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WORKED FLINTS FROM RAISED BEACH, LARNE.

ORIGINAL ARTICLES.

Ireland: Archæology.

With Plate F.

Layard.

The Older Series of Irish Flint Implements.* By *Nina F. Layard*, **54**
F.L.S.

In bringing these Irish flint implements to the notice of the Royal Anthropological Institute, I do not pretend to be either the first to have found them in co. Antrim, or even to be introducing a subject that has not already had much attention paid to it in Ireland. In England, as far as I can ascertain, but little notice has been taken of this particular series.

More than forty years ago Mr. Du Noyer recognised roughly-worked tools in and below the raised beaches which are to be found in various parts of the north-east coast of Ireland, especially where it is broken into bays, estuaries, and marine loughs. Both he and Professor Hull believed them to be of Palæolithic type. Later Mr. Knowles of Ballymena read a paper on the subject before the British Association at Dublin, and again drew attention to these flints in an address before the Royal Irish Academy in 1883. He, Mr. Gray and others, have made collections of them at various times, and more than once committees of investigation in connection with the Belfast Naturalist's Field Club have examined these raised beaches, to try and determine the real origin of the flints, as well as the geological conditions under which the beaches attained their present height.

My first acquaintance with these rich deposits came about in the following way. While waiting at Larne last October with Miss Loraine, we took a stroll along the borders of the lough, and were greatly surprised to find flint flakes, spalls, and a finished tool of unusual form, lying on the shore at our feet. It was evident that we had chanced upon the *débris* of some prehistoric flint factory, but I was quite unaware that this spot was the battle-field of the Irish anthropologists. Possibly the first impression of an English collector may not for this reason be of any the less value, as the striking difference in the appearance of these flints, compared with the tools to which we are accustomed in England, is probably more noticed by English than Irish antiquaries, the latter having been acquainted with them for many years.

Some twenty English collectors, many of them eminent experts, to whom I have already shown the specimens obtained at Larne, have with few exceptions declared the type to be something new and unfamiliar. Taken as a whole the flints certainly do not correspond at all closely either to the Palæoliths or Neoliths so far found in England. To show the extreme richness of the deposit, in sixteen hours spent on the shore at various times, I collected nearly 1,200 worked flints. They lay thickly strewn along the beach, the smaller flakes higher up, and many of the heavier cores and spalls, &c. only to be found at low water. The flints at the higher level which do not come in contact with the seaweeds, have a white porcellanous patination, which in some cases is so thick as to have entirely taken the place of the flinty substance, that is to say, the whole flint is changed by chemical action and exposure.

Lower down, where the flints are more constantly covered by the water, and where seaweeds are found growing on the worked stones, a warmer colour is noticed, varying from creamy yellow to a deep iodine red. Here the flints are more rolled and disguised than higher up, but such a complete series in the process of obliteration can be found, that to anyone working actually on the spot it is soon as easy to recognise the human touch on a tool almost at its last stage before becoming a mere rolled pebble, as it is to be certain of the sharper outlines of the less rolled flints.

In the collection at Ipswich I have a large series of fine cores which clearly demonstrate this point.

* Extract of paper read before the Royal Anthropological Institute, March 23rd, 1909.

Although artificially fractured flints abound on the spot, carefully shaped implements are more rarely to be found. Among them I have a good end scraper, much larger and clumsier than the usual Neolithic scrapers of the same type. It closely resembles a tool which I gave to Sir John Evans, found in the gravels of my garden in Ipswich, and which he identified as Palæolithic (Pl. F, 9). Another implement, which is triangular, is also somewhat Palæolithic in outline, but it is worked on one side only and is much abraded (Pl. F, 11). Others are strongly reminiscent of well-known Drift types, being roughly pointed, and with the crust left on for the hand grasp (Pl. F, 1-7, and Fig. 2). Again, there are shapes that bear a closer resemblance to some of the earliest Neolithic types, such as the so-called Larne Celt, a long, narrow, unground tool. The spoon-shaped implement which I found on my first visit (Pl. F, 12) corresponds somewhat to a specimen from the Yorkshire wolds, which is figured by Sir John Evans in his book on stone implements. I am not aware that another of this form has been found at Larne. Flakes and chips of various shapes with conspicuous bulbs of percussion abound. I have a few leaf-shaped flakes apparently made for pointing weapons, but anything in the shape of a true arrow head or the usually accepted Neolithic scraper is entirely absent. Four-pounders will be seen on Pl. F, 14-17.

Before I had had the opportunity of referring to any Irish literature, I secured a geological map of the district to see if it would throw any light on the subject. Noticing that raised beaches surrounded parts of Lough Larne I concluded that the flints had been denuded out of these gravels, as they appeared far too ancient for mere surface finds, and I have since found that this is the case. Although there can be no doubt that we have on this coast the remains of very extensive flint workings, where weapons were manufactured not only for the makers themselves, but for others farther removed from the sources whence flint could be obtained, it is difficult to believe that all the shapes found were merely wasters or roughed out tools intended to be finished elsewhere. Among the coarse spalls and flakes lying about, doubtless at first the mere *débris* of the flint workings, many appear to have subsequently received specially directed blows in order to fashion them into rude tools, and some are distinct celts, chisels and pointed implements.

It is noticeable that, notwithstanding the many acres of land covered by these raised beaches, every foot of which is crowded with worked flints, nothing in the shape of a ground weapon has yet come to hand. From this we may infer that the art of grinding was unknown to the workers on this site, although the dwellers among the sand hills not far distant, who must have been later comers, have left plenty of traces to show that they had attained to it.

It appears to be the general opinion of geologists that the 25-foot raised beaches to which these flints belong were elevated to their present height during Neolithic times, but it does not necessarily follow that the flints embedded in them were freshly made and left in the gravels at the time of their first laying down. To decide this point it is all-important to examine the condition of the worked flints found at the lowest levels in the gravels. This I have had the opportunity of doing since exhibiting the flints at the Royal Anthropological Institute, and some of the observations made during the month of April are here included.

Through the kindness of Mr. Chaine, the owner of Larne Harbour, who put workmen at my disposal, and allowed me to cut down a section of the gravels on his property, the flints have been studied *in situ* (Fig. 1). I also had the great advantage of the help of Mr. Knowles and Miss Outram, and together we made a careful examination of every foot of the section as it was cut down. The contents of each level were inspected, and every worked flint gathered out and numbered to prevent any possible mixing of the specimens.

The results were not altogether similar to those arrived at by Messrs. Praeger and Coffey when they examined a similar section in 1904, from which it will be seen that there is a want of uniformity both in the laying down of these gravels, as well as in the condition of the flints in various parts of it.

In the report of Mr. Praeger's work in the Proceedings of the Royal Irish Academy

FIG. 1.—SECTION OF RAISED BEACH, LARNE, EXAMINED APRIL, 1909.

1. Surface soil, dug and turned back; 2. Coarse black sand and pebbles varying in size; 3. Coarse gravel, consisting of closely-packed small-rolled stones mostly limestone not mixed with earth; 4. Rolled and angular pebbles; 5. Well-defined band of dark brown earth, no stones; 6, 7. Earthy bands with rolled pebbles of basalt and limestone; 8. Well-defined band of large rolled stones; 9. Chocolate-coloured fine gravel; 10. Band of large boulders of basalt and limestone; 11. Fine iron-stained gravel; 12. Dark earth devoid of stones; 13. Red boulder clay with large boulders penetrating No. 12; 14. Blue boulder clay seen in section close by.

I find the following remarks :—" Our experience is, and it appears to have been that of the Field Club committee, that the flints with abraded crust occur chiefly in the higher layers, and for the most part in the disturbed surface portion. Lower down the flints are sharper and often unpatinated, or only partly patinated." The writers also

add, "The evidence of the unrolled flakes in the lower beds points to the working of the flints having been contemporary with the laying down of the gravels." That these conclusions differ from those formed by Mr. Knowles and myself in our work last April, a glance at the drawing and description of the section opened on Mr. Chaine's property will show. (Fig. 1.)

To a depth of three feet from the surface, though numerous flakes were found, the majority were so slightly patinated as to show the colour of the flint through, producing a bluish effect, while in some the surface of the flint was hardly changed at all. Most of the specimens at this level were stained with iron in blotches, and also following the lines of the ridges. Below this level the iron stains ceased entirely, while the flints became even more thickly coated with a white porcellanous patination. At a depth of 9 feet 2 inches, the lowest level at which any number were found, the flints were much abraded and rolled, and as this condition could not possibly be reached after they were included in the present gravels, we can but infer that they had been exposed for a great length of time on a shore before the sinking, which preceded the subsequent elevation, took place. This is presuming that the gravels were laid down in the usual way, which may possibly be open to question.

Moreover, as the raised beach is almost entirely composed of rolled stones of basalt and limestone, with hardly one per cent. of unworked flint, it would seem that these remnants left by the flint workers are really as foreign to the raised beach in which

FIG. 2.—IMPLEMENT OF PALEOLITHIC TYPE, RAISED BEACH, LARNE.

they are embedded as those which lie at the present time on the lough border are foreign to the shore. Apparently we have yet to find their real birthplace.

It is also perhaps worthy of remark that the flints found on the Curran Larne, and on Island Magee, are at a con-

siderable distance from the position in which the natural flint occurs, for it is above the other side of the lake that the limestone rocks with their bands of flint are to be found.

In the Proceedings of the Royal Irish Academy (Series II, Vol. II, p. 437) Mr. Knowles had already stated that he had found flints in this rolled condition at great depths, and had inferred from this that they were older than the formation in which they are found, and certainly our researches so far go to confirm this view. At the same time the extreme irregularity of the deposition of the gravels to some extent nullifies the value of conclusions formed from these facts. As a permanent record of the investigation I have preserved material from every level as the raised beach was cut down, with the flints included in it, an examination of which will be more convincing than mere written records. A very comprehensive collection of the various types of tools from the raised beaches of Larne, Island Magee, and Kilroot, is in Mr. Knowles's possession. Contrasting them with the later work of the Neolithic

dwellers of the Irish sandhills, he has designated these rougher specimens "the older series," and, following his lead, I have also adopted this title for them. The fact of finding flints, which by many are considered Neolithic, at such enormous depths in gravel is subversive of all our experience so far in England. Considering this, as well as the crude appearance of the workmanship, I think, even if we are convinced that they belonged to the later Stone Age, it would be an advantage to apply some such distinctive name as that suggested. The most remarkable instrument found in our recent excavation was a large tool of Palæolithic appearance, which came from a depth of seven feet. It is worked on both sides, and carefully shaped at the butt for the hand-grasp. The colour, unlike the rest of the flints, is yellow, as though gravel-stained (Fig. 2).

In conclusion, the following quotation from Mr. Knowles's paper, read before the Royal Society of Antiquaries in Ireland, will give some idea of the antiquity which must be assigned to these relics. He says: "Since the time when these implements were lying about the shore, &c., the following events have happened:—

"1st. The gradual sinking of the shore and the formation of the gravels 20 feet in thickness, which include the worked flints.

"2nd. The elevation of the shore till the surface of the gravel stands 20 feet above high-water mark."

NINA F. LAYARD.

Anthropology.

Deputation.

Anthropology and the Empire: Deputation to Mr. Asquith.

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On March 11th the Prime Minister received, in his private room at the House of Commons, a deputation supporting a memorial, signed by a great many distinguished administrators in India and the Colonies and others, urging the necessity of establishing an Imperial Bureau of Anthropology within the Royal Anthropological Institute.

The members of the deputation were Mr. Russell Rea, M.P., Professor William Ridgeway, Sir Richard Temple, Sir Edward Candy, Professor Myres, Mr. G. W. Neville, Sir Thomas Holdich, Sir Harry Johnston, Sir W. Anson, M.P., Mr. S. H. Butcher, M.P., Mr. Hart-Davies, M.P., and Mr. Annan Bryce, M.P.

Mr. Asquith was accompanied by Mr. Hobhouse, M.P., Financial Secretary to the Treasury, Sir Francis Hopwood, Colonial Office; Sir T. Holderness, India Office; Lord Dufferin, Foreign Office; and Mr. Nash and the Hon. E. S. Montague, M.P., private secretaries.

The memorial, which is published in full in *Journ. Roy. Anthr. Inst.*, XXXVIII, p. 489, pointed out the importance of anthropology to administration and trade and prayed that the Government would make a small annual grant for the establishment of an Imperial Bureau of Anthropology within the Institute.

MR. RUSSELL REA, who introduced the deputation, said they had a little demand to make of the Prime Minister, who, he thought, seldom received a demand so small in itself and at the same time promising so much good if granted.

PROFESSOR RIDGEWAY, in explaining the object of the deputation, said that the science of anthropology was now sufficiently advanced to be used as an applied science, and it was for its use in that way, and in that aspect only, that they asked for the assistance of the Government. Their request fell under two heads: They were of opinion that anthropology could be made of the highest possible value for the service of the State for training administrators for the Indian, Colonial, and Consular services; and secondly, they regarded it as a factor in commercial success. As to the first something had already been done. Some great administrators of the Empire, including Sir Reginald Wingate, had asked them to provide training for officials; and probationers for the Soudan were now being trained at the Universities in this science. On the