

SIXTH REPORT OF THE DARTMOOR EXPLORATION COMMITTEE.

(Read at Great Torrington, August, 1899.)

THE wet and cold spring of this year, and the absence from Devon of some of the members of the Committee, has shortened the present report.

The exploration of Whittor was commenced in the spring of 1898, when a week was devoted to the work, and during March and April last several attempts were made to extend the scope of operations, but bad weather drove the explorers home again.

During April the headquarters of the Committee were fixed at Cudlipptown, and from this convenient centre the exploration was diligently pursued when weather permitted.

White Tor—or as it is more generally known, Whittor—is a fine tor rising to a height of 1526 feet above sea-level.

It is on Cudlipptown Down, overlooking Marytavy and Petertavy, and commands exceedingly fine views westward as far as the distant Cornish hills.

The summit of the tor is surrounded by a double wall in a ruinous condition.

Much of this condition is due to the smallness of the stones of which it is composed.

Some difficulty was experienced in finding the faces of these walls, and these could only be traced by digging and exposing the foundations.

Both walls appear to have been 10 to 11 feet thick. The outer wall when perfect might have had a height of 4 to 4½ feet, whilst the inner, judged by the *débris*, appeared to have been 6 to 7 feet high.

The space between the walls varied, owing to the inequalities of the ground, but was generally 10 feet wide.

The area enclosed by the inmost wall amounts to close on

1½ acres, the width from north to south of this space being 240 feet, and its length 360 feet. The extreme length from north to south being 340 feet, and from east to west 460 feet, covering 2½ acres of ground.

The circumference and the enclosed area are very much broken up by considerable masses of protruding rocks, about which heaps of small stones have been piled forming cairns.

The largest and most notable is at the south-west, and consists of a core of rock about which an immense accumulation of stones has been heaped.

Within the area, approximately towards the centre, is a prong of rock similarly treated, and close by this on the south side is a double hut circle.

A second prong of rock to the east of this had the remains of a semicircular wall partially surrounding it.

A little further east is a large mass of rock, the prong of which stands up like a tooth, which has been split—tradition says by lightning.

This stands in the circuit of the inner wall, and adjoining it still eastward is a hut circle with a small chamber attached to it, the roof of which is composed of a large slab of rock, the sides being artificially closed.

In this portion of the camp the space between the walls expands to nearly 40 feet, and here apparently were the entrances, not opposite to each other and protected by spur walls.

Owing to the smallness of the stones and consequent ruin it is impossible to determine with any degree of accuracy the width of these openings, but they appear to have been about 4 feet.

Access to the camp is easy from the east, where the slope is gradual.

From all the other sides, and especially from the north, the access to the summit is rendered difficult by a "clatter" of rocks, and this "clatter" is connected with the outer wall of the camp to the north-east by a spur wall.

On the north side between the "clatter" and the outer wall are two hut circles connected by a short wall—one of these circles (No. 5) being situated in the wall, whilst the other (No. 6) stands beyond.

On the north side a mass of rock (No. 8) occurs, about which a small cairn has been piled.

The rocks to the south of the hill fall away more precipitately than elsewhere, but are terraced at their base, and on such a terrace there are two or three hut circles.

There are also enclosures and hut circles in sheltered spots among the rocks on the southern, western, and north-western slopes.

There is a reave or track-line leading up from the south, and this is continued for some distance north of the tor.

On the western slope, just a little outside the eastern boundary of Broadmoor Farm, is a "pound" measuring—greatest outside length 373 feet from N.N.E. to S.S.W., and greatest breadth 248 feet E. by N. to W. by S.

The remains of the wall at base vary from 4 to 8 feet; average height about 3 feet.

It contains seven hut circles. This is described as Broadmoor Pound.

On the south slope of the tor above the trackway which connects with the reputed Lych Way, are seven barrows.

To the east, in the direction of the Longstone, is a ruined kistvaen, and near by the remains of three barrows.

On the north slope, where it extends as a shoulder of Cudlipptown Down, is another ruined barrow.

Hut Circle No. 1. Consisting of an inner and an outer chamber. The finds made here were as follows:—

Two small fragments of thin brick-red pottery and three sherds of hand-made pottery of the cooking-vessel type. A flint scraper, a core from which flakes had been struck, a flake trimmed in such a manner as to suggest the possibility of its having been intended for an arrow-head, and scores of flakes and chips, some discoloured by fire.

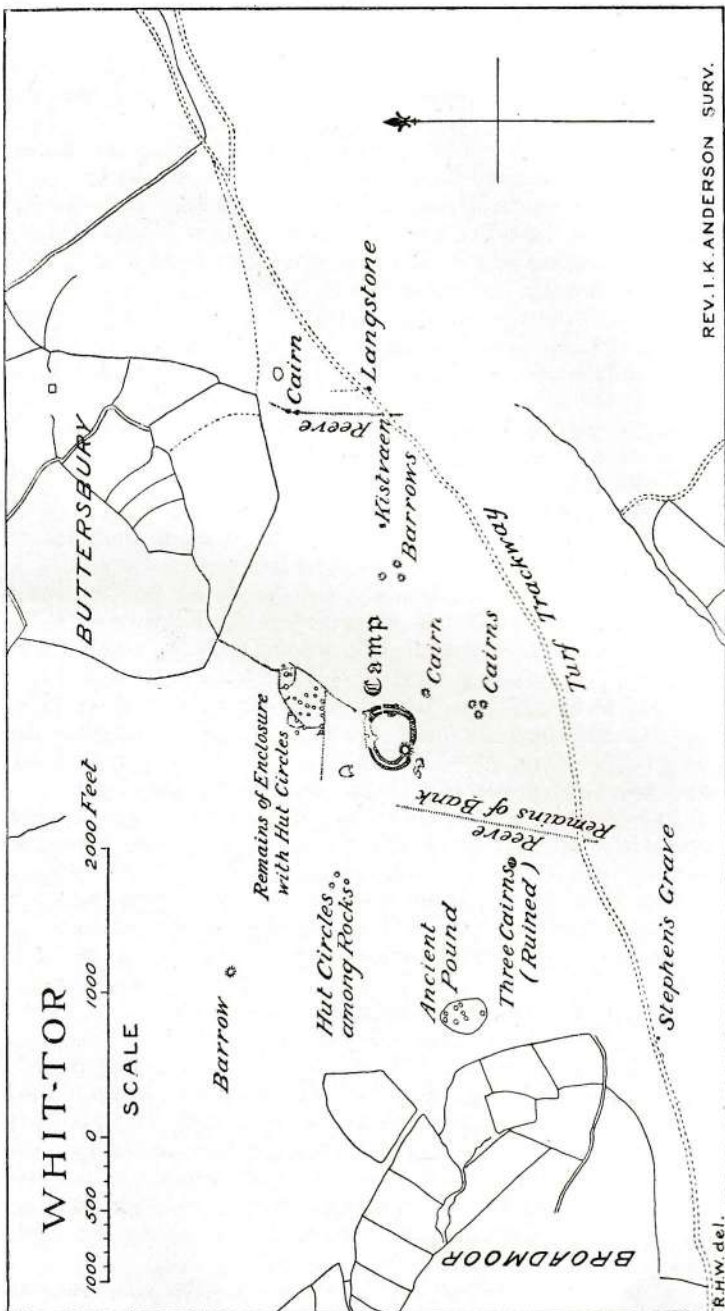
The considerable number of flint spalls suggests that some former occupier of this hut must have been a worker in flint, and that these are his chips.

The floor of the inner circle was strewn with charcoal, and some also occurred in the outer, especially against the south wall. The inner chamber was probably a cooking-place.

No cooking-hole nor cooking-stones were observed.

Hut Circle No. 2. In this hut was found a cooking-hole measuring $15\frac{1}{2} \times 9\frac{1}{2}$ and 12 inches deep; it was full of ash. By a narrow doorway 14 inches wide admission was obtained into a covered chamber under a large slab of rock that leaned and lay with the south-east portion in the ground. It had been built up on the side opening into the hut, and on the north-east side slabs had been placed against it to block out the wind and water, and thus make the little chamber weather-tight.

Flint flakes were found in this and the outer chamber, and



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the inner also yielded a small piece of pottery, too minute to be of any service for identification of period.

Outside the south side of the inner chamber was a tiny circle which yielded some flint spalls and a flake with one edge serrated by use, and which may have been used as a rude knife. Some few years since a member of the Committee found some small pieces of slag in the inner chamber on the surface of the floor.

Excavation No. 3. Outside both walls and under the lee of two large boulders. This yielded only one piece of burnt flint.

Excavation No. 4. Close to Hut Circle No. 1. Before this was touched it had the appearance of a good-sized cairn surrounding a prong of rock. This was explored all around and yielded a few pieces of flint, two or three fragments of pottery of prehistoric type, and on the north side of the prong of rock, and close to same, a fragment of mediæval pottery was found, showing traces of glaze; it looks like a portion of the lug of some vessel. Although it was found 15 inches below the surface, it was probably an intrusion, like the slag found in No 2.

A little charcoal was observed in this excavation, but not enough to suggest much occupancy. If it ever served the purpose of a shelter, the stones now in cairn-like ruins around the prong of rock formed a surrounding wall, whilst the prong played the part of a central support for the roof.

This is a suggestion only, for it is by no means clear what it all originally meant.

Hut Circle No. 5. Diameter 10 feet. This circle is in the outer wall. All that was found in it was a cooking-hole, 14 × 16 × 9 inches deep, containing some charcoal.

Hut Circle No. 6. Diameter 8 feet; connected with No. 5 by a short wall of small stones. Nothing was found in this circle to indicate human occupancy. Why the two should be thus connected is a puzzle.

Excavation No. 7. Here are the remains of a wall partially surrounding a large boulder. This was undoubtedly a rock shelter, for within the enclosure a fire or cooking-hole was found, 21 × 29 × 17 inches deep, filled with several pounds of burnt clay mixed with charcoal. It also yielded a part of the rim of an earthenware pot and some small sherds of the usual early type. Charcoal was also strewn over other portions of the enclosure.

Excavation No. 8. This is a similar arrangement to No. 7. The exploration yielded some charcoal and flint flakes, but the signs of occupancy were not so pronounced as in No. 7.

Examination of the large Cairn in the south-west portion of the camp. Many hundreds of cartloads of stone are here lying piled up like a cairn against one of the rock outcrops on the summit. The stones are all of handy size, and may be carried with one pair of hands. None of them are built in, but thrown together pell-mell.

On the top of the cairn were two cavities, which seem to have been made either by previous explorers or by persons searching for rabbits or ferrets. It is curious that many of these cairns possess such cavities, but thus far no more intelligible explanation of their occurrence than the above is forthcoming.

All the stones were removed from the cairn following the contour of the core of rock to a distance of 24 feet, with a width of 10 feet and a depth of 9 feet.

The surface of the ground thus exposed was dug into until the "calm" was reached, and all the reward obtained after this heavy work consisted of a couple of small flint flakes. No charcoal was seen, and nothing to indicate the use of this great heap of stones.

Portions of the cairn nearer the outer circumference were not explored, but these would probably confirm the results obtained by the exploration of the centre.

It does not seem to be sepulchral, nor could it have been used as a beacon, for in the former some trace of interment would have been disclosed, and in the latter charcoal and signs of fire. Two other suggestions have been made, one being that this heap of stones was used as a look-out place, or from which disposition of the garrison might be directed during an attack, and the other that the heap of stones was ammunition for hurling at the enemy, or for repairing breaches which might be made in the walls.

Other stone camps possess similar cairn-like structures, and it is possible that later on some light may be thrown on their purpose. An inexplicable feature connected with this portion of the camp is that on the south-west side, the outer wall runs close to the inner and to the cairn with what appear to be compartments, but which may be merely caused by the falling forward of large stones, dividing the hollow space between the walls into such compartments, and this is at a part of the circumference where the inner wall and cairn rise to such a considerable height as to render the outer wall unnecessary, especially as there are no means of passing from the space between the walls to the interior of the camp at a higher level.

This concluded the exploration of the interior of the camp. No other sites seemed worth excavating, although flint chips abounded, for moles are continually casting them up in all directions. A good deal of fashioning of flint implements within the enclosure must have taken place, but unfortunately the implements themselves are conspicuous by their absence.

It seems strange that the interior of a prehistoric fortress should yield such poor results.

There was just enough found to indicate that it appertained to the same period as the hut circles—the fragments of hand-made pottery found in Hut Circle No. 1, and the prevalence of flint chips and flakes, being the principal evidence.

There was very little indication of prolonged occupancy, and no sign of weapons.

The former points to the fortress being only resorted to in times of sudden and temporary danger, and the latter may be accounted for by the value of arrow-heads, etc., and the care which would be taken of them. This explanation of the lack of weapons is not altogether satisfactory, unless it be concluded that Whittor was never assaulted nor occupied as a fortress in the face of an enemy.

It could never have stood a siege, for there is no trace of water within the protecting walls. There are supplies in the valley in Wedlake Combe, and in wet weather some surface water may be obtained on the slopes of the tor.

As to the number of fighting men composing the possible or probable garrison, reckoning one man per lineal yard of wall and one third of the garrison as reserve, it would take 500 men to man the outer wall, or 350 if the inner only be manned.

Where such an adult population could come from is somewhat difficult to imagine, unless it were to be occupied by a body of warriors on the march.

There are a considerable number of hut circles on the slopes of the tor, on Langstone Moor, Wedlake Combe, and more distant places, and after making due allowance for all these one's imagination is not quite satisfied; it is necessary to include the inhabitants of a good deal of the low or in-country lying to the west of Whittor before the necessary personnel for manning the walls can be supplied.

It is possible that the fortress on Whittor may have been the rallying-point for the inhabitants of a considerable tract of country.

If these ever rallied there in the face of a common danger, it is, to say the least, extremely strange that the

exploration has yielded such exceedingly scanty evidence of military and consequent domestic occupation.

The exploration of Broadmoor Pound yielded poor results.

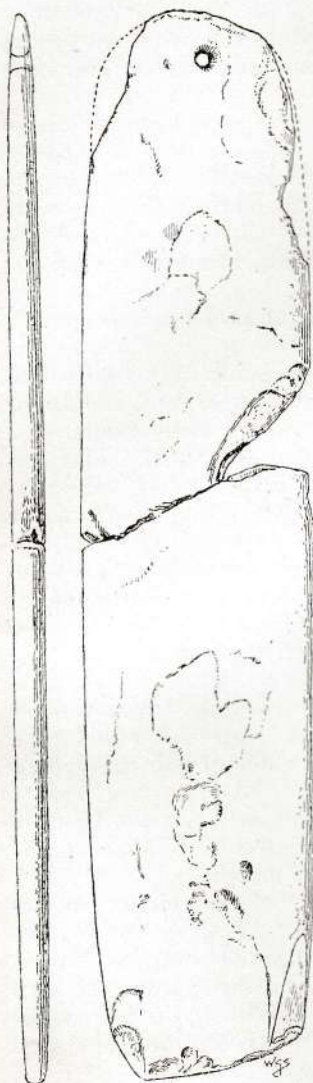
There are seven hut circles in this enclosure, and the three examined gave evidence of human occupation in the shape of the remains of fire and flint chips, and one rendered a piece of the rim of a pot ornamented with a twisted thong pattern very similar to that found in Hut Circle No. 4, Smallacombe Rocks. (See Report No. 4, page 14.)

The examination of the imperfect and rifled kistvaen lying east of Whittor, but about 220 yards west of Langstone Menhir, yielded no results, but a ruined barrow 114 yards west of the kistvaen gave a perforated spatula-shaped implement (see illustration, which is drawn full size).

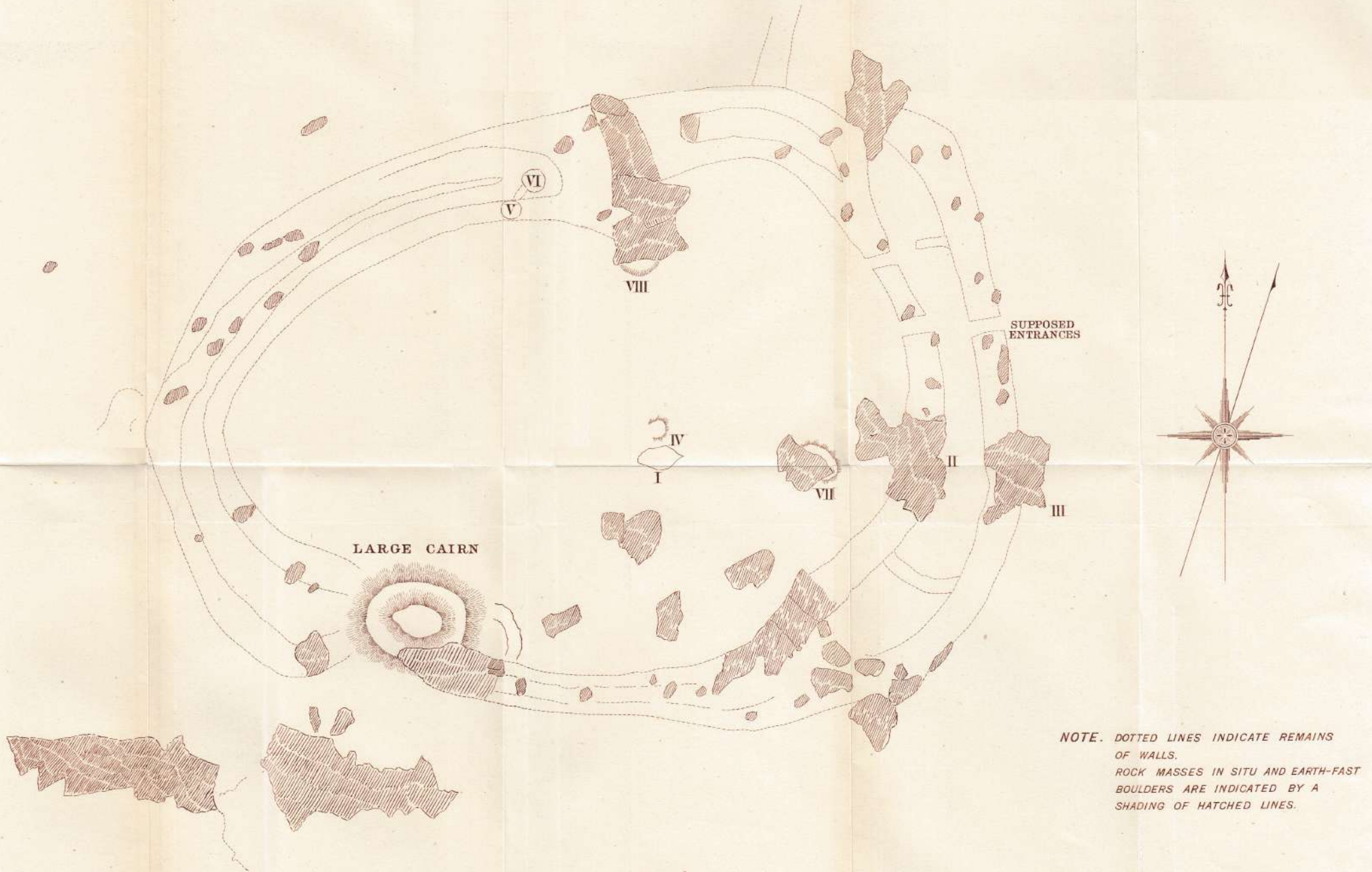
In addition to this a barrow was examined on the north slope, giving no results, and seven on the south slope, and all these latter gave shallow depressions or "pits" in the "calm" containing ashes and charcoal, and in some cases flint flakes.

The barrows varied from 12 to 32 feet in diameter. None of them appeared to have been previously rifled to such an extent as to interfere with the interments, and some of them were quite intact and undisturbed.

A barrow, 34 feet in diameter, lying on the ridge of the hill between Wedlake Combe and the Walkham valley, was



CAMP ON WHITTOR.



NOTE. DOTTED LINES INDICATE REMAINS OF WALLS.
ROCK MASSES IN SITU AND EARTH-FAST BOULDERS ARE INDICATED BY A SHADING OF HATCHED LINES.

Feet 50 40 30 20 10 0 100 200 300 400 500 600 Feet

Scale $\frac{1}{500}$

SURVEYED BY REV. I. K. ANDERSON. 1899.

next examined. This had been robbed to help build the enclosures of Wedlake, but the base of the cairn was intact.

It was found that the stones of the barrow were all inset, leaning towards the centre, and ultimately a small flat stone was disclosed 2 feet long and 1 foot 3 inches wide, which covered a pit dug in the "calm" to a depth of 10 inches and a diameter of 12 inches. This was full of ash and charcoal. Nothing else was found. This large barrow was apparently built up with much labour simply to cover this primitive interment.

Close by is another small barrow, which was but imperfectly examined owing to heavy rain coming on. About half-way between this barrow and the Langstone stone circle are two barrow-like structures in rather boggy land. One was cut through and consisted entirely of peaty soil, and contained no stones. They did not appear to be barrows, and the workmen did not consider them to be the remains of old peat-stacks.

Following up the exploration of the stone circle at Fernworthy, the Committee has examined the two circles known as Grey Wethers, and in each of these the same indication of wood charcoal strewn on the floor—*i.e.* lying on the "calm"—was observed.

This seems to favour the assumption that these so-called "sacred circles" were places devoted to cremation or for funeral feasts. Considerable numbers of barrows have been found near to, or in sight of, these stone circles.

Of seven hut circles lying above Lade Hill Bottom and below the Vitifer Mine Leat, near 1543 on Ordnance (hut circles not marked thereon), five were explored, and these gave charcoal and flint flakes only. These huts are small, with diameters ranging from $5\frac{1}{2}$ feet to 12 feet, and may have been merely summer shelters.

Two more samples of border clay have been examined—one from Grattan Ford and the other from Collard Tor. The former contained 2.36 per cent. of oxide of iron (Fe_2O_3) and the latter 3.1 per cent. These clays do not burn brick-red owing to the low percentage of oxide of iron they contain, and do not represent the sources from which

the prehistoric potters of Dartmoor obtained their raw material.

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GEOLOGICAL NOTE ON WHITTOR BY R. HANSFORD WORTH.

The geological features of White Tor differ from those prevailing at any of the various points at which the Committee has hitherto been engaged.

The summit of the tor is occupied by large masses of rock *in situ*, and numerous boulders split from the same by subaerial agencies. The parentage of individual boulders is frequently readily traceable to particular "living" masses.

The rock is exceedingly hard. It splits along defined planes under the action of the weather, but adjacent planes are only infrequently parallel or continuous. The boulders tenaciously retain their angular or subangular forms.

The slopes of the tor are strewn with innumerable boulders of the same rock that forms the summit, especially to the southward and eastward.

Eastward indeed similar boulders are to be found in a constantly narrowing belt, which crosses the Tavy and dies out at or near Crayston.

It is surprising that an observer so accurate as De la Beche should have been misled into mapping the whole area covered by these boulders as greenstone.

The description of the Whittor rock as "greenstone" was in itself an expedient to which no exception could be taken; it was the assumed continuity of the belt of this material which constituted the inaccuracy.

In point of fact the summit of the tor presents an isolated exposure of igneous rock surrounded on all sides by altered sedimentary rocks; from this summit exposure and from lesser exposures on the hillside have been derived the boulders which have travelled down over and now overlie the sedimentary rocks. Yet immediately below the turf the altered slates may be found in evidence, almost to the summit of the tor.

The most important exposure of igneous rock, second to that at the summit, occurs just within the angle of the enclosed lands, lying north-east from the summit. Hard by may be obtained specimens showing the junction between the igneous and the sedimentary rocks; the latter have experienced profound altera-

tion. The slate has been converted into a compact jaspideous rock, translucent at the edges of fragments, greenish or pink-grey in colour, and having lost all traces, either optical or mechanical, of its original cleavage, it has assumed a conchoidal fracture.

The igneous rocks form part of a group "ranging north and south from Brazen Tor to Cock's Tor." This group has been described by Rutley in his "Eruptive Rocks of Brent Tor and Neighbourhood," by R. N. Worth in his "Rocks of Plymouth," and with especial reference to Whittor by Teale in his "British Petrography." The term Gabbro has been guardedly applied to this series as a whole; the particular exposures on Whittor are, however, best described as Epidiorite, and according to Teale, "the rock from the White Tor is a typical epidiorite."

The last-named observer states that the rock contains hornblende, felspar, titaniferous iron ore, pale brown mica (contact mica), and a little tourmaline, the Uralitic aggregates being penetrated by pseudomorphs after lath-shaped felspars.

Two sections examined and described by R. N. Worth corresponded in general with this description, but in the one, from the summit, no felspar is to be found, while in the other, from near the base of the tor, lath-shaped felspars occur and a little augite.

According to Teale the rock was originally an ophitic dolerite, which has been subjected to metamorphic action, resulting, among other alterations, in the replacement of the original augite by hornblende.

As will have been noted above, some augite still persists in slides from the base of the tor.