

V.

NOTICE OF A PECULIAR WEAPON OR HARPOON OF BRONZE FOUND  
ON THE BANK OF THE RIVER TWEED, NEAR NORHAM. By  
JOHN ALEXANDER SMITH, M.D., Sec. S.A. Scot., F.R.S.E.

The bronze weapon now exhibited is of a somewhat peculiar form ; indeed, it is the only one of the kind which has come under my observation, and I have not seen a description of any bronze exactly corresponding to it.

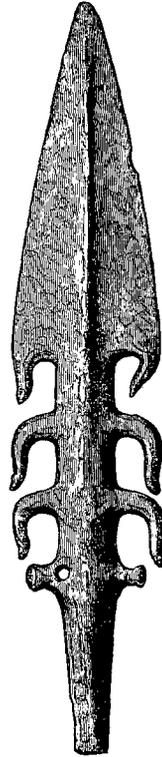
It does not resemble an ordinary spear head, but is more complicated in its character. It consists in front of a tapering blade, of dark red coloured bronze, with a projecting midrib, which terminates in a pointed extremity, and runs backwards to a pointed barb on each side, behind these barbs, two other barbs, rounded and more abrupt in character, project outwards and backwards from each side of the strong middle rib of the weapon ; behind these again there is a short, rounded, horizontal bar or stop, with blunt extremity, which also projects outwards on each side. And the weapon, instead of terminating in a hollow or tubular socket for attaching it to a handle, tapers gradually backwards, and terminates in a rather blunt point, apparently for the purpose of its being inserted in a hollow socket of corresponding size at the extremity of a wooden shaft or handle. The base of the transverse bar or stop, on one side, is pierced by a regularly cut circular perforation.

The bronze measures one foot in length, by  $2\frac{1}{4}$  inches in greatest breadth across the blade ; and the blade part, from the point in front to the extremity of one of its lateral barbs, measures  $6\frac{3}{8}$  inches. The middle bar is about 1 inch across at the barbs, and the two barbs project three-quarters of an inch on each side, the transverse bar half an inch ;

and the tapering terminal extremity is  $2\frac{1}{2}$  inches in length. It weighs  $25\frac{3}{4}$  ounces. (See the annexed woodcut.)

It was found, some time ago, by a man from Berwick when fishing on the Tweed, near Norham Castle. Turning round to arrange his tackle, he accidentally noticed part of a pointed object projecting slightly from the clay of the river's bank, at no great distance from him, and digging it out, got this curious implement. Being struck with its strange shape, he deposited it in his fishing basket, taking it home with him, and afterwards bringing it to Edinburgh when he came to reside here. He visited our Museum, and finding that we had many curious implements of bronze, brought the one he had found; I happened to be in the Library at the time, and was glad to secure it for the collection, and learned from him the particulars of its discovery.

In the number of its barbs, and its pointed extremities, it reminded me very much of some of the comparatively small spear heads formed of deer's horn, which have been found in the caves of Dordogne, in France, and are figured in the important "Reliquiæ Aquitanicæ" of Messrs Lartet and Christy. Several of these weapons have been presented, with other relics, to the Museum, by M. Lartet (and are now exhibited). Bone spear heads of a closely corresponding character, with numerous barbs and both extremities pointed, have also been found in Denmark, and are figured in Mr A. P. Madsen's beautifully illustrated work.<sup>1</sup>



Bronze Weapon found on the Tweed near Norham,  
(12 inches in length).

<sup>1</sup> Afbildninger af Danske Oldsager og Mindesmærker. Kiöbenhavn, 1870.

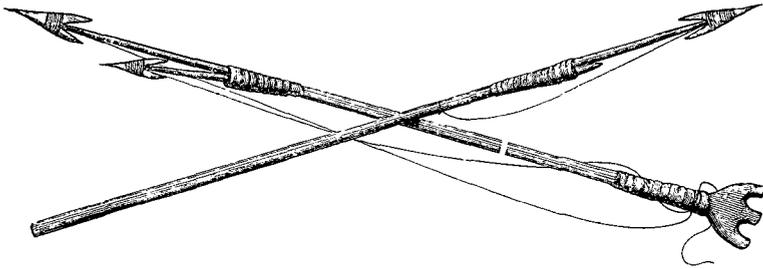
These curious weapons have generally three or more barbs projecting from each side, and many of them have both of their extremities pointed, as if for fixing into a corresponding cavity in the extremity of a separate shaft; they also show a slight projection of the bone on each side, above their tapering posterior extremity, apparently corresponding to the stop or bar on the bronze blade. These spear heads, however, are very slender in character when compared with this strong blade of bronze.

I have examined some weapons of the ruder or less civilised races of men of more modern times, to see if I could find anything corresponding in character or design to this weapon of bronze.

The principal lance or harpoon of the Esquimaux consists of a long shaft of wood, with a large separate head of bone, which is pointed in front, and terminates in barbs behind. Some of these harpoons have the head prolonged backwards to a tapering or pointed termination, for insertion into a socket hollowed at the extremity of the wooden handle, and they have also projections corresponding to the bars or stops of the bronze now described; others have a socket cut between the barbs, into which the tapering point of the shaft is inserted, and all are pierced transversely with a hole, to which a strong line of considerable length is attached; to the other extremity of this line is fixed a float or air-bag, formed of the inflated skin of a seal. When the Esquimaux sets out in his skin-covered canoe or kayak to hunt the seal or the whale, his principal weapon is this large lance, which is strapped at his side, the line arranged on a stand in front of him, and the skin float placed on the canoe behind. When he strikes his game, the head separates from the handle of the spear, which is carefully secured, and he throws the float into the water, where it acts both as a buoy to point out where the game has gone, and as a drag to retard its progress, and exhaust the strength of the wounded animal. He is thus enabled more easily to approach and stab it again and again with his smaller lance, which has a fixed head, until the prize is finally secured. Through the kindness of Dr Robert Brown, F.R.G.S., who has more than once visited Greenland, I am enabled to exhibit a small model of this ingenious harpoon of the Greenlander, with its movable head, its line, and its float, made by the Esquimaux themselves.

Harpoons of a similar construction to those of the Esquimaux are

also in use on the coasts of North-Western America, and, in an interesting little volume, giving an account of the natives of that part of the world, entitled "Scenes and Studies of Savage Life," by Gilbert Malcolm Sproat, London, 1868, I find details given of the manner of catching salmon by the natives of the west coast of Vancouver Island. They capture the fish with the hook, and with elaborately-constructed traps in the rivers, and also with the spear; either from the canoes by torch-light at night in the deeper water off the mouths of rivers, or by standing in the river during the day, and striking the fish as they swim past, or lie in the deep pools of the river. The salmon spears have a



Salmon Spears used by the Natives of the West Coast of Vancouver Island.  
(The two headed spear is about 15 feet in length; the one headed spear is considerably shorter.)

movable barbed head, to which a line is always attached. They employ a spear with a single head in the shallow water; but in deeper water, where the chances of the fish escaping are greater, from the refraction of the water, they use a very ingenious spear, which has a double or additional head springing from the upper part of the shaft, each head with its separate line attached; and so the chances of striking the fish are much increased.

Mr Sproat says—"The salmon spears are made of pine, and are rounded and smoothed by being rubbed on watered stones, and are afterwards straightened by warmth in the ashes of the fires. The spear, with two heads and two finger places in the handle, is about 15 feet long, and is

used in the deeper water off the mouths of rivers, when the two heads double the chances of hitting a fish at one stroke. The single-headed spear is used in the shallow water in rivers. The spear head is made of elk bone, glazed with resin, and becomes detached from the spear on the fish being struck, but remains fastened to the line. The fisherman lays the spear down in the canoe, and hauls in the fish with the line. If the salmon is very large and troublesome, a few small bladders are tied to the line, as near to the fish as possible, and he is left to weary himself by the effort of dragging these under the water. In the rivers and mountain streams, in which the water generally is shallow and flows rapidly, the natives place stones across the channel, and with the single-headed spear strike the fish as they pass. It is a pretty sight to see an Indian, with his blue blanket flung carelessly around him, standing on these stones in a graceful attitude, poising his long spear," &c. (P. 221.)

These salmon spears are, therefore, made to act exactly on the same principle as the harpoon of the *Esquimaux*.

Mr Sproat has been kind enough to send to me, through Dr Robert Brown, some clever sketches in water colours, by a lady (Mrs Mack), of various Vancouver Indian weapons, implements, &c. (which I exhibit), including the salmon spears (copied in the annexed woodcut).

The ancient spear heads of bone found in the caves of Dordogne, with their posterior terminations tapered like the bronze weapon, were probably used in a similar manner to those of Vancouver Island, as spears for catching fish.

Whether this large bronze spear head, found on the banks of the Tweed, was used harpoon-like for spearing salmon, or for other creatures of a much larger size and belonging to a different zoological Class, it is not easy to say; probably it was used for both. It certainly looks considerably larger than necessary for the former purpose; although it is not improbable that at an earlier time the salmon of our rivers may have been at once more abundant, and may have also lived to reach a much larger average size, than their sorely persecuted descendants in our own day.

There is, however, a great similarity of design between this ancient bronze, and the modern spears or harpoons which I have described, with their movable and barbed heads, and holes with lines attached to them. The bronze like them has its barbs, and a tapering posterior extremity (the

strength of the bronze blade, and probably also its facility of detachment from the shaft, being thus increased). It has also the hole pierced through it, which, if not intended simply for fixing it by a cord to a shaft, and it is certainly not a usual way of fixing a spear head to a handle, was probably for the attachment of a long line.

I am inclined, therefore, to think that the weapon was used as a harpoon rather than as a common spear.

The usual missile of the Britons—the *matarā* of Cæsar—seems clearly identical with the heavy Gaulish javelin. I quote from the important chapter on the Historical Ethnology of Britain, by Dr J. Thurnam, in the valuable “Crania Britannica” of Mr J. B. Davis and Dr Thurnam. Diodorus gives the name of *saunian* to the missile weapons of the Gauls, which they themselves, he says, called *lancia*. He states that there were two forms of the saunian, one straight, the other barbed, or, as he expresses it, curved and having a jagged edge, which produced a laceration of the wound in the recovery of the weapon (Diod. lib. v. c. 30). This last phrase seems to imply that one kind of saunian was thrown with a thong, and belonged to the class of *jacula amentata*. Diodorus also states that the head of the saunian was of iron, and a cubit (18 inches) in length, and that the shaft was still longer. The “*lancea*” is defined by Isidorus as “*hasta amentum habens in medio*” (Isidor. Hisp. lib. xviii. c. 7). A Gallic spear, intended for thrusting rather than hurling, is referred to by Strabo, who distinguished it from the *mataris* or javelin. He implies that it was of great length, &c. From these quotations, referring to the ancient weapons of the Gauls and Britons; it seems therefore probable that one form of the javelin was thrown with a thong to recover it, and that it had the thong attached to the middle of the handle. It was not perhaps barbed, as Dr Thurnam puts it, but had, as Diodorus himself says, a curved and jagged edge.

A weapon barbed like this bronze—a more ancient weapon, shall I say, considering the metal of which it is formed—would be unsuitable for use as a javelin or spear in warfare, the barbs preventing the withdrawal of the weapon. It rather suggests, therefore, the capture of the animal struck by it, on the principle of the ordinary harpoon,—a weapon which, in the form of that with the movable head, seems to have been used by the inhabitants of very distant parts of the world.

Since this communication was read before the Society, Mr Joseph Anderson, the Keeper of our Museum, has called my attention to a figure of an ancient weapon of a closely corresponding character, which is published in the Reports of the General Anniversary Meetings of the Royal Society of Northern Antiquaries for 1838 and 1839, Copenhagen, 1839; and I am indebted to Mr Anderson for the following translation, or rather abstract of the communication :—

“The Asiatic Society of Calcutta in Bengal, along with a letter from its Secretary, the Hon. J. Prinsep, have transmitted to the Society of Northern Antiquaries two specimens of ancient copper weapons, found at a landslip near the village of Nioräi, in the province of Etäweh, between the rivers Ganges and Jumna in the interior of Hindostan.

“The first of these is a sword blade, or broad sword (23 tommers in length), with a peculiar projecting hook on one side of the tang, or handle part of the weapon. The second weapon is a spear or javelin head (14 tommers long), very massively moulded, fashioned for insertion in a shaft, where there might be fastenings to the outstanding hooks. The points of the latter are worn off. Weapons of this form are frequently dug up in the neighbourhood of the Hindoo towns Mathura and Bindráband, and the natives consider them to be of the kind used in the Mahábhárata war celebrated in the famous Sanscrit Epos. This, however, Mr Prinsep considers somewhat doubtful, because the Mahábhárata poem expressly mentions steel weapons.

“The presumption of the high antiquity of these objects is very strong. They are well wrought, have a fitness for their purpose, and the artificer has not been sparing of the metal, of which it may be judged that the Indian race had an abundant supply. In the meantime the following circumstances point to a far distant age ;—first, the form and simplicity of the sword-like weapon ; and, second, the material of which they are both made. This material has been found (by a chemical analysis, to which it has been submitted by Professor Forchhammer) to be very good and pure copper, with nearly nothing, or very little, of an admixture of tin, or possibly of some other substance found therein. The addition of tin, whereby bronze is produced, was an improvement which was very early employed with weapons of copper, for the purpose of hardening them. Here, in the North, we have never found swords, but only celts and

palstaves made of pure copper, and these may be taken to have either belonged to a very early period, or to the less wealthy." Page 12, &c.

The figure of the spear-head accompanying this communication shows a weapon very much resembling the one I have figured and described. It has a blade part in front which terminates in barbs, behind which are three small and much worn projecting points springing from each side of the prolonged mid-rib of the weapon, which also terminates in a tapering posterior extremity. The blade part of this spear head is a little longer in proportion to the rest of the weapon than in the one I have described, but the projecting points, although they are much worn away, apparently correspond exactly both in number and character to the barbs and stop of the one found on the banks of the Tweed at Norham. The only difference being that there is no circular perforation through it as in the Scottish bronze—at least none is figured or described.

This Indian weapon is, therefore, of much interest, and it is curious to observe that no similar specimen has apparently been found in the north of Europe, at least none appears to be known to the Northern Antiquaries. The Indian weapons are stated, in the communication I have quoted, to be both formed of nearly pure copper, and this Indian spear-head from Bengal, being the only one I have been able to discover at all corresponding to that found on the banks of the Tweed; it occurred to me that it was possible I might have been mistaken in considering the latter to be formed of a reddish-coloured bronze. Accordingly I requested Dr Stevenson Macadam, who is always most obliging in making an analysis of any object of interest, and indeed has already analysed various ancient bronzes for the benefit of the Society, to make a careful examination of this bronze; and Dr Macadam has favoured me with the subjoined note, which shows that the Scottish weapon is really a true bronze, and not like its Indian representative, formed of nearly pure copper.

On comparing Dr Macadam's analysis given below, with those of other ancient bronzes, it would appear that this Scots bronze agrees more nearly in its chemical constitution with the class of bronze compounds found in Great Britain and Ireland, than with those found on the Continent of Europe, and this may so far be taken as a proof of its being of British manufacture. The proportion of copper in the British bronzes being generally large, and of tin and lead very small, whereas many of those

found on the Continent, contrary to what might have been expected, appear to have a larger relative proportion of tin and of lead. (See a learned communication by J. E. Wogel, "Kelternes, Germanernes, og Slavernes Bronzer, En Archæologisk Parallel," published in the Antiquarisk Tidsskrift of the Royal Northern Society of Antiquaries, Copenhagen, 1854.

"ANALYTICAL LABORATORY, SURGEONS' HALL.

"The bronze implement found near Norham, which you sent me ten days ago, has the following chemical composition:—

Copper,	.	.	.	91.12
Tin,	.	.	.	7.97
Lead,	.	.	.	0.77
Loss,	.	.	.	0.14
			————	100.00

"These proportions indicate a hard bronze capable of taking and retaining a somewhat fine edge, which would be specially serviceable in a defensive arm or cutting instrument. If the barbs were not so far turned in, the implement would form the head of a very formidable instrument for spearing salmon."

My friend Dr John Anderson, Curator of the Imperial Museum, and Professor of Comparative Anatomy, Calcutta, who is at present in this country, has been good enough to furnish me with the following notes of another and similar barbed weapon in the great Indian Museum:—

"I have carefully examined the spear-head from the banks of the Tweed at Norham, and find that it agrees in size and in the number of its barbs with a weapon in the Indian Museum, Calcutta, found, as far as I can remember, speaking without my notes, in the North-West Provinces of India, with this difference, however, that the two pairs of barbs beyond the circular perforation are not reflected, but are shorter than in the Norham specimen, and bear the appearance as if their points had been broken off, which Prinsep also remarks of the specimen transmitted to the Society of Northern Antiquaries. The only difference between the Calcutta weapon and the spear-head in the Copenhagen Museum is the

presence in the former of a circular perforation corresponding in position to the one in the Norham specimen. Mr Anderson, of your Museum, mentioned to me that this perforation was completely obscured in the latter when it was received, but was detected and cleared out by him. It is probable that a careful examination will discover a similar perforation in the Copenhagen weapon. My distinct impression is that an analysis of the Calcutta weapon yielded a result similar to that of Professor Forchhammer's. The weapon in the Calcutta Museum is, as far as I am aware, the only one in India.

It may prove interesting to mention that the fishermen of the Ganges use a long lance or harpoon with a barbed head of hardened wood or bone, which is let into a socket at the end of the shaft, to which it is attached by a cord, which becomes disentangled when the animal is struck. These harpoons are used for spearing *Trionyx gangeticus*. In a walk along the banks of the Hooghley, below Calcutta, one may see, on the deep and sluggish parts of the river, *domes* intently watching, spear in hand, from their small boats the uprising of a tortoise. No sooner does the head of one of these reptiles appear above the murky water than the javelin is thrown with great dexterity, seldom missing its mark. I have myself, with one of these spears, harpooned a large specimen of the cetacean, *Platanista gangetica*.

If this bronze is really a harpoon head, it would appear to be more suitable for spearing such large reptiles as *Crocodylus palustris* or *Gavialis gangeticus* than for spearing fish."

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MONDAY, 14th February, 1870.

FRANCIS ABBOTT, Esq., Vice-President, in the Chair.

The following Gentlemen were, upon ballot, duly admitted Fellows of the Society .—

Right Hon. the Earl of GLASGOW.

JAMES BROWN CRAVEN, Esq., Writer, Aberdeen.

Right Rev. ALEXANDER PENROSE FORBES, D.C.L., Bishop of Brechin of the Scottish Episcopal Church.

DAVID GRIEVE, Esq., The Ferns, Inellan.

ANDREW JERVISE, Esq., Registration Examiner, Brechin.

THOMAS MACKENZIE, Esq., Sheriff-substitute of Sutherlandshire.

DAVID SMALL, Esq., Writer, Dundee.

Rev. FREDERICK D. TEESDALE, Merchiston Place.

CHARLES TENNANT of The Glen, Esq., Peeblesshire.

The following Donations to the Museum and Library were laid on the table, and thanks voted to the Donors :—

(1.) By the Rev. Canon WILLIAM GREENWELL, M.A., Durham.

A collection of Flint Implements of the Drift Gravel type, comprising specimens of the long and the broad forms. These donations include specimens of flints from Broomhill, Brandonfield, Icklingham, &c.

Collection of worked Flints from the Yorkshire Wolds, comprising two very large "Scrapers" from Weeting, and a number of smaller ones from other localities; seven arrow heads, three leaf-shaped, three triangular, and one from Kirby Underdale of the one-sided form, having a stem and only a single barb; four of the curiously worked flakes termed "Awls" or Piercers; and a large assortment of Flakes more or less worked to these and other forms.

- (2.) By Right Hon. LORD TALBOT DE MALAHIDE, Hon. Mem. S.A. Scot., &c.,

A Brass Jug, 6 inches in height,  $2\frac{1}{2}$  inches wide at the mouth, and 4 inches wide at the widest part, found near Newbigging, Fife, in draining a bog as recorded in the "Interesting Roman Antiquities recently discovered in Fife, by the Rev. Andrew Small, Edenshead." 8vo. Edinburgh, 1823, page 56. There were found along with it a large Bronze Pot, and three of the smaller three-footed Pots or Ewers, with long handles and spouts opposite to the handles, and a Caldron, described as a bason. The vessel now presented, which is figured in the frontispiece to Small's work, is described by him as being something resembling our common mutchkin stoups, but globular at the bottom. It has once had a lid which moved on a hinge placed at the top of the handle, as in the modern pint stoups. The hinge is a strong copper wire rivetted on both sides of the checks between which the hinge moves. The vessel has a triangular spout rising two inches and a quarter below, and projecting half an inch beyond, the circle of the rim.

An earthenware jar of reddish clay four inches wide at the mouth and eight inches high, with a conical-shaped lid, stated to have been found in the county of Fife.

- (3.) By DANIEL ROSS, Esq., Rockville.

A model of "The Cheese-ring" near Liskeard, Cornwall,  $3\frac{1}{2}$  inches high, in a glass shade.

- (4.) By WALTER DICKSON, M.D., F.S.A. Scot.

A broken Phallus of Clay, coated with red pigment, taken from the ground in front of a tombstone in a native cemetery at Kanagawa, Japan. It had been placed over the grave along with offerings of boiled rice, water, and flowers.

- (5.) By W. F. SKENE, Esq., LL.D., F.S.A. Scot., the Author.  
The Coronation Stone. Edinburgh, 1869. Small 4to.

- (6.) By the COUNCIL of the ROYAL SCOTTISH ACADEMY.  
Report of the Council of the Royal Scottish Academy for 1869.

- (7.) By JOHN RIDDOCH M'LUCKIE, the compiler, through T. ALLAN BELL, Esq. of Abbotshaugh.

Account of the principal Memorials in the Falkirk Churchyard, &c., reprinted from the "Falkirk Herald," with photographs. Small 8vo.

- (8.) By Madame F. TROYON.

Monuments de l'Antiquité dans l'Europe Barbare. Par FREDERICK TROYON. Lausaune, 1868. 8vo.

- (9.) By JOHN DICK of Craigengelt, Esq., F.S.A. Scot.

An Old Print of Stirling and another of Stirling Castle.

- (10.) By Rev. CHARLES ROGERS, LL.D., F.S.A. Scot., the Author.

Scotland, Social and Domestic. Memorials of Life and Manners in North Britain. Printed for the Grampian Club, London. London, 1869. 8vo.

- (11.) By JAMES HASWELL, M.A., the Author.

Columnar Structure developed in Mica Schist from a Vitrified Fort in the Kyles of Bute. 8vo. pp. 7.

There were also exhibited to the meeting,—

- (1.) By GEORGE A. JAMIESON, Esq., C.A., F.S.A. Scot.

The Original Matrix in brass of the Seal of the Abbey of Inchaffray, *circa* 1400 A.D.

The Original Matrix in brass of the Seal of James Drummond, Lord Maderty, *circa* 1609.

- (2.) By R. B. Æ. M'LEOD of Cadboll, Esq., Invergordon Castle, Ross-shire.

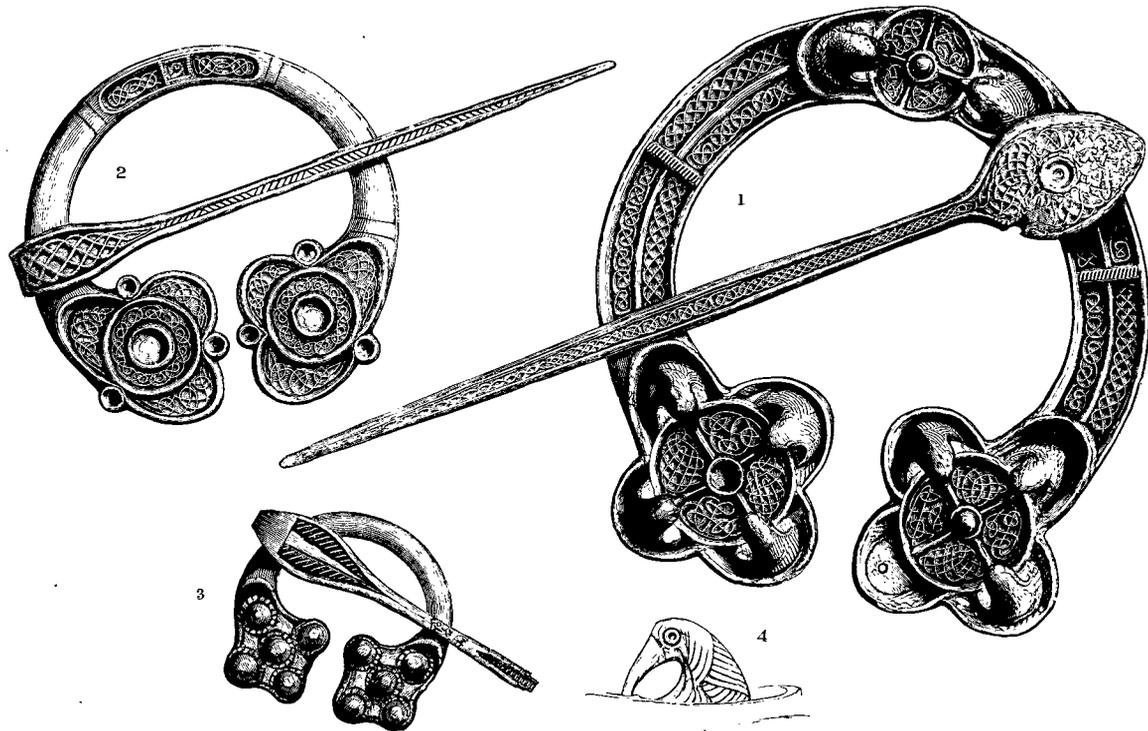
Two Brooches, of rare type, of white metal, ornamented with interlaced patterns of exquisite workmanship, found in Rogart parish, Sutherlandshire.

A Rare Bronze Implement, and portions of Bronze Rod or Ornament, of unknown use, found at Wester Ord, near Invergordon Castle, Ross-shire.

(3.) By His Grace the DUKE of SUTHERLAND.

A Small Bronze Brooch, found with the two mentioned above.

The larger of the two Brooches exhibited by Mr M'Leod measures four and a half inches across, and consists of a flattened band of silver, three quarters of an inch wide, nearly a quarter of an inch in thickness, and somewhat of a horse-shoe shape, penannular in form, terminating at the open extremities in a quatrefoil ornament, which expands to three inches in greatest width. This quatrefoil ornament bears an amber setting in the centre. Round the central setting is a circular space one inch in diameter, enclosed by a plain raised border, and intersected by four plain partitions, dividing it into four equal segments, each of which is filled in with a different pattern of interlacing tracery. Round the outside of this circle are four semicircles, also surrounded by plain raised borders. Three of these are of the same diameter as the circle round which they are set, but the fourth, which lies upon the band of the brooch, is compressed into an elongated oval, so as not to project beyond the breadth of the band. From each of these enclosed semicircular spaces there rises, to the height of half an inch, part of the body and neck of a large-billed bird. The eyes have been set with green glass; the neck bends gracefully, and the long flattened bill dips into the interior of the enclosed circle. These birds' heads are each secured by a central rivet passing through the body of the brooch. They are plain on the upper part of the neck and head, and ornamented with a chevrony pattern towards the base. On the central part of the horse-shoe shaped or penannular band of the brooch, there is a similar but smaller circle. This circle is also divided into four segments, with a central setting of amber, and the segments filled in with interlacing tracery. On either side of the circle are two of the bird's heads ornamented similarly to those of the extremities of the brooch. The space between the ornamented centre part of the band and the quatrefoil ornaments of the extremities, is indented so as to form four sunk panels of an inch



TWO SILVER BROOCHES, AND ONE OF BRONZE, FOUND IN SUTHERLANDSHIRE.

1. Silver Brooch, Gold-plated ( $4\frac{1}{2}$  inches diameter).
3. Bronze Brooch ( $1\frac{3}{4}$  inches diameter).

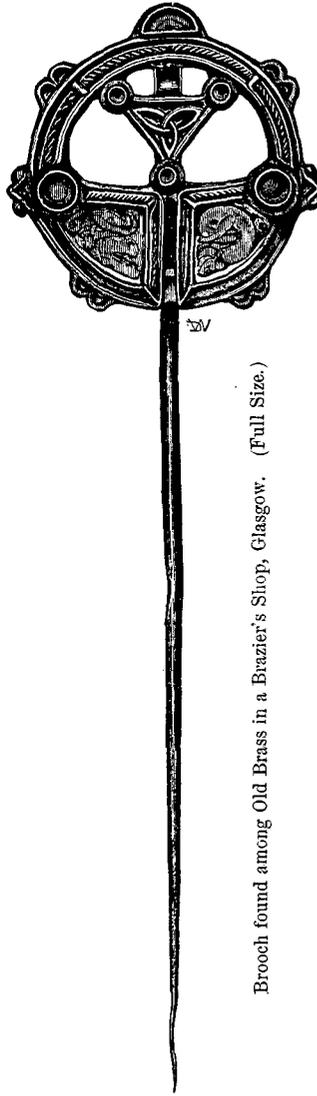
2. Silver Brooch (3 inches diameter).
4. Side View of the Bird's Head Ornament of No. 1.

and a half in length by a quarter of an inch in breadth, divided longitudinally by plain raised borders, and crosswise by a broader ridge flattened on the top, and tooled with short incised lines. These panels are filled alternately with two patterns of interlaced tracery. The whole of the ornamented upper surface of the brooch is overlaid with thin gold-plate worked into the pattern by a tool: The back of the brooch, which is flat and slightly rounded, presents an appearance suggestive of the naturally cooled surface of the metal, which seems to have been run into an open mould, and left entirely untouched by any tool. On several parts of this otherwise untooled surface are groups of minute scratchings made by some sharp instrument. These can scarcely be confounded with the scratches resulting from wear. The acus, which is seven inches and three quarters in length, expands into an oval plate at the upper extremity, from which a loop extends backwards so as to encircle the band of the brooch. This oval is an inch in breadth, and has had a setting or ornament of some kind in the centre, as shown by the rivet hole; round it is a broad border of intricate interlacing tracery. This is continued with several variations of pattern down the whole front of the pin, which is entirely overlaid with gold like the ornamented surface of the brooch. (See Plate XVI. fig. 1.)

The smaller brooch (Plate XVI. fig. 2), which is also of silver and of the same penannular form, is three and one-eighth inches in diameter. Its ornaments are of three-petaled fashion, and not four as in the larger brooch, and it wants also the peculiarity of the quartered circle and the birds' heads. The ornaments of the extremities of the penannular band (which is plain), consist of a central setting (now gone) surrounded by a circle of interlacing tracery, round which are three semi-elliptic spaces filled in with tracery. There seem to have been three settings at the junctions of the semi-elliptical borders of these ornaments. In the centre of the band there is a setting of small size, and two small panels on either side of it, with interlaced serpent-like tracery, bearing considerable resemblance to the style of the serpent-work on the Hunterston Brooch (see "Proceedings," Vol. VII. Plate LVII.) The acus is five and a half inches in length, in general form like that of the larger brooch, but not so elaborately ornamented. These brooches, which are in almost perfect preservation, were exhibited at the meeting of the Archæological Institute, May 7, 1869,

and from the style of their workmanship were then assigned to the ninth or tenth century.

A similar brooch ornamented with birds' heads of much the same type as those of the larger brooch here described, was one of the four found in the magnificent chalice dug up at the fort at Ardagh, county Limerick, and exhibited at the May meeting of the Archæological Institute by the Earl of Dunraven (*Arch. Jour.* 1869, p. 290). The smaller brooch bears a strong resemblance in its form to one found at Skryne, county Meath, and figured in the Catalogue of the Museum of the Archæological Institute formed at Edinburgh in July 1856 (*Edin.* 1859), page 55. The ornamentation of interlacing and lacertine tracery, which in the larger brooch is combined with the peculiar birds' heads, is exhibited on several of the penannular brooches in the Society's Museum. Two examples of these are here figured, the figures being taken from Dr Wilson's "Prehistoric Annals of Scotland." The first, which was found accidentally among some old brass in a brazier's shop in Glasgow, is of bronze, and has been jewelled, but the settings are now gone. The other brooch, which is of silver, still retains the original settings,



Brooch found among Old Brass in a Brazier's Shop, Glasgow. (Full Size.)

apparently of amber, and like the Cadboll brooches, the interlaced and lacertine patterns are wrought in gold. It was found in the vicinity of the mounds at Dumipace, Stirlingshire.

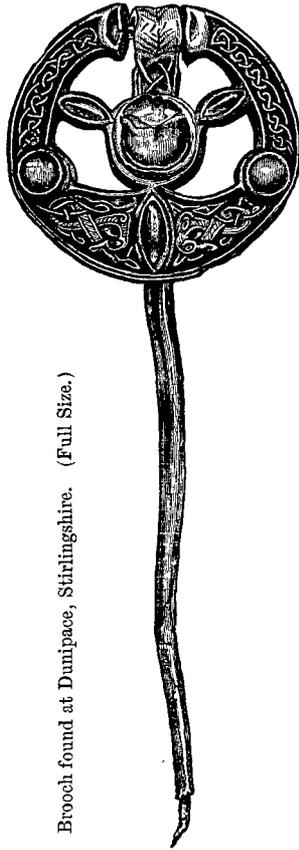
In one of the Irish examples figured by Sir W. Wilde in the Catalogue of the Museum of the Royal Irish Academy, the acus terminates at the upper end in the representation of a human face cowed. The style of the ornamentation on the necks of the birds of the larger Cadboll brooch is not unlike that seen on the necks of the "horses' heads" that adorn the "tortoise-shaped brooch" from Caithness in the Society's Museum.

The use of interlacing patterns and lacertine knot work in the ornamentation of these penannular fibulæ, is not so uncommon as its combination with the forms of birds' heads in high relief. Dr Stevenson Macadam was requested to examine the brooches, to determine if possible the metal of which they were composed, and the following note gives the result of his examination :—

SURGEONS' HALL, EDINBURGH.

MY DEAR DR SMITH,—I returned the brooches safely to the Museum yesterday. Both brooches are made of silver alloyed with

copper, and consequently the metal is similar to the sterling or coin silver of our own country. The proportion of copper appeared to be rather



Brooch found at Dumipace, Stirlingshire. (Full Size.)

higher than usual, judging from the qualitative analysis. The gilding, or rather inlaying, is of gold.—Yours sincerely, STEVENSON MACADAM.

The third brooch exhibited by the Duke of Sutherland, preserved in the Museum at Dunrobin Castle, is of bronze, silver gilt, and considerably smaller than those already described, measuring only three inches and a quarter in diameter. Its ornamentation consists of three rounded bosses on the expanded extremities of the penannular band of the brooch. (Plate XVI. fig. 3.)

These three brooches were found along with a number of others (which cannot now be traced), on blasting an earth-fast boulder in the course of the formation of the Sutherland Railway through the parish of Rogart in 1868. With the exception of the small one now in the Duke of Sutherland's Museum at Dunrobin Castle, the others were all taken away by a relative of the finder, and sold. The two larger brooches were left by him with a shopkeeper in the village of Alness for value received, and were afterwards purchased by Mr Macleod of Cadboll, by whom they have been named "The Cadboll Brooches."

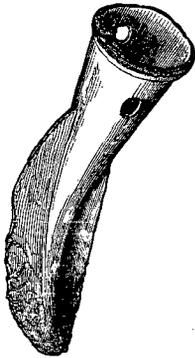
The Bronze Implement, also exhibited, is of a rare shape, consisting of a tapering circular hollow socket, which terminates in a bent leaf-shaped blade, the convex surface of the blade being smooth, and the tapering socket projecting like a midrib on the concave surface, and terminating within  $\frac{1}{4}$  inch of its somewhat pointed extremity. It measures  $4\frac{1}{2}$  inches along the convex surface of the implement, and  $1\frac{1}{2}$  inch in greatest breadth of the blade. The top of the tubular socket measures 1 inch across; it is pierced by two rivet holes opposite to one another for fixing it to a handle, and has a thickened margin or ridge-like projection. It is well shown in the accompanying woodcut, fig. 1.

It was found, with five other pieces of bronze (celts, &c.), under the corner of a large earth-fast boulder on the farm of Wester Ord, on the Invergordon property, in 1859. The hoard appeared to have been wrapped in a cloth, and secreted under the boulder. Among the pieces were the three portions of a bronze rod  $\frac{1}{4}$  of an inch in diameter and about 15 inches in length, which had apparently been broken into four unequal portions, one portion displaying a slightly expanded terminal extremity. The rod is ornamented by a series of small cup-like hollows,

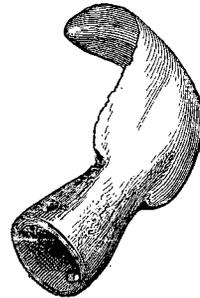
each with a pair of slightly projecting ears, which occur at intervals of about three or four inches along its upper border. These little cups or hollows measure a quarter of an inch across.

Two small bronze rings, each five-eighths of an inch in diameter, were also found in the same place.

The only other bronze implement of a similar kind with which we are acquainted, was presented to the Museum of the Society in February 1850, by the late Horatio M'Culloch, R.S.A., F.S.A. Scot., who stated that it was found in the Island of Skye, along with a bronze sword, spear-head, pin, &c. This implement, which is somewhat smaller than the one now described, has the midrib much less developed, and is described and figured in "The Prehistoric Annals of Scotland" by Dr Daniel Wilson, from which the accompanying woodcut, fig. 2, is taken.



1. Bronze Implement found at Wester Ord, Invergordon.  
(Four and a half inches in length.)



2. Bronze Implement found in Skye.  
(Four inches in length.)

Some of the other bronzes found at the same time with fig. 2 have been described and figured in a communication by Dr J. A. Smith, Sec., S.A. Scot. in the "Proceedings," Vol. III. page 201.

We append the following details regarding this peculiar implement from Dr Wilson's "Prehistoric Annals":—

“ In the autumn of 1849 a remarkable discovery of bronze arms and other antiquities was made in the Island of Skye. They included swords, spear-heads, celts, and a bronze pin, with a hollow cup-shaped head, similar to one figured in the *Archæological Journal* (Vol. III. p. 48), a relic of one of the Irish crannoges or island strengths. A gold armilla and other ornaments of the same precious metal are also said to have been obtained along with these ancient remains, and beside them lay the fragments of an oaken chest, in which the whole appeared to have been deposited. The most of these valuable relics were secured by Lord Macdonald, but one curious and probably unique implement fell into private hands, and has since been deposited in the Museum of the Scottish Antiquaries. In general appearance it resembles a bent spear-head, but it has a raised central ridge on the inside, while it is nearly plain and smooth on the outer side. It has a hollow socket, and is perforated with holes for securing it to a handle by means of a pin. The most probable use for which it has been designed, would seem to be for scraping out the interior of canoes and other large vessels made from the trunk of the oak. But we necessarily reason from very imperfect data, when we ascribe a specific purpose to the implements of a period the arts and habits of which must have differed so essentially from our own.”

(4.) Two Roman Coins purchased for the Numismatic Collections of the Society—

Third Brass of the Emperor Lælianus. Obverse: IMP. C. LÆLIANVS P. P. AVG.; bust of Lælianus. Reverse: VICTORIA AVG.; Victory marching to the right bearing a wreath or crown.

Second Brass of the Emperor Vetrico. Obverse: DN. VETRICO. P. P. AVG.; the bust of Vetrico, with paludamentum and cuirass. Reverse: CONCORDIA MILITVM; Vetrico in military habit, standing, holding in each hand a labarum or Christian standard—the “Christian monogram” is distinctly seen on the standards. In the exergue: I. SIS. (Struck at Siscia in Pannonia.)

Both very rare.

The following note on these two coins has been kindly furnished by George Sim, Esq., Curator of Coins, S.A. Scot.

Lælianus, (one of the thirty tyrants of his time,) was the leader of the

insurrection by which Postumus was overthrown, and after gallantly defending Gaul from the incursions of the Germans, was himself slain by his own soldiers who mutinied on account of the severe toils he imposed, and proclaimed Victorinus in his stead. These events took place in the course of A.D. 267. The coins of this usurper are very rare.

Vetranio was an officer far advanced in life who commanded the Legions of Illyria and Pannonia at the period (A.D. 350) when Constans was treacherously destroyed and his throne seized by Magnentius. Vetranio at first only intended to render assistance to Constantius (the brother of Constans) to put down the usurper, but was at last prevailed on by the troops to assume the purple himself, after which he was courted by both the contending parties, and for a time, seemed to befriend both. In less than ten months, however, he resigned all his pretensions in favour of Constantius, by whom he was treated with great kindness and permitted to retire into private life, practising, for the remaining six years of his life, the virtues of the Christian faith which he professed. The coins of Vetranio are very rare.

The following Communications were read :—