

the striæ were made by agricultural implements, but it is obvious that once the surface of the flint was broken by striations, iron would be much more easily deposited on the striæ than on the smooth surface of the flint. Wherever iron-staining is present in any quantity, it will be found that it is almost always in places where some change has taken place in the flint, either by the battering of arêtes, or the disintegration of the surface of the flint, often by the action of carbonic acid on colloidal silica. Most of the striated flints are lustrous and unchanged, and as a consequence are rarely iron-stained.²

FLINT INDUSTRIES IN NORTH CORNWALL.

BY THE REV. H. G. O. KENDALL, M.A., F.S.A.

Read at Norwich, January 26th, 1914.

A paper in Vol. I., Part III., of the "Proceedings," on "Pygmy Implements from Cornwall," by E. L. Arnold, has spurred me on to place on record my discoveries on the same spot.

During the years 1898 to 1903 I paid numerous visits to the western side of Trevoze Head, Booby Bay, Constantine Island, and also to the Late Celtic Cemetery at Harlyn Bay, one mile N.E. Flint flakes and cores or cones lay on the surface of the ground, at the cliff edge, all the way from Dinas Head (the western-most corner of the Trevoze promontory, and a splendid look-out place), down to Booby Bay and Constantine Island. They had evidently once been covered with soil and are now exposed by the wastage thereof near the cliff edge. Some I dug out from the banks of tiny runlets formed after heavy rain.

Mr. Arnold says that "the artificers appear to have turned out immense numbers of barbs and arrow-points, but practically nothing else." Like him, I found many hundreds of chipped flints, leaving quantities of them where I found them, after examination. But I found no true arrow-head. None of the pygmy tools were of especial smallness, but some were straight and sharply pointed, and I suggested, in "Man," Vol. VII., No. 9, 83, their possible use as barbs to harpoons and also as fish hooks.

One flake, however, has been cleverly snicked from the base to half-way up its length, on each side, so as to leave two projecting shoulders as barbs, and a tang. It is carefully retouched round the edges on one face only. It has curved edges and a narrow, sharp chisel end.

The chipped flints range from grey to white in colour, and it is evident that the latter is due to decay, consequent on exposure

2. A considerable amount of analogous American evidence on striation and iron-staining will be found in "The Weathering of Aboriginal Stone Artifacts, No. 1," by N. H. Winchell.—"Collections of the Minnesota Historical Society," Vol. XVI., Part I., 1913.

to the elements at one time or another. Many of the flakes are long, thin, narrow and beautifully made. They strike me as too fragile for use as arrow-heads pure and simple. There were a very few small scrapers of the horse-shoe type and numerous hones of other rock than flint.

On Dinas Head was an impression in the soil of what appeared to me to have been a sword blade and, as I think, traces of bronze. Near by was a heavy stone which seemed to have similar traces.

Constantine Island has been separated from the mainland in comparatively recent times. It is even now only an island at high tide. In the sand with which it is covered, were the remains of three rude rectangular walls of slate laid horizontally. This building was known locally as "the potter's hut." This was on the landward end. On the seaward side of the island, under the soil and just above the rock, was an ancient fireplace consisting of about 15 round, flat, burnt stones, weighing several lbs. each. Beneath the sand, in places, and just above the rock, were a few flint cores *in situ*. Others were less deep in the sand.

On the mainland are sand dunes. Close to the island the subjacent rock has been gradually worn away with the sand which covered it, and a section of the sand dune above was exposed. From the rock surface to the top of the dune was perhaps 10 ft. or more. Standing on a narrow ledge of the rock I frequently dug with a trowel in the base of the sand dune. The material at the base, about a foot in depth, was coarser, and, as it were, more cohesive than the blown sand above. On the top of the former material was a layer (sometimes divided into two) several inches thick and consisting of burnt red material (clay?)—, charcoal, bird and animal bones, small rubbing stones, and broken pottery. There were a few small flint pebbles and flakes of the natural colour, and traces of bronze; above all, the pommel of a sword handle, ornamented with three sets of concentric circles. The more important objects, which included, also, a bone comb, were given to Harlyn Bay Museum. There were great quantities of limpet and other shells. Deposits of these were also visible under the sand a little further east. Many of the bones had been split longitudinally and some showed signs of having been cut, others of use as awls, etc. One or two fragments were ornamented simply, with incised lines.

At the mouth of the streamlet referred to by Mr. Arnold, at the eastern end of the bay, was exposed two feet and more of washed-down soil. At this spot and also a few yards along the coast, white and grey chipped flints were found *in situ*. Beneath the soil which contained these, and in a section facing the sea, was a deposit of yellow clay, several feet in width, and a few inches in depth, resting on the rock. Above it was a layer of burnt and broken-up pebbles and rock fragments. Within the clay were chipped flint pebbles and flakes having a patina (yellow, etc.) exactly resembling that of many river drift Palæoliths.

The flakes and cores from the clay appear to be older than those in the humus above. Are they Cornish Palæoliths? If so, I should not place them so early as Mr. Arnold suggests, but rather, perhaps, in a period of the Cave Division of the Palæolithic Age. One flake, in particular, has Cave affinities.

A third group of chipped flints was found on a flat circular mound behind and partly surrounded by sand dunes, perhaps 100 yards inland from Constantine Island. It was bounded by a low rampart. The sand dunes stopped short of it in a curiously abrupt manner. The flints here were more rudely chipped than those on the cliff edge. In this respect they resembled the few got *in situ* opposite the island, though one specimen was a carefully chipped knife. Possibly both are earlier than the "pygmies," etc., from Trevoze Head, in which case the latter are not earlier than a late period of the Bronze Age, perhaps later. Chipped flints were obtained from the Late Celtic floor at Harlyn Bay a mile away.

I have dug out many chipped flints *in situ* from the rampart on Porth Island, Newquay, and some large quartzite hammer or pounding stones. The most noteworthy flints were lozenge-shaped and consisted of small pebbles chipped down to the last slice. All were of the ruder industry found on the Constantine mound above mentioned. Many other spots on the North Cornish Coast yielded chipped flints.

A RECENT EXPEDITION AFTER INDIAN PALÆOS.

BY HEYWOOD W. SETON-KARR.

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During the successive Glacial periods which seem to have occurred at regular intervals and of increasing or diminishing intensity, what were the climatic conditions in the present tropical regions?

This is dated from Southern India, where I am endeavouring to visualise and imagine some of the climatic conditions in which ancient man at some of these periods may have lived, and in which the implements, of which I am finding some beautiful examples, may have been made and used and subsequently abandoned, being now found in certain positions and horizons.

Cuddapah is the chief town of a district where I have found most of the implements of palæolithic type of which I have given series to, I suppose, more than a hundred museums. If I include African and Egyptian implements, then the number of museums and institutions is 246 in all. Cuddapah is pretty well searched out now as regards implements, as there is a native whom Mr. McLeod, the late Collector of Cuddapah,