

III.

NOTICE OF THE DISCOVERY OF A STRATUM CONTAINING WORKED FLINTS AT BROUGHTY-FERRY. BY ALEXANDER HUTCHESON, F.S.A. SCOT., ARCHITECT.

While engaged in the month of June last year in making excavations in connection with the erection of a villa at Camphill, Broughty-Ferry, for Mr James Hamilton, Dundee, I observed a flake of flint projecting from the side of the cutting, at a depth of about 4 feet from the surface.

On examining the flake more closely, I was struck by its similarity in form to other flakes found along with worked flints on the surface of the ground in many parts of Scotland, but amongst many hundreds of such flakes which I have picked up, I had never before met with one embedded in soil, apparently undisturbed for a very lengthened period. Such a circumstance demanded the most careful investigation, and further search, pursued at intervals, as the excavations proceeded, resulted in the discovery of a considerable number of flakes and chips of flint. Before referring more particularly to the flints, I must endeavour to give a clear idea of the depth and conditions of the deposit wherein they lay embedded. The spot where the flints were found is situated slightly to the south of Old Monifieth Road, at a point about seven minutes' walk from Broughty-Ferry Railway Station, 50 feet above sea-level, on the slope of the eastern extension of Fort-hill, which rises to the height of about 200 feet immediately to the north of the burgh.

The hill at this part slopes southwards to the low grounds next the river, at an angle of about 12 degrees with the horizon, and was covered with trees of about fifty years' growth.

A measurement of the section laid bare by the excavation (see fig. 1), showed that the vegetable soil in which the trees grew was about 9 inches thick, and rested on a bed of sand, varying in thickness according to the contour of the surface, from 18 inches to 4 feet. Beneath lay an old land surface, varying from 9 to 16 inches in thickness, and consisting of a dark

earthy deposit, with gravel and many pieces of rock and broken pieces of stone, apparently formed from the débris or surface washings of the hill, mixed with earth, and forming a deposit so tough as to require the full force of the pick to break it up. Then came a band of pure sand from 1 foot to 3 feet in thickness, more or less discoloured at the top by the superincumbent deposit. Under this sand lay an intensely black band, 6 to 9 inches thick, resting on a bed of pure yellow sand about 12 inches thick, which in turn was succeeded by stratified gravel of undetermined thickness. It was in the black band that the flints

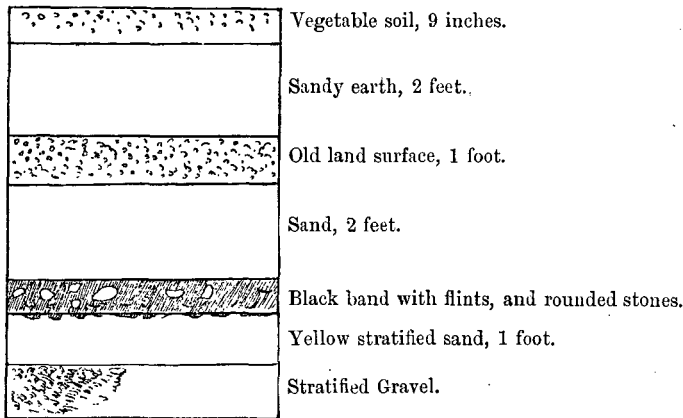


Fig. 1. Section of the Camphill Deposit.

occurred. None were found in any of the overlying strata, nor in the sand or gravel beneath. Along with the flints were found many smooth water-rounded pebbles of quartzite, whole or in fragments. These pebbles offered such a remarkable contrast to the fragments of stone found in what I have called "the old land surface," that I must direct attention for a little to them and to their occurrence in the black band. The stones found in the old surface band consisted of gravel running up to about 2 or 3 inches in longest diameter, and fragments of whinstone rock, rough and angular in all their sides, and ranging from 1 inch to 4 or 5 inches across; whereas the pebbles found in the black

band were from 4 to 8 inches long, whole or in fragments, all more or less cracked and shattered as if by fire, and were therefore perfectly distinct from anything to be found in the other strata, and had doubtless a most intimate connection with the occurrence of the flints.

I now return to the flints. These lay mostly at the bottom of the black band although they occurred occasionally higher up in it. Sometimes two or three were found within the area of a foot, at other times several square yards of the deposit would be examined without any other result than finding fragments of the large rounded stones referred to. The black band consisted of sand, damp and unctuous to the feel, and contained numerous fragments and specks of burnt wood, to the admixture of which, together with somewhat of a peaty origin, it doubtless owed its dark colour. The band, so far as explored, extended about 70 feet from east to west, and about 40 feet from north to south; but has only been opened in the line of the excavations necessary for the walls of the house. The west, and probably the richest, side of the deposit had been entirely cut away previously, in the formation of a road. The band was thickest along the west side. There it was 9 or 10 inches deep, and the flints were found there in greatest numbers.

The flints found were all of the very rudest type, and may be catalogued as follows:—One scraper, which may be only a core; one saw; five cores; three nodules, which may possibly be regarded as cores; thirty-nine thin flakes, more or less pointed; ninety rude flakes or skelbs, chips, and pieces of flint.

Besides these a few specimens are in the possession of Mr William H. Norrie, Camphill House. The first named in the above list, which I have said may possibly be considered a scraper, bears in the scraper edge and flat under surface a strong resemblance to many well-marked scrapers, but differs from them in having the upper surface pointed to an apex and the anterior edge so rudely chipped. On the other hand, it seems too finely flaked off on the front edge for a core; on the whole, I think it may be regarded as a rudimentary scraper. The saw is an equally doubtful article. The serrations are irregular and minute but well-marked, and must be regarded either as the result of design or accident. They are certainly not the result of the fracture which pro-

duced the flake itself, and that the serrations are ancient is evidenced by the milky deposit on the surface of the flint—a characteristic of all the flints discovered, the result of long exposure to natural agencies. If the serrations are to be looked on as intentional, then they point to a degree of proficiency in the art of flint-fashioning indicative of the intelligence of its fabricator. But if the result of accident from its use as a tool, then they indicate that the flake had been used as a cutting implement by its possessor. On the whole, I incline to the latter view, but would point out that in this way the idea of the saw may have been primarily arrived at.

The cores are well-marked specimens, and are chiefly remarkable for their small dimensions, the smallest one measuring only $\frac{3}{4}$ inch high by $\frac{1}{2}$ inch diameter. Some of the flakes show that considerable skill must have been exercised in separating them from the cores. All the flints are covered with a milky deposit, and in the case of the flakes the bulbs of percussion are well-marked. A few yellowish streaks in the black band may have indicated the presence of bones, but no definite traces of shells or bones were discovered. The presence of fire seems proved from the charred wood and fire-shattered stones. Whether this is to be regarded as the site of an ancient settlement or not, it is clear from the large number of specimens collected from the limited area explored, that the fabricators of the flint implements discovered must have tarried on the spot for some time, and the antiquity of the deposit is proved by the depth and succession of the various overlying strata.

It may be interesting to note that the "old land surface" referred to, and which forms one of the chief collateral arguments for the antiquity of the flint-bearing stratum, has been observed to extend at varying depths over a great part of Forthill. Mr James Mudie, F.S.A. Scot., tells me that when his house, which stands about 150 yards west of Camphill, was erected some years ago, the excavations cut through, at a depth of about 6 feet from the surface, a dark stratum of earth and broken stones, to all appearance the original surface of the ground; and that a gentleman, who erected a house many years ago at the eastern extremity of the hill, came upon the same under surface of black earth, and carefully lifted and sifted it to mix with the sandy soil which forms the present surface.