II.

NOTICE OF A BRONZE CALDRON FOUND WITH SEVERAL SMALL KEGS OF BUTTER IN A MOSS NEAR KYLEAKIN, IN SKYE; WITH NOTES OF OTHER CALDRONS OF BRONZE FOUND IN SCOTLAND.

By JOSEPH ANDERSON, LL.D., Assistant Secretary and Keeper of the Museum.

The bronze caldron which is the subject of the present notice was found by some men digging peats in a moss near Kyleakin, in the island of Skye. It is interesting as an example of a class of ancient culinary utensils of somewhat rare occurrence in Scotland—at least rarely seen in a condition sufficiently entire to show their form and structure. The circumstances in which this example was found were also interesting, on account of its apparent association with several kegs or small barrels of butter, which were found by the same persons at the same time, and, as they state, in the same place—the whole of the articles being said to have been found in close juxtaposition. As the articles thus found were not seen *in situ* by any one capable of subjecting this apparent association to the test of a rigidly scientific scrutiny, it is now impossible to ascertain with certainty what may have been their actual associations or relations with regard to the peat, or to the subsoil, or to each other. It is so far fortunate that one of the kegs of butter has been preserved, and is now along with the caldron deposited in the Museum. They were seen, at Kyleakin, by the Rev. Hugh M'Kenzie Campbell, M.A. (now at Aberlour), when on a visit to the island of Skye in the autumn of last year. Being interested in the unusual circumstances of the discovery, he communicated with Professor Cossar Ewart, and the result was that the caldron and one of the small kegs of butter were sent up to Edinburgh for Professor Ewart's inspection. I heard of them from Miss Maclagan, who suggested to Professor Cossar Ewart that they were likely to be interesting to the Society of Antiquaries, and through the courtesy of Professor Ewart I was placed in communication with the Rev. Mr Campbell, who was kind enough to negotiate their purchase from the finder.

The keg of butter is a wooden vessel, barrel-shaped, but hollowed out of a single piece of wood. It measures 14 inches in height by 13 inches in greatest diameter. It now wants both the top and bottom, which have been inserted in ledges prepared to receive them. On the sides of the keg there are two slight projections, with holes through them, bored apparently with a hot iron. The bulk of the butter which the keg contained has been scooped out since it was found, leaving a coating of several inches in thickness, adhering to the sides of the vessel. It is white, hard, dry, and inodorous, with a perceptible admixture of cow-hairs. I am indebted to Mr W. Ivison Macadam, F.C.S., Lecturer on Chemistry, for the following analysis of it :—

Analysis of Sample of Bog Butter found at Kyleakin, Skye, 1884, and received from Joseph Anderson, LL.D., Society of Antiquaries of Scotland :—

Water, ...	0·786
Fat, and fatty and volatile acids (matter soluble in ether), . . .	98·275
Casein, milk sugar, &c., . . .	0·811
Ash or mineral matter, . . .	0·126
	99·998

Appearance of Sample, &c.—White ; greasy ; cheese smell ; pieces of wood adhering.

Hair.—Present (red).

Application of Heat (100° C.) *to Sample.*—Fuses at once to a rich yellow liquid with floating curd.

Appearance after Purification with Ether.

(1) *Solid.*—Rich yellow colour and butter odour.

(2) *Heated and Liquid.*—Very rich yellow oil.

Fusing point of purified Fat, 44°·4 C.

Phosphoric Acid present in ash.

W. Ivison Macadam, F.C.S., F.I.C., &c.,
Lecturer on Chemistry.

Analytical Laboratory, Surgeons' Hall,
Edinburgh, 28th July 1885.

The results of this analysis correspond very closely with those of the analyses of the bog butter from various localities in Scotland, England, and Ireland, previously given by Mr W. Ivison Macadam in connection

with his notice of the larger keg of butter found in a bog in Glengell, Morvern, Argyleshire,[1] and now also in the Museum.

It appears from inquiries made by the Rev. Mr Campbell, that the bronze caldron (fig. 1) was found in close juxtaposition with the kegs of butter, under a depth of about $7\frac{1}{2}$ feet of peat. It is a vessel of considerable size, semi-globular in form, and measuring 18 inches in diameter and about 12 inches in depth. It is formed of thin-beaten bronze, and seems to have been originally hammered out of a single

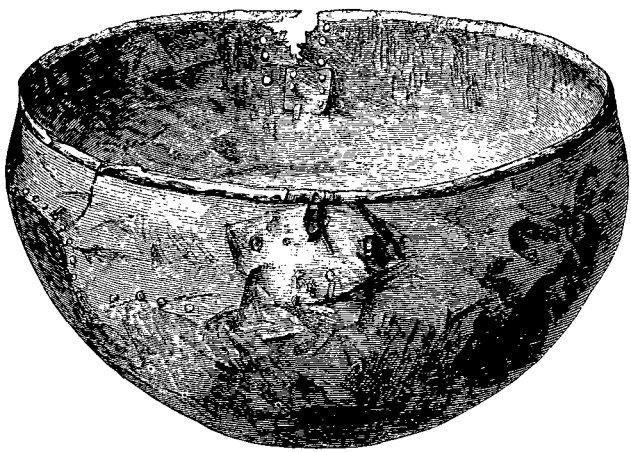

Fig 1. Bronze Caldron, found at Kyleakin, Skye (18 inches diameter).

sheet of metal, but is now very much patched in the bottom, the patches being also very clumsily put together with rivets made of small clippings of bronze bent in the middle, and having their heads and ends clinched flat, after the manner in which the patent flat-headed paper-fastener of brass is now used. The rim and handles are gone. The handles seem to have been fastened to the sides by rivets. On one side

[1] See the paper entitled "On the Results of a Chemical Investigation into the Composition of the Bog Butters and of Adipocere, and the Mineral Resins, with Notice of a Cask of Bog Butter found in Glengell, Morvern, Argyleshire," and now in the Museum. By W. Ivison Macadam, F.C.S. F.I.C., in the *Proceedings*, vol. xiii. pp. 204–223.

there are three rivet-holes, the lower two of which are 4 inches apart, and 2 inches below the brim of the vessel, the third being about half-way between them and close under the brim. On the other side, the place where the handle has been fixed is defective, and has been considerably patched.

Similar caldrons of semi-globular form have been occasionally found in somewhat similar circumstances in other parts of Scotland. One such instance is recorded in the *Proceedings* of the Society.[1] In cutting a drain in a haugh or meadow adjoining the Water of Eye, near Cockburnspath, Berwickshire, in or about the year 1837, two caldrons of thin-beaten bronze was found lying on the subsoil below the peat. They were of different sizes—one measuring 13 inches diameter and $7\frac{1}{2}$ inches in depth, the other 21 inches diameter and 10 inches in depth. When found, the one caldron was inverted over the other, and both were filled with a quantity of implements and other articles of bronze and iron, but chiefly of the latter material. Among the iron implements are hammers, knives, bolts, hooks, staples, punches, a gouge, some broken buckles and blades, a chain with pot-hooks, and the outer shell of a lamp or crusie of ancient form. Among the bronze objects was the bowl of a Roman patella, $6\frac{3}{4}$ inches diameter. The whole deposit seemed to have been contained in a wooden pail of large size, as there were found with it a number of iron hoops and two iron rings $4\frac{1}{2}$ inches diameter, with staples and nails indicating a thickness of about $\frac{3}{4}$ inch for the wooden staves. These caldrons with their contents are now in the Museum.

From the nature of the objects found with these two caldrons, it is evident that they belong to a time subsequent to the Christian era, and probably after the period of the Roman colonisation of the south of Scotland. They have several points of correspondence with the Skye caldron. They are each beaten out of one sheet of metal; they want the rims and handles, and the handles have each been fastened on by three rivets. The larger of the two is also much patched in the bottom.

But there is another variety of bronze caldron of larger size, which belongs to an earlier time, and may be classed as pertaining to the closing period of the Age of Bronze.

[1] *Proceedings*, vol. i. p. 43.

One such caldron (fig. 2) found in the Moss of Kincardine, near Stirling, in 1768, and presented to the Museum by John Ramsay of Auchtertyre, in 1782, measures 25 inches in diameter and 16 inches in depth. It is made of thin plates of bronze riveted together, the rounded bottom part being in one piece, and the upper part in two separate sections, the junction of which is connected by a broad band

Fig. 2. Bronze Caldron, found in the Moss of Kincardine (25 inches diameter).

embossed with circles. The rim is strengthened by two bands of sheet bronze, rolled to a cylindrical form, and fastened on so that their edges interlock with the upper edge or brim of the vessel. The marks of the attachment of the handles remain at either side, but the handles themselves are gone.

There is in the Society's collection another caldron of this description, which came from the collection of the late Mr Archibald Leckie,

F.S.A. Scot., Paisley. Having been bequeathed to the Society by him, and received after his death, the precise locality of its discovery is not known, but was stated to have been somewhere in the west of Scotland. It is constructed somewhat differently from that found in Kincardine Moss, and has more resemblance to a class of caldrons of which a considerable number of examples have been found in Ireland. The body of the caldron is more compressed vertically, the neck more constricted,

Fig. 3. Bronze Caldron, from the west of Scotland (25 inches diameter).

the brim wider, and turned slightly upwards. The body of the vessel is formed of four tiers of plates above the concave bottom-plate. The two middle tiers are riveted together in lengths of three to the circumference of the vessel; the two tiers next the brim and bottom are of two lengths each. The rivets have ornamental and conical heads, projecting nearly a quarter of an inch on the outside. The upper part is ornamented with short, parallel rows of knobs embossed. The rim,

which is 2 inches wide, is formed by two cylindrical rolls of the thin metal, on the outer and inner side of a flat band, with a corrugation in the middle, and pierced with rows of circular holes on either side. The handle-rings are solid castings of bronze, 4 inches in diameter, inserted in staples or loops which pass through the brim, and are fastened by ties to the inside. The extreme diameter of the vessel is 25 inches, the depth 14 inches, and the diameter of the opening of the mouth 15 inches. Caldrons of similar form and construction are found in Ireland, but not on the Continent of Europe.

Rings and staples pertaining to such caldrons as these were found in connection with the hoard of bronze swords, spear-heads, and other articles dredged up from the bottom of Duddingston Loch; and also in association with socketed celts and broken swords of bronze at Kilkerran, in Ayrshire. This association shows that the large spheroidal caldron, formed of plates riveted together and furnished with a brim and handles of this peculiar construction, belongs at least to the closing period of the Bronze Age.