*); and lastly (*lignis imposita Saxa*), stones imposed, laid, or put upon wood. This last description seemed not to refer to anything of the hammer kind, with the stone simply pierced through for attaching the handle, but rather suggested some shaped stone, it may be like these stone balls which might be simply placed on the top of a short and stout wooden handle, to which it could be easily fixed by thongs passed over the projecting surfaces of the stone ball itself.

Fortunately, we have in our Museum a series of the large and beautiful facsimile coloured plates of the Bayeaux tapestry, which Mr Charles Stothard made at the request of the Society of Antiquaries of London, and Mr Anderson immediately searched them out to see what light these carefully-worked historical pictures, believed to have been made at a time not far distant from the events they pictorially commemorate, might throw on the kind of weapons used at this great battle of Hastings, and especially of these stone weapons referred to. The sword and shield, the spear or javelin, the dart and arrow, and the battle-axe, were seen at once to be distinctively figured, and there then remained only the clubs or maces used by the Saxons, and probably by the bulk of their rank and file, if we may judge from their being generally in the hands of the Saxons on foot, as their only weapon, men with no other apparently offensive or defensive armour. The only corresponding weapon, then, to these "*Saxa imposita lignis*" is the mace, in one instance hurled at the head of a Norman on horseback in plate xiv.; and in plate xvi. of the series you have, as I have said, the Saxon people wholly unarmed, except with these maces in their hands, retreating, as is not to be wondered at, before the mounted Norman chivalry encased from head to heel in helmet and chain mail, and armed with sword and spear and shield. The maces borne by these Saxons have their heads coloured red, or some paler colour, in the

<sup>1</sup> *Gesta Guillelmi Ducis Normannorum a Guillelmo Pictaviensi apud Du Chesne Scriptores Normann, folio, Paris 1619, p. 201.*

tapestry; and in shape they exactly correspond to two varieties of these stone balls, each cut into six projecting knobs or circles, which I have already shown to be the kind of balls of which most examples have been found. I have copied the plates of tapestry referred to (see Plate II.), and a glance at them will show, I may say almost beyond a doubt, the exact correspondence of the one with the other. The mace heads in the tapestry show four equally projecting rounded knobs or bosses, each about the same thickness as the shaft to which it is attached. If one of these six knobbed balls, like those for example which I have figured found at Mountblairy or Thurso, was tied on the top of a short staff or handle of corresponding size and thickness, the resemblance would be complete to the mace thrown by a Saxon against a Norman knight in plate xiv. Or if we take the deeply cut and knobbed ball found at Kilpheader and figured in Plate I., and attach it to a handle, we have an exact representation of it in plate xvi. of the tapestry, where the Saxons on foot are represented as giving way before the Norman cavalry at the close of this hard-fought battle.

These stone balls, in all their varieties, are therefore, in all probability, actually the stone heads of maces, which each man probably made and ornamented according to his own taste, and afterwards fastened to a stout and short cylindrical handle of wood, and had thus a most efficient weapon for defence and offence.

I may remind the Society that writers on Arms and Armour describe and even figure from the Bayeux tapestry the Saxon maces of the battle of Hastings as having had iron heads corresponding to those of much later times—the iron-headed maces, the morning stars, and military flails of the fifteenth century; but for this there seems to be no authority whatever. The Saxon mace of the common people consisted apparently of this stone head and wooden handle so unmistakably figured and described in the nearly contemporary histories of this important battle.

The Rev. John Collingwood Bruce, LL.D., &c., in his interesting and valuable work on "The Bayeux Tapestry Elucidated" (London, 1856, 4to), figures the whole of the tapestry in a series of coloured plates. You can there, as in our large plates, see the whole series of weapons described as having been used by the combatants in the battle, alongside of Dr Bruce's learned and interesting detailed descriptions. After describing the Norman bowmen, and the long Norman spears; the short Saxon

javelins, and their large and heavy battle-axes, he says—"The only other weapon that remains to be noticed is the mace or club. This was a comparatively rude weapon, which ceased to be used as an instrument of offence after this period. At the battle of Hastings it seems to have been used by the Saxons only. One is seen in the tapestry (plate xiv.), which has been thrown against the advancing line of the Normans, and at the close of the picture the retreating Saxons are seen to be armed with this weapon only." (P. 107-8.)

In some published works on arms and armour, we have these maces of the battle of Hastings and the Bayeaux tapestry figured and described as made of iron. Another variety of the mace, as it has been styled, figured in the tapestry as borne by the Normans, is also assumed to be of iron; it is apparently a long notched or lobed club; one of these is borne by Odo, the Norman Bishop of Bayeaux. In plate xv., Odo, the Bishop of Bayeaux, as the inscription informs us, is represented as holding a staff or club in his right hand, and encouraging his men, "HIC ODO EPISCOPUS TENENS BACULUM CONFORTAT PUEROS." Dr Bruce believes this to be a "badge of command—the marshal's baton, as it were,—and not a weapon, as some writers suppose." Its appearance is simply that of a staff or branch of a tree, and not a regularly made mace. May this not be simply the bishop's episcopal staff—the *baculus*, as it is styled—a Scottish example of which, consisting of a simple staff, the bough of a tree, it may be remembered, was long ago brought under our notice by Mr Cosmo Innes, in a paper on the Crozier of Saint Moluach, the property of the Duke of Argyll; read to the Society in Dec. 1854. Mr Innes tells us the hereditary custodians of this staff were popularly known as the "Barons of Bachul," "Bachul being the Gaelic shape of *baculus*—the episcopal staff."

In the translation by Edgar Taylor, Esq., F.S.A., of Master Wace's "Chronicle of the Norman Conquest," from the "Roman de Rou" (London, 1837), Wace states that he wrote the Chronicle in 1160. We have a description of the battle of Hastings, from which I only quote the following passage:—"The Normans moved on to the assault, and the English defended themselves well. Some were striking, others urging onwards; all were bold, and cast aside fear.

<sup>1</sup> Proc. Soc. Ant. Scot. vol. ii. p. 12.

“And, Now, Behold! That Battle was gathered, Whereof The Fame is yet Mighty.

“Loud and far resounded the bray of the horses, and the shocks of the lances, the mighty strokes of clubs, and the quick clashing of swords,” P. 191.

Here we have an enumeration of the weapons used, including in all probability these stone-headed maces or clubs.

If we look into other ancient accounts of the battle of Hastings, as in the “Lives of Edward the Confessor,” edited by Henry Richard Luard, M.A.; and published under the authority of the Lords Commissioners of Her Majesty’s Treasury, under the direction of the Master of the Rolls (London, 1858), you find in the English translation from the Norman-French of the “Life of St Edward the Confessor,” the following description of the battle of Hastings. I quote merely a few lines from No. 4565 :—

“You might hear the lances shivering ;  
Men and horses falling ;  
Arrows, stones, and darts fly  
As thick as hail in March.”

Turning to the original Norman-French, “La Estoire de Seint Aedward le Rei,” the copy from the original MS. in the University Library, Cambridge, printed in the same volume, we find at line 4565—

“Oissez lances briser,  
Gent e chivaus trébucher,  
Volent setes quareus e darz  
Espesement cum gresle en Marz.”

The editor tells us this poem is dedicated to “Alianore, riche Reine d’Engleterre,” *i.e.*, Eleanor of Provence, queen of Henry III. “Of the date of the MS. we can form a tolerably correct estimate.” “Of course the possible limits are 1236 and 1272, the former the year of the marriage, and the latter of the death of Henry III.” He considers, from internal evidence, it probably belongs to the year 1245, when his restoration of the church at Westminster took place.

Looking to the glossary given of the old Norman-French, we find *Quareus*, the “stones” of the translation, is the plural of *Quarel* or *Quarrel*, a square block of stone. In Henschel’s edition of Du Cange’s most valuable “Glossarium,” tom vii.—“Glossarium Gallicum,” we find



"*Quarel*—Grosse, pierre carrée, pierre de taille;" and in volume v., the "Glossarium Mediæ et Infimæ Latinitatis," we find its origin:—*Quarellus, Quadrelli, Quarrelli*—Tela balistarum, brevia spissiora, et forma quadrata, unde nomen nostris *Quarreaux*. Under this name, again No. 5, we find:—*Quarellus*—Quadratus lapis, nostris alias *Quarel*, &c.

The word *Quarel* or *Quarellis* being among its various meanings applied in later times, as by Chaucer, to the short square-shaped darts or arrows of the more recent weapon, the cross bow.

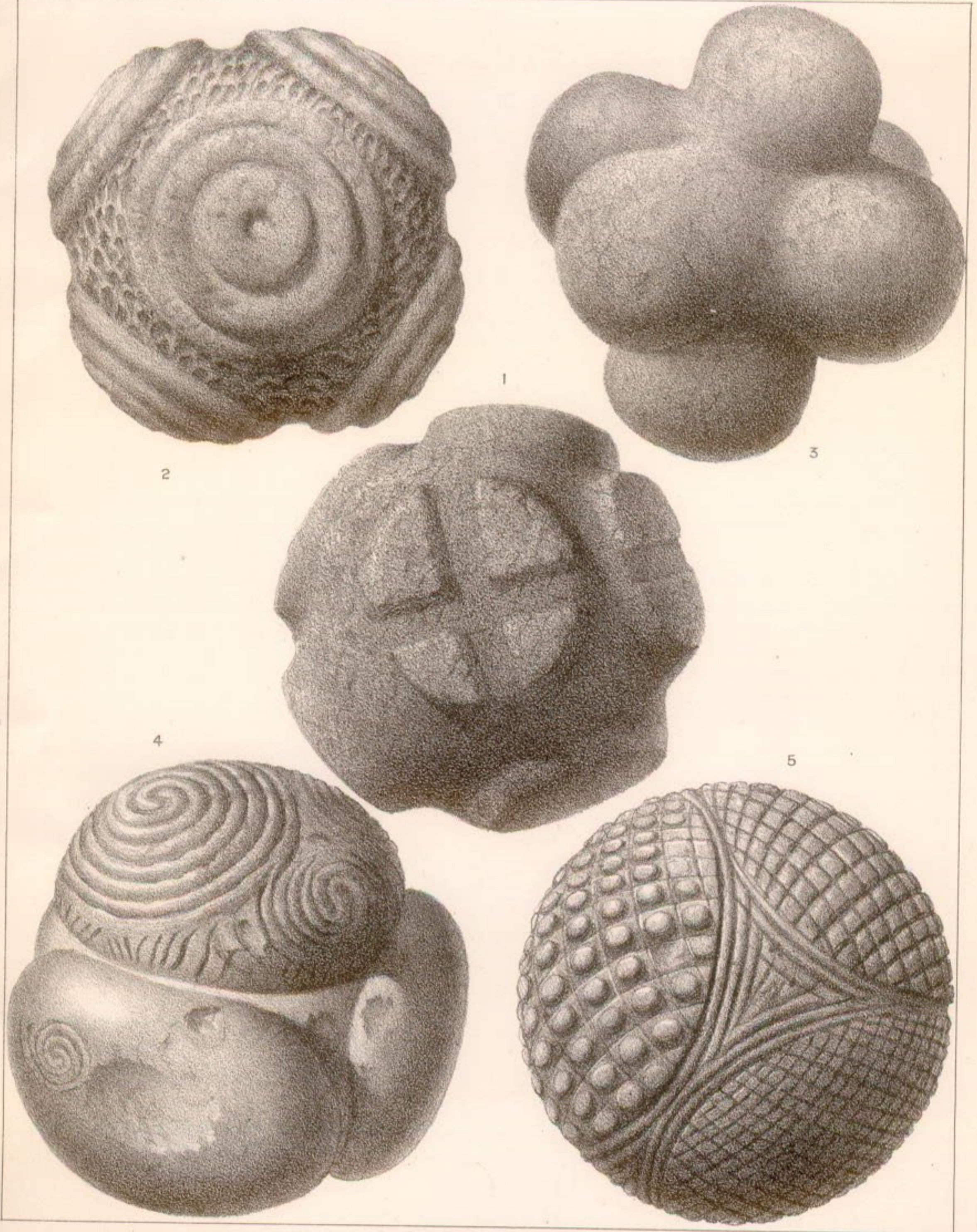
We have, then, in this old MS. the Norman-French name *Quarel*, of these cut or shaped stones, round in general form, but which when deeply cut into, with their six knobs projecting (one above the opposite one, which rested on the handle, and one from each of its four sides), gave the stone thus a general squared appearance, sufficiently accounting for the use of a name, which refers apparently in a general way to any cut or square-shaped stone. The Saxon word *mace*, as Lye tells us in his Anglo-Saxon Dictionary, is simply the Saxon for a lump, a mass, or weight, from the Latin *Massa*; and Du Cange in his "Glossarium," tom. iv., "Mediæ et Infimæ Latinitatis," gives us various meanings of *Massa*—*Clava, nostris Masse. Massa*—*Malleus ligneus, &c.* Also *Maxuca*—*Clava, mace, &c.* So that the Anglo-Saxon name of a club or *Mace*, like the Norman-French *Quarel*, was in all probability also derived from the Latin.

It is with some interest therefore that I am now able, with Mr Joseph Anderson's valuable assistance, to restore to its place among the ancient weapons of our country the long-forgotten Stone Mace, which must have been brought in great numbers with the Saxons when they flocked in early times into Scotland, and where they were probably generally used by the people to a much later date than in England, as, rather strange to say, almost the only known examples of these old Saxon stone weapons have been noticed and preserved in Scotland.

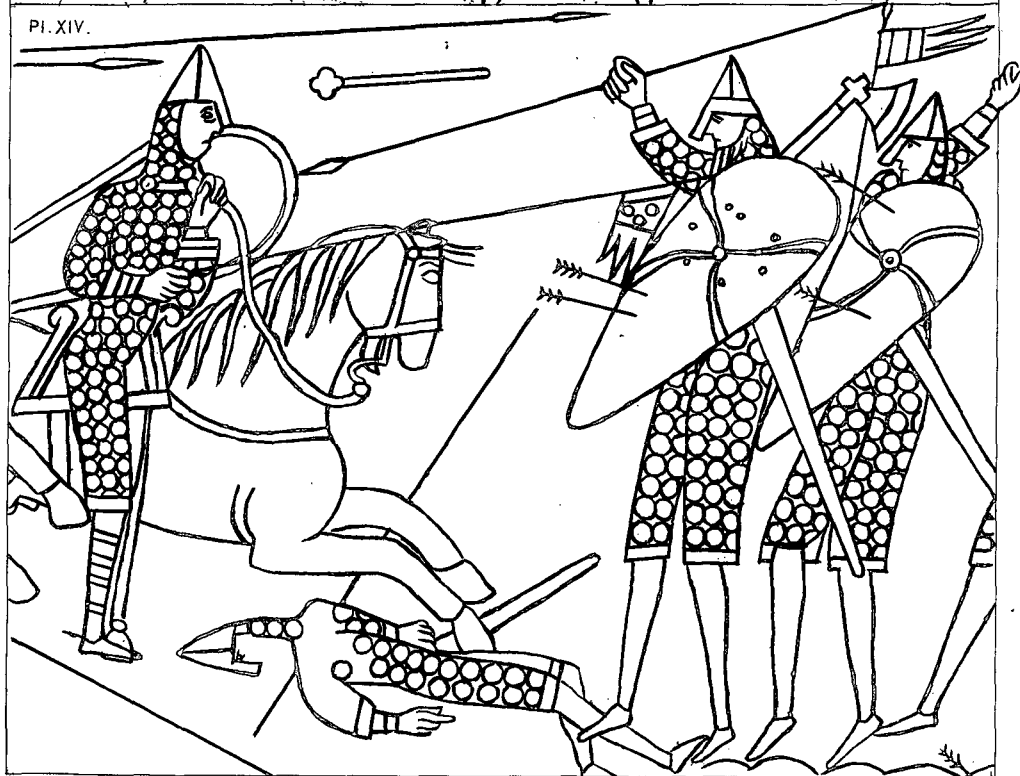
It is curious to find a closely analogous weapon, both apparently in size and shape, though formed entirely of a heavy and hard wood (a specimen of which, with its short, ornamented handle 1 foot 2 inches in length, and knobbed and rounded head between 3 and 4 inches in diameter, is in my possession) still in use in our own day among our now recently added fellow-subjects of the far distant Fiji Islands of the Pacific. In

their own way these clubs show abundance of skill in their manufacture, making the most of the material used. Apparently a young tree of a peculiarly hard and heavy wood is taken, the stem of the tree being pared down to the proper thinness for the short, straight handle, and the clustering and spreading roots cut into the series of rounded projecting knobs which form the head of the club.

Thus the same idea of an effective and handy weapon is worked out in wood by the modern Fiji islander, and by the ancient Saxon in stone and wood combined, each working out in his own sphere a weapon of similar character, best suited to his materials and his wants.



STONE BALLS FOUND IN SCOTLAND. (ACTUAL SIZE)  
1. ABERDEENSHIRE, 2. FIFE, 3. SUTHERLAND, 4. MORAY, 5. PERTH.



FROM THE BAYEUX TAPESTRY.  
SHEWING THE MACES USED BY THE SAXONS AT THE BATTLE OF HASTINGS,  
(Stothard's Plates XVI & XIV)