

NOTES ON RUDE IMPLEMENTS FROM THE NORTH DOWNS.¹

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There have been under consideration of late a number of flints from the southern parts of England whose forms are suggestive of human influence in their shaping and in the mode of fracture or trimming by which this was accomplished. The district where they have mostly been studied is on the North Downs of West Kent. It is a riverless plateau some 300 to 800 feet above the sea. The rock is chalk, with patches of Tertiary sands and clays, on which lie a drift of pebbles and broken flints, with "red clay," the remains of a very ancient dry land surface.

Over this plateau are found implements of all the ages and many of the types usually found in England. In the matter before us, however, there may be made a distinction at once between those which show clearly *the bulb of percussion*, or its corresponding depression, in the chipping by which they were made, and those stones presumed to be implements which do not show these accepted signs. To these last I wish to draw attention. It is chiefly to Mr. Benjamin Harrison, of Ightham, whose labours in this field are so well known, that the collection from which those before you have been selected is owing, and which numbers in all about 1,000 specimens from the plateau. It has been about ten years in getting together. Of late others have been at work in this direction, and much interest has arisen as to the true nature and age of these so-called implements. It is claimed for these flints that they show about them human workmanship of at least two kinds. It is said that some were fashioned, however slightly, by chipping for a definite purpose before use; and that others were handy stones picked up and used in such a way as to leave a mark on them wholly different from nature's work.

I desire to offer a few remarks, having reference to the

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chipping and forms of flint produced by natural processes in effect in this district, with a view to the discovery of that peculiar workmanship which differentiates similar flints from the same place, and marks them as changed by the art of man. For the general characters of the two kinds of flints, it is useless to deny, are much alike; and it is quite possible to lay too much stress on certain points tending in either direction while ignoring others, to get at the probability of truth.

Most of the flint stones thickly covering the plateau are angular, and weathered grey or white. Some are sub-angular, such as may have been at one time sharply angular, but have suffered more or less abrasion in travelling down a river course. The latter kind mostly lie in patches coloured pale yellow and brown, which are widely scattered so as almost to form an even sprinkling over the downs; but all are surface worn in various ways. The sizes found range from half an inch to ten inches in length. They are mostly flattened, in many cases being large flakes broken from a larger block, and having a convex side usually rougher than the other. Some are approximately round, but most are long, the length being occasionally several times that of the short diameter. They are mostly flints from the chalk, not rounded into pebbles, but these are found also.

In looking at the marks left by nature in fractured flints, it must be borne in mind that these may differ with the kind of flint, and that circumstances and surroundings produce variations. Under pressure flint breaks up into splinters and flakes, some of which are long, thin and broad, but mostly of very uncertain and indescribable forms. Flints on a dry surface are liable to be chipped all round the thinner edges, often about equally from each side, and in such a manner that a want of regularity and useful order is the distinguishing character. But in flints where one side is flat, or flatter than the other, the tendency will be for a much larger number of chips to be broken or squeezed off, which commence to separate at the flat side and extend over the rounder or convex surface, more frequently than in those more nearly approaching a pebble form. This produces a kind of regularity or onesidedness which is perfectly easy to

understand as natural. But there follows a consequence, as the tendency to fracture is greater from the flat surface, and as the fracturing is more frequent where the edge is sharpest, in other words, where the resistance is least, it is found, as might be supposed, from the conditions mentioned, that where one fracture had occurred more would follow upon the place of the first fracture, or adjacent to it. Hence are found hollowed out bays consisting of a wasting away of the flint in one place more than another, and from one side more than another. There are therefore parts less chipped, or left unchipped altogether, and occasionally where two bays are near each other, projections are left simulating capes in my geographical simile. In the case of well smoothed and obtuse edged flints—the effect of bruises being rarer and less marked, the recurrence of the chipping on a starting place resulting in a bay will be more conspicuous. Here the attention of the implement hunter will specially be drawn to the peculiar situation of the hollows, which, occurring in various places round the margin of a flint, or in one or two spots, are suggestive of a purpose to be served. When these occur in a long flint which is narrower at one part, forming a kind of neck, this neck will present the opportunity for a pair of indentations more or less equal and nearly opposite. And yet all these appearances may be absolutely accidental and ordered by natural laws—that of the least resistance to abrasion being the chief; and sometimes by local peculiarities in the flint itself. Well-made implements, when lying on the surface after denudation from river gravels, sometimes shew these signs, and are then frequently said to have been re-used, without good reason.

It is not easy to determine the acts of nature which supply the force for chipping the flints, so many are they, but no person can walk across a field of flints without unconsciously assisting the process of knocking them about, while the irregular pressure of plants and animals, and the movements of the surface soil, especially when sandy grains come between the stones undergoing pressure, have much to answer for. Forcible mutual contact is, however, the means by which the chipping is done.

These hollows and promontories are of moderate, and

commonly of slight importance, but greatly exaggerated by a length of time. I have mentioned them in some detail because it is customary with most persons to assume that any approach to regularity, or to symmetry, or to repetition of blows on the same spot in the chipping of flints, is exclusively due to human agency, which, indeed, it is not.

The next processes of nature are different altogether, and are destructive of the results of the last. When these naturally chipped stones get into a river the general grinding levels the capes and promontories down to that of the bays and sometimes further. Lastly, when these smoothed stones reach a beach, as at Herne Bay, they become round pebbles unless arrested by the finder before all is ground away.

The flints under consideration whether implements or not, in their general forms are all natural, and can be certainly described as come-by-chance surface flints.

And there are among the "long," or "flat," or "handy" shaped flints picked up on the Downs, some which have characters closely resembling some of nature's work, as just described, which characters are however greatly exaggerated and intensified. When we meet with one in which the hollows and points are emphasized in a way which makes them very obvious, and in our opinion exceeding the possibilities of nature, *that* points to human use and wear. When we meet with a repetition of the same general *form*, aided by a chipping which assists that form, *that* points to selection and adaptation by man, thus the evidence of care and a direction of the force applied, brings a presumption to the mind that nature is surpassed by the art of man. Some of these flints, too, have forms such as have suggested names for their supposed uses, mostly in accordance with the names similarly applied to the generally received implements from river deposits; but they are limited in range, and mostly of the kind known, for a last shift, as scrapers. "Scrapers" are included in the lists usually as the name which covers and includes all sorts of indefinite forms; when, however, it is applied to the Plateau Rude flints it assumes a definiteness and an importance among the scanty names, very suggestive of uncertainty in definition.

No two persons, following this method of deducing evidence for their being human handiwork, have, however, succeeded in forming such a list in agreement with one another, either in nomenclature or in enumerating the mere variety of forms. In the latter more than twenty varieties have been given by one person, and by another as few as six. An instance of the difficulty is seen where two hollows have left between them a projecting cape (to continue my simile),—in one case it is named a double scraper, in another the same object is called a pointed implement. There are several flat flints chipped round the edges, but it is evident on inspection that among these rude shapes that of the pointed *hâche*, the characteristic implement of the river gravels, is wanting, unless we accept as belonging to the same series some of the very rare rough *hâches* which are chipped all over, and shew the depressions from which each flake has been detached; a mode of manufacture altogether different from those we have been considering.

As there is no precise and indisputable mark of human work on them, and, as in the case of the shapes and forms, there are none indisputably and exclusively of human origin—it is not until the numerical method is used that it can be shewn that some of these are the result of human influence. If numbers are put together resemblances are seen between them which are not apparent in single cases. Types thus formed are fallacies.

If, then, these rude plateau tools,—for it is not claimed that they are weapons, are to be considered in the light of “handy” and “likely” stones used for a purpose, which in the using have become shaped into more or less definite forms, I can partly agree with the collectors of the implements exhibited now. But that they are all implements fashioned for a purpose before using there is not yet evidence sufficient to determine, or even support it. There is far too much of nature mixed up with the art to make the distinction clear and demonstrable.

The age of these implements, if judged by their rudeness, must certainly have a priority over most others. And there is a probability that the geological evidence, when completed, will tend to confirm a great antiquity for the red gravel, with which they are associated.