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ANCIENT SCOTTISH LAKE DWELLINGS

Ancient Scottish Lake Dwellings. By Dr. Munro. (Edinburgh: David Douglas, 1882.)

THE first account of the Irish crannoges, by Sir W. R. Wilde, dates back to the year 1839, and the *Lake Dwellings of Switzerland*, which have shed so much light on prehistoric archæology, were discovered in the year 1853; yet the first scientific account of any similar dwellings in Scotland was in the paper by Mr. Robertson, read before the Society of Antiquaries of Scotland in the year 1857.

Dr. Munro has now collected together in an interesting and well-illustrated volume the substance of what was previously known, and added to it an account of some interesting investigations of his own, in a general work on the ancient Scottish Lake Dwellings or Crannoges. The number of these more or less artificial islands now known is very considerable. In Wigtonshire we are told that all the lakes were once literally studded with these island habitations.

So far as can be judged at present there is no reason to refer the Scottish Crannoges to so early a period as the earlier Swiss Lake villages. The objects of stone are comparatively few, while those of bone, horn, and of wood are very numerous. None of the animal remains belong to any extinct species. The horns are mostly those of the red-deer; in one case indeed, that of the crannoge at Lochlee, some fragments have been found which may possibly have belonged to the reindeer. This however seems very doubtful. The late Dr. Rolleston, by whom the remains were examined, says of the fragmentary pieces of horn: "I incline to set them down as indicating the presence of the former animal" (the reindeer). "It is usually easy," he says, "to separate even the fragments" (of reindeer's horn) "if the fragment is fresh. Of course the surfaces of the horns in these two horns" (*i.e.* of the reindeer and of the red-deer) "are different, but here the two fragmentary horns have no brow antler left and their surfaces have been macerated so long as to be desquamated." It is obvious therefore that Dr. Rolleston felt considerable doubt on the subject.

The majority of the metallic objects are of iron, but some few gold ornaments have also been discovered, and in one case, *viz.* at Buston, a single coin which, curiously enough, is a forgery. It consists of two thin plates of gold fastened together by some resinous substance. It belongs to a class which has hitherto been found almost exclusively in England, and is probably Saxon, belonging most likely to the sixth or seventh century. A very similar coin has been found near Dover.

We will now leave Dr. Munro to speak for himself:

"The great and primary object," he justly observes, "of the island builder was the protection afforded by the surrounding lake or morass, the securing of which has continued to be a ruling principle in the erection of defensive works down to the Middle Ages, long after the wooden islands ceased to be constructed. The transition from an island fort to the massive mediæval castle, with its moat and drawbridge, is but another step in the progressive march of civilisation" (p. 243).

The objects discovered in the Scottish Crannoges are in the main of a domestic character:

"Indeed," says Dr. Munro, "amongst the relics military remains are only feebly represented by a few iron daggers and spearheads, one or two doubtful arrow-points, and a quantity of so-called pebbles and so-called sling-stones. On the other hand, a very large percentage of the articles consists of querns, hammer-stones, polishers, flint-flakes, and scrapers, stone and clay spindle-whorls, pins, needles, and bodkins, knife-handles of red-deer horn, together with many other implements of the same material, bowls, ladles, and other vessels of wood, some of which were turned on the lathe; knives, axes, saws, hammers, chisels, and gauges of iron; several crucibles, lumps of iron slag, and other remains of metals, &c. From all these, not to mention the great variety of armaments, there can be no ambiguity as to the testimony they afford of the peaceful prosecution of various arts and industries by the lake-dwellers" (p. 282).

As regards the mode of life of the Scotch Lake-dwellers, we can, he continues:

"From the respective reports of Professors Owen, Rolleston, and Cleland, on a selection of osseous remains taken from the lake dwellings at Dowalton, Lochlee, and Buston (see pp. 50, 139-143, 236-239), we can form a fair idea of the food of the occupiers. The Celtic short-horn (*Bos longifrons*), the so-called goat-horned sheep (*Ovis aries*, var. *brachyura*), and a domestic breed of pigs were largely consumed. The horse was only scantily used. The number of bones and horns of the red-deer and roe-buck showed that venison was by no means a rare addition to the list of their dietary. Among birds only the goose has been identified, but this is no criterion of the extent of their encroachment on the feathered tribe, as only the larger bones were collected and reported upon. To this bill of fare the occupiers of Lochspouts Crannog, being comparatively near the sea, added several kinds of shell-fish. In all the lake dwellings that have come under my own observation, the broken shells of hazel nuts were in profuse abundance" (p. 283).

It is an interesting fact that the Lake-dwellings as yet discovered are by no means evenly distributed throughout Scotland.

"Though we cannot argue definitely from the present geographical distribution of the Scottish Lake Dwellings, the indications are so clearly suggestive of their having been peculiar to those districts formerly occupied by Celtic races, that the significance of this generalisation cannot be overlooked. Thus, adopting Skene's division of the four kingdoms into which Scotland was ultimately divided by the contending nationalities of Picts, Scots, Angles, and Strathclyde Britons, after the final withdrawal of the Romans, we see that of all the Crannoges proper none have been found within the territories of the Angles; ten and six are respectively within the confines of the Picts and Scots, while no less than twenty-eight are situated in the Scottish portion of the ancient kingdom of Strathclyde. Nor is this generalisation much affected by an extension of the list, so as to include those stony islets so frequently met with in the Highland lakes. On the other hand, that they have not been found in the south-eastern part of Scotland may suggest the theory that these districts had been occupied by the Angles before Celtic civilisation—or rather the warlike necessities of the times—gave birth to the island dwellings. In that case we would suppose that their development dates back to the unsettled events which immediately followed the withdrawal of the Roman soldiers, to whose protection the Romano-British population in the south-west of Scotland had been so long accustomed" (pp. 248 and 249).

In support of this view he also remarks that

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"Fragments of Samian ware, bronze dishes (one with Roman letters), harp-shaped fibulæ of peculiar type, together with a large assortment of beads, bronze and bone pins, bone combs, jet ornaments, &c., are so similar to the class of remains found on the excavated sites of Romano-British towns, that there can hardly be any doubt that Roman civilisation had come in contact with the lake-dwellers and partially moulded their habits. The Celtic element is, however, strongly developed, not only in the general character of many of the industrial implements of stone, bone, and iron, but also in the style of art manifested in some of the ornamental objects included in the collection."

We confess that we are disposed to doubt whether the geographical distribution of the Scottish lake dwellings at present known is really connected with that of the ancient Celt, and whether it is not more due to the activity of the Ayrshire and Wigtonshire Archæological Association, of Mr. Cochran Patrick, M.P., and of Dr. Munro himself. Whilst thanking him for what he has already accomplished, we may express a hope that he will continue his researches.

JOHN LUBBOCK

OUR BOOK SHELF

The Sportsman's Handbook to Practical Collecting, Preserving, and Artistic Setting up of Trophies and Specimens. To which is added a Synoptical Guide to the Hunting Grounds of the World. By Rowland Ward, F.Z.S. Second Edition. With numerous additional Illustrations. (London: the Author, and Simpkin, Marshall, and Co., 1882).

THIS very useful little book affords all requisite information for the traveller who wishes to preserve specimens of natural history, more especially large animals. The process of skinning quadrupeds and birds is so well explained, and so copiously illustrated by characteristic woodcuts, that the merest tyro would soon learn the art. The best modes of preserving reptiles, fishes, and insects are also given; and then follow instructions for the setting up of trophies, for mounting birds and fishes, and for dressing skins of large animals. A sketch of the chief hunting-fields of the world concludes the book, and in this part much useful information is given as to the more important animals characteristic of each region.

The book is especially valuable in that it does not confuse the reader by a multiplicity of details, or leave him to choose between a variety of methods. The simplest and most effective appliances are alone recommended, and the great experience of the writer in the preservation and mounting of animals renders his advice on these points of the greatest value. The introductory chapter gives good outlines of the bodies and skeletons of the chief types of large mammalia, with the vital spots marked on each, so as to guide the sportsman in killing his game.

We only notice a single point which appears to call for correction in a future edition. The use of the blow-pipe is recommended for killing small birds, and it is described as a tube of metal or wood about 3 feet long and $\frac{3}{4}$ -inch in diameter, through which pellets of clay may be propelled by the breath. Such an instrument would be of very little use, and we doubt whether any ordinary person could propel a ball of clay of this size with sufficient velocity to kill any bird at ten yards off. For using clay pellets, the bore should not exceed $\frac{3}{8}$, or at utmost, $\frac{1}{2}$ -inch diameter, and the length had better be 6 or 8 feet than 3. The blow-pipes used in South America are usually 8 or 10 feet long, and under $\frac{1}{2}$ -inch bore, and with these, light arrows can be propelled so as to kill birds on lofty trees, while with clay pellets, humming-birds are easily killed at more moderate distances.

The book is strongly and tastefully bound, and should be the companion of every sportsman and naturalist about to visit foreign countries.

A. R. W.

Diagrams of Insects Injurious to Farm Crops; suitable for Elementary Schools. Prepared by Miss E. A. Ormerod, Honorary Consulting Entomologist to the Royal Agricultural Society of England.

A SERIES of six large diagrams as follows, issued by the Society:—Large White Cabbage Butterfly, Turnip Fly, or Flea (the prospectus writes "Flee") Beetle, Beet Fly, Wire Worm and Click Beetle, Hop Aphis or Green Fly, with Ladybird, Daddy Long-legs or Crane-fly. These diagrams seem admirably adopted for the purpose intended, and are accompanied by short explanations, including remedial prescriptions. In her scientific names Miss Ormerod puts the cart before the horse, by reversing the order of things, and making the lesser include the greater. When she indicates *Agriotes (Elater) lineatus*, *Phyllotreta (Haltica) nemorum*, and *Phorodon (Aphis) humuli*, she means that the parenthetical generic term is the larger and older, and that the preceding one is a later creation by those dreadful specialists; but she does not say so.

Manuel d'Electrometrie Industrielle. Par R. V. Picou (Paris: G. Masson, 1882.)

THIS is one of the many books which owe their appearance to the recent rapid growth of the electrical industries; and may not be inappropriately termed a treatise on electric measurements, only a very small section being however devoted to electro-chemical quantities. The work begins with the ordinary laboratory processes of testing resistance, electromotive force, and strength of currents, &c. The latter half of the book deals with the practical application of such tests to the measurement of the electromotive force, resistance, &c., of batteries and dynamo-electric generators. Under the latter head the methods of MM. Pollard and Cabanellas are expounded. The author does not appear to be acquainted with the recent testing instruments invented by Professors Ayrton and Perry, nor those of Sir W. Thomson, which present many advantages over the instruments described by the author. There are several glaring defects in the work of too important a nature to be passed over. The author gives instructions for making up resistance coils without saying a word about the necessity of winding them so as to avoid self-induction, and as he cautions the reader to use a simple key in testing with Wheatstone's bridge he cannot be aware of the substantial reasons which exist for the use of the British Association key with double-successive contact. As the author professes to follow the British Association in its system of units he ought not to write "dyne = gramme-masse," because that is exactly what the dyne is not. He ought also to know that the statement he makes on p. 132 respecting the efficiency of electromotors, that the useful work is a maximum when the back-electromotive force is equal to half the electromotive force of the generator is not true, and does not refer to maximum efficiency but to maximum rate of using up power. Students will find the books on kindred subjects by Kempe and Day of much more use than the manual of M. Picou.

The Falls of Niagara and other Famous Cataracts. By G. W. Holley. Illustrations. (London: Hodder and Stoughton, 1882.)

THE bulk of this volume is devoted to Niagara, concerning which Mr. Holley has brought together a great deal of information on its history, geology, and local history and incidents, two-thirds of the space being occupied with the last section. The information seems to us in the main correct, though much of the miscellaneous matter included under local history and incidents is of trivial