EXCAVATION OF A BARROW ON ST. CATHERINE'S HILL, NITON, ISLE OF WIGHT.

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During August and September, 1925, I made some examination of a barrow on the summit (781 feet above sea level) of St. Catherine's Hill, near Niton, Isle of Wight.

The centre of the barrow is 84 feet south-east of the centre of the tower of St. Catherine's Oratory. The mound is divided into unequal parts by the boundary fence between the parishes of Niton and Chale, so that the western third of the barrow is in Chale parish, the rest in Niton parish (Fig. 1).

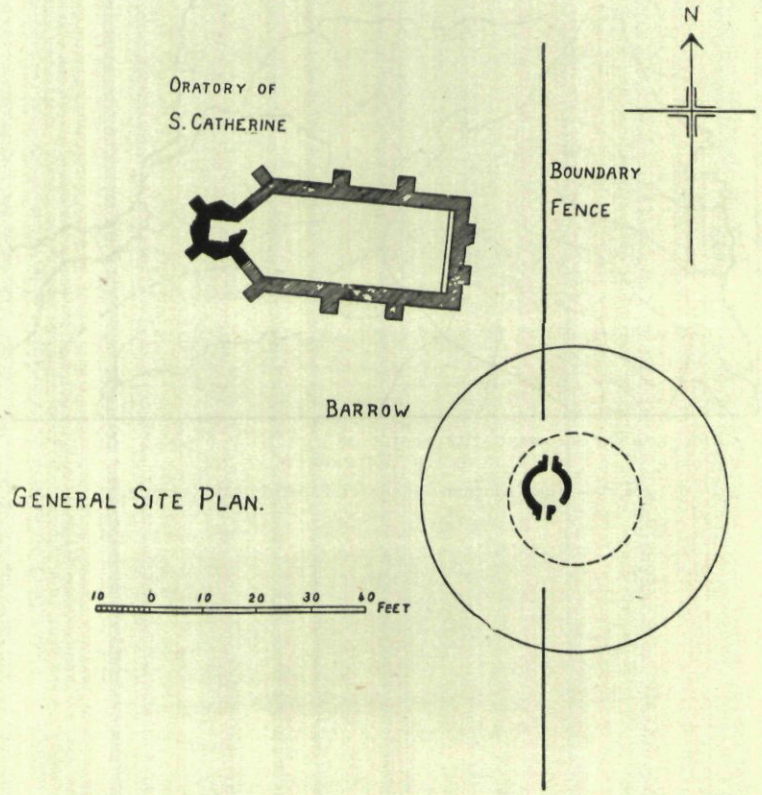

FIG. 1.—GENERAL SITE PLAN OF ST. CATHERINE'S ORATORY AND THE BARROW. THE ORATORY FOUNDATIONS HAVE BEEN REPRODUCED BY KIND PERMISSION OF MR. PERCY G. STONE, F.S.A.

The mound is somewhat irregular in outline, but is clearly a round barrow of the "bowl" variety. Its average diameter is 56 feet, with a central height of 4 feet. The originally flat top has a diameter of 24 feet. There is no indication of a surrounding ditch or bank. The material of the barrow consisted entirely of the clayey soil of the down, containing numerous angular flints. No stratification could be observed.

There is an irregular depression in the centre of the mound, with a shallow channel leading from it on the east side, indicating a former attempt to open the barrow from the top. Clear evidence of this disturbance was found during the excavation.

The result of the excavation falls into two periods, which will be described separately, namely :—

(1) The original contents of the barrow.

(2) Later structures.

(1) The Original Contents of the Barrow.

A trench, 3 feet 6 inches wide, was cut through the barrow in a direction due north and south down to the ground level, and on the east side of the boundary fence. The western wall of the trench passed through the estimated centre of the barrow.

At 22 feet from the centre, on the western wall of the trench, and 9 inches below surface, was found a small fragment of bone, 71 mm. in length and 16 mm. wide. The surface is much eroded, and the bone was chalky white in colour when found.

A second much larger bone was found at 19 feet from the centre, 1 foot from the eastern wall of the trench, and 9 inches below surface. The state of preservation of this bone is identical with that of the smaller fragment.

These two bones were submitted to Professor Sir Arthur Keith, F.R.S., who kindly reports as follows :—

"The bones submitted to me from the barrow on St. Catherine's Hill, near Niton, consist of (1) small fragment of a human long bone—probably humerus, (2) part of the proximal portion of the shaft of a left human femur. It is much more likely to have belonged to a woman than a man. The evidence submitted is not enough to date the femoral fragment, but it is, in any case, not recent, and its condition is not inconsistent with its being of the age of the barrow."

FIG. 2.—UPPER HALF OF LEFT HUMAN FEMUR, FROM THE ANTERIOR SURFACE. THE BLACK PATCHES ARE THE ORIGINAL SURFACE OF THE BONE, THE REST HAS BEEN ERODED TO A DEPTH OF 2-3 MM.

The femoral fragment (Fig. 2) is 152 mm. long, measures 29 by 22 mm. at the upper end, and 25 by 23 mm. at the lower end—approximately mid-shaft. The complete bone was evidently flattened from front to back in the upper third of the shaft—a condition often found in Bronze Age femora.

From the above report it is reasonable to infer that the two human bones belonged to the original interment of the barrow, which has been disturbed, and the bones scattered over the mound.

At 15 feet from the centre, in the middle of the trench, and 3 feet below surface were found a rough flint end-scraper, a long flake possibly used as a knife (Fig. 3), and five bulbed flakes.

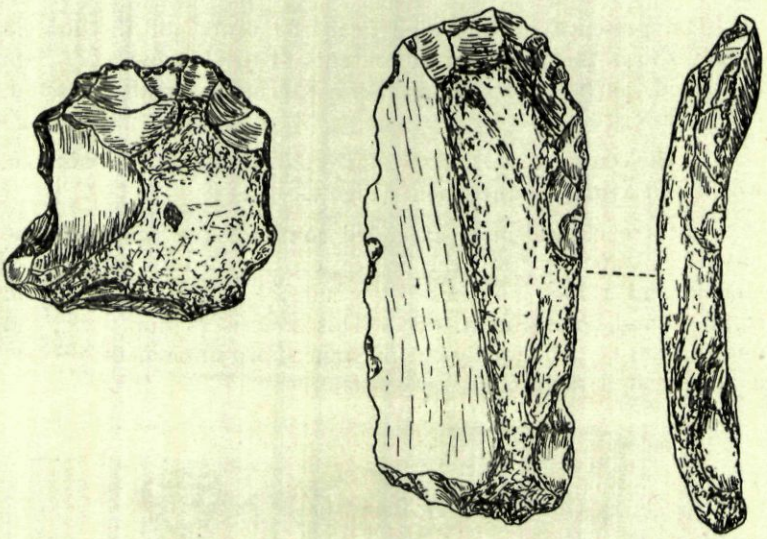

FIG. 3.—FLINT SCRAPER AND LONG FLAKE WITH EDGE CHIPPING. $\frac{3}{4}$

The rough knife is 96 mm. long by 40 mm. wide. Secondary chips have been removed obliquely from one end, giving a good cutting edge. The flint is light grey in colour and unpatinated.

At 1 foot north of the centre, in the middle of the trench, and 3 feet 6 inches below surface (that is, at the bottom of the trench) was found part of the stem of a thick clay tobacco pipe (Fig. 4).

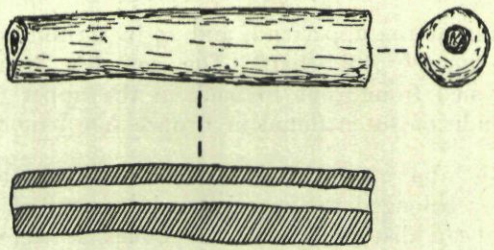

FIG. 4.—PART OF THICK STEM OF TOBACCO PIPE. $\frac{1}{1}$

The pipe stem is 49 mm. long, 10 mm. and 9 mm. in diameter at the two ends, and slightly curved. The bore is not quite concentric. Mr. H. S. Kingsford, M.A., has pronounced the pipe probably to belong to the seventeenth century.

The presence of this pipe near the centre of the mound clearly shows that the central contents of the barrow have been disturbed, as no traces of such an interment could be found, even below ground level.

At the centre of the barrow, and 3 feet 4 inches below surface, was found a small animal bone (Fig. 5.—A).

The trench was now extended south of the centre of the mound. At 6 feet from the centre, on the western wall of the trench, and 1 foot 3 inches below surface was found a second small animal bone (Fig. 5.—B). This bone is 45 mm. long, and one end has been obliquely cut by some sharp implement, leaving a flat striated surface.

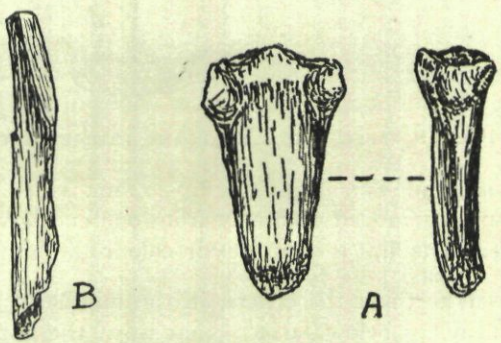

FIG. 5.—ANIMAL BONES. A—LOWER END OF GOAT'S STERNUM. B—SMALL BONE WITH UPPER END OBLIQUELY CUT. $\frac{1}{1}$

FIG. 6.—VIEW OF WESTERN PART OF STONE WALL AND TOWER OF ST. CATHERINE'S ORATORY.

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These two animal bones were sent to Professor Keith, who has pronounced them to be :—

" (1) The lower end (ensiform process) of the sternum of a goat.

(2) A small animal bone, too fragmentary to identify."

The above scanty finds are all that we have to indicate the interment in the barrow and the history of the former excavations. However, the following conclusions may be tentatively drawn from the available evidence :—

(1) The mound is a round barrow of the Bronze Age, and originally contained a central interment—probably that of a woman.

(2) In the seventeenth century the barrow was opened—probably by " treasure-seekers," the interment disturbed and entirely removed, and the bones scattered over the surface of the mound.

(2) Later Structures.

It was whilst I was cutting back the western wall of the trench north-west of the centre of the barrow, that the curious circular stone wall, which has aroused much interest in the Isle of Wight, was brought to light (see *I.W. County Press*, 1925, September 19th ; October 10th, 17th, 24th, 31st ; November 7th, 21st).

Fig. 6 gives a general idea of the position of this wall relative to the Oratory, and Fig. 1 its exact position in the barrow.

The top of the eastern part of the wall was 4 feet below the surface of the mound, that is, level with the bottom of the trench. It here consisted of a single course of cubical blocks of Greensand, forming the arc of a circle. The inner faces of the blocks were blackened by fire, and on digging down to the inner edges of the stones, at 5 feet below surface, I came across a level floor of hard red clay, on which were burnt flints and charcoal.

At this stage it was decided to remove the overlying earth, so as to expose the wall and trace it round on the Chale side of the boundary fence. Accordingly the trench was extended westwards to the boundary fence, and then downwards to the base of the wall. In this way the entire eastern half of the wall was exposed.

The earth over the area enclosed by the stones was very rich in clay, and contained many loose blocks of Greensand. Among these loose stones, 3 feet 6 inches below surface, and over the level floor near the south-eastern part of the wall, was found a large implement of grey chert (Fig. 7).

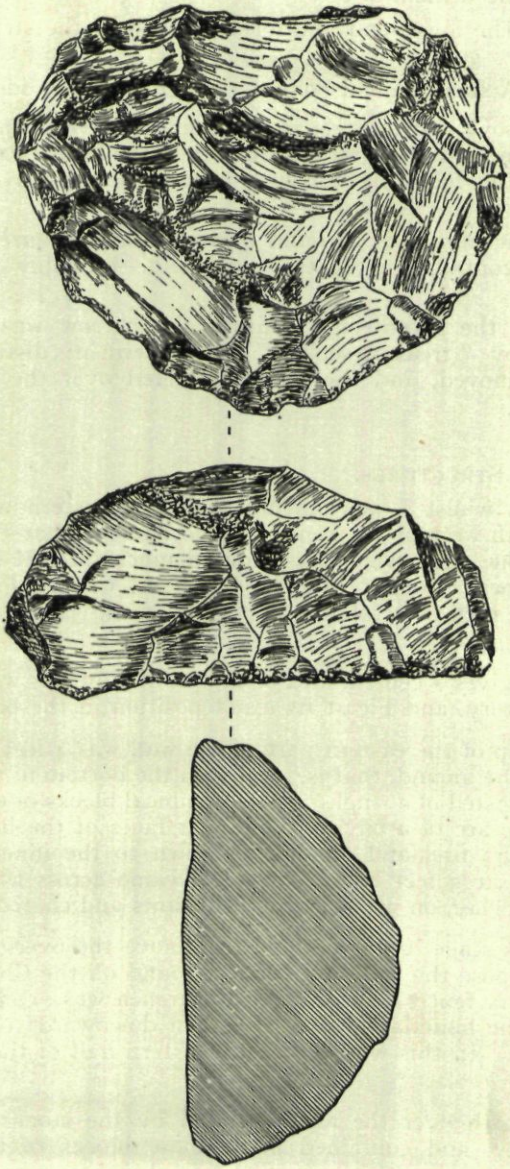

FIG. 7.—CHERT IMPLEMENT. $\frac{1}{2}$

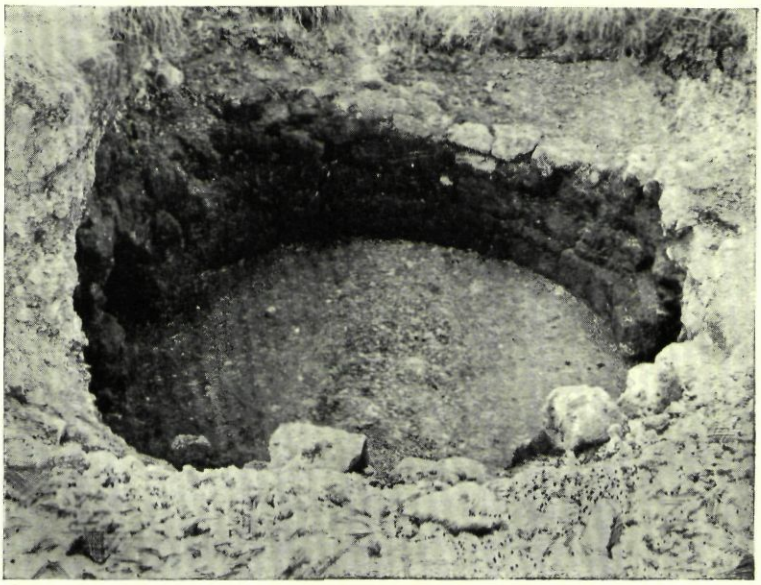

FIG. 8.—VIEW OF WESTERN HALF OF CIRCULAR WALL. THE TUNNELS ARE JUST INCLUDED AT THE SIDES OF THE PHOTOGRAPH.

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It is 5¼ inches long, 4 inches wide, and 2¼ inches high; weight, 1lb. 12ozs. One face is chipped roughly flat, the other convex and battered on the ridges. This implement was sent to Mr. Reginald A. Smith, F.S.A., who has kindly reported thus :—

"The chert lump is hard to describe, but *feels* very recent, and corresponds to no common prehistoric type. The ridges are certainly battered, but to use the convex face for hammering, one would have to grasp the sharp edges, and the shock would be certain to cut the hand."

It is rather difficult to account for the presence of this massive implement, but it seems to have been used for some purpose by the builders of the stone wall.

A trench was now cut on the western side of the boundary fence, so as to expose the western segment of the wall. The top of the wall was found only 2 feet 6 inches below surface, and was traced round until it was covered by the wall of earth beneath the fence. This earth was eventually removed, thus exposing the entire inner face of the wall. The area enclosed by the wall was now cleared out down to the level floor.

Before describing the objects found on the floor, it will be convenient to give the dimensions of the wall.

Diameters Across Inner Face of Wall :—

North—south	...	...	6 feet 9 inches.
East—west	...	...	6 „ 6 „
North-east—south-west	...	...	6 „ 9 „
North-west—south-east	...	...	6 „ 9 „

Thus the wall is almost exactly circular, with a mean diameter of 6 feet 9 inches. The thickness is uniformly 13 inches. The western half of the wall is uniformly 2 feet 6 inches high above the clay floor, and is here composed of four horizontal courses of stones (Fig. 8).

On the east side the wall is only composed of two courses of stones to a height of 1 foot 6 inches. To the south-east there is a gap in the stones, but this was no doubt originally occupied by a stone (Fig. 9).

The stones composing the lowest course are larger and better fitted together than the stones above them. Apparently the stones are bedded in some material—perhaps gritty clay, but this is uncertain.

The clay floor bore unmistakable signs of having been subjected to a great heat. It had been burnt hard, and was of a red colour inside, black on the surface. Scattered all over

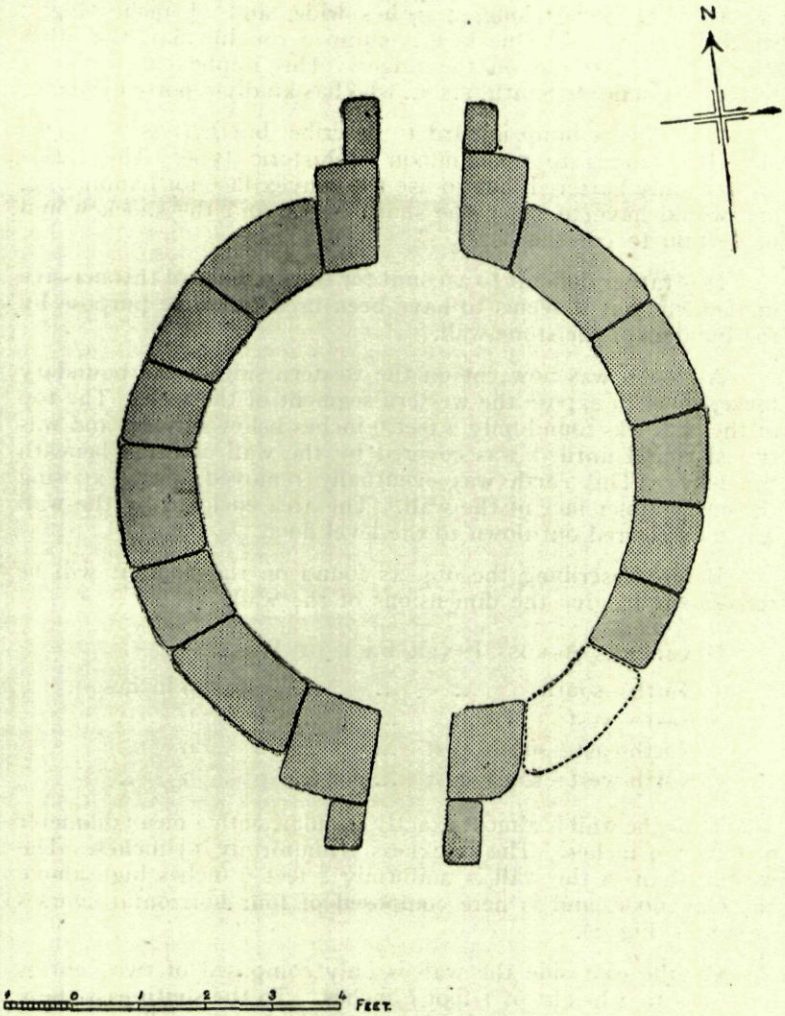

FIG. 9.—GROUND PLAN OF CIRCULAR STONE WALL.

the clay were about thirty lumps of charcoal, varying in length from about 1 to 3 inches. This charcoal was submitted to Dr. E. J. Salisbury, F.L.S., Reader in Botany at University College, London, who has identified it as Oak—probably *Quercus robur*.

In addition, several pieces of burnt coal and burnt shale, blackened flints, and part of a waterworn oyster shell were found scattered over the floor.

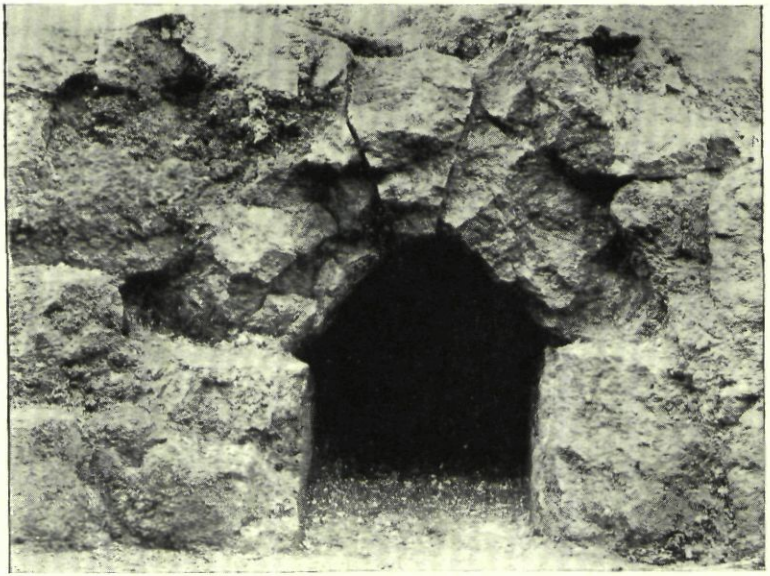

FIG. 11.—NORTHERN TUNNEL.

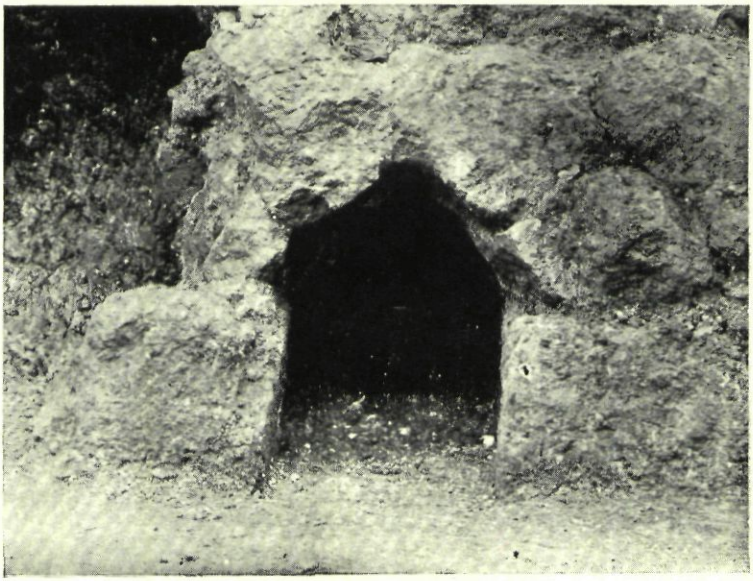

FIG. 12.—SOUTHERN TUNNEL. THE OUTLINE OF THE KEYSTONE IS RATHER OBSCURED BY CLAY BETWEEN THE STONES.

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On the west side of the floor was found part of a red tile (Fig. 10), which Mr. Reginald A. Smith regards as late Mediæval.

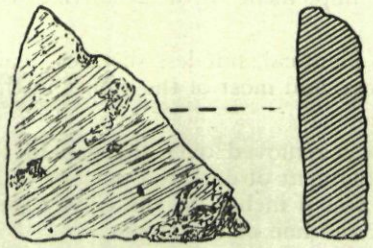

FIG. 10.—FRAGMENT OF RED TILE. $\frac{1}{1}$

A section was cut through the floor to ascertain its thickness. It consists of a layer of compact clay, containing fragments of charcoal and burnt flints, 4 inches in depth, underneath which is undisturbed yellow clay with flint nodules. This yellow clay is 6 inches above the level of the floor on the outer side of the stone wall, so that the builders of the wall must have excavated the yellow clay for a depth of about 10 inches.

The lower courses of the stone wall on the east and west sides were also blackened by fire, and in places the sandstone has been converted into a hard, green, glassy substance—probably fused silicate of iron.

On the north and south sides of the wall two very curious stone arches or tunnels were discovered (see Figs. 8, 9, 11, 12), leading outwards from the clay floor, which was continued into both recesses.

The opening on the north side (Fig. 11) is 1 foot 7 inches high and 1 foot 2 inches wide. The sides are composed of the two stones of the lowest course of the wall, above which are two obliquely set stones, and the arch is completed above by a well-fitted keystone, 11 inches high, 8 inches wide on its upper face, and tapering to $2\frac{1}{2}$ inches.

This recess was cleared out for 2 feet 5 inches from the inner surface of the wall, when it ended quite abruptly (Fig. 9). It was noticed that the floor at the remote end of the tunnel was slightly higher, by about 2 inches, than the level clay floor.

The southern opening (Fig. 12) has exactly the same dimensions as the northern, but is not so carefully finished. The keystone is $7\frac{1}{2}$ inches high, $4\frac{1}{2}$ inches wide, tapering to $2\frac{1}{2}$ inches. This arch extends outwards for 2 feet 3 inches, and then ends abruptly in the earth of the barrow.

The purpose of these two arches will be discussed later.

In the earth blocking the northern recess was found a flat slab of brown sandstone, bearing on one face parallel grooves made by some implement with a cutting edge—perhaps an axe (Fig. 13).

A slab with identical, but less distinct, marks was found in the southern recess, and most of the stones in the wall have been similarly dressed.

The earth was removed over the gap in the stones to the south-east. A fragment of dark red pottery (Fig. 14) was found, at a depth of 3 feet 6 inches, in the clayey soil above the gap, and just beyond the line of the stones.

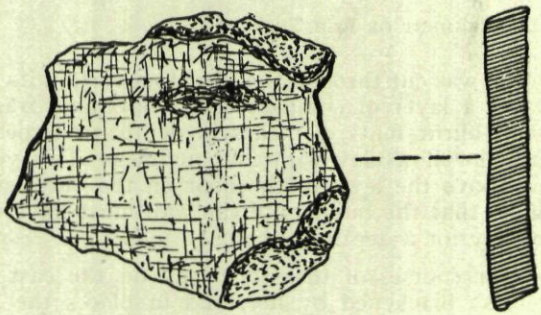

FIG. 14.—POTTERY FRAGMENT WITH SLOTTED SIDES. ½

The paste contains plenty of sharp sand, sparingly mixed with finely-pounded flint. Two opposed edges are slotted, as if forming parts of openings in the complete vessel—perhaps used for suspension. The fragment is hardly part of a handle. Mr. Reginald A. Smith considers the fragment to be Mediæval, although the paste is softer than usual.

We now come to the problems of the purpose and date of erection of the circular wall and its two tunnels.

Dealing first with the purpose, two main theories have been advanced in explanation, namely, that it was a lime-kiln, or the base for a beacon. It has also been suggested that the pit was for drainage purposes from the Oratory, but this is at once put out of court, for the clay floor is 2 feet *above* the level of the ground at the Oratory.

The lime-kiln theory is rather negatived by the fact that the amount of lime required for the construction of St. Catherine's Oratory in the fourteenth century, or the Lighthouse tower in the eighteenth century (and there is no evidence of any other buildings on the down), would be so small that less labour would be involved in bringing the lime from a distance than in constructing a kiln on the spot. There is a lime-kiln in an old chalk

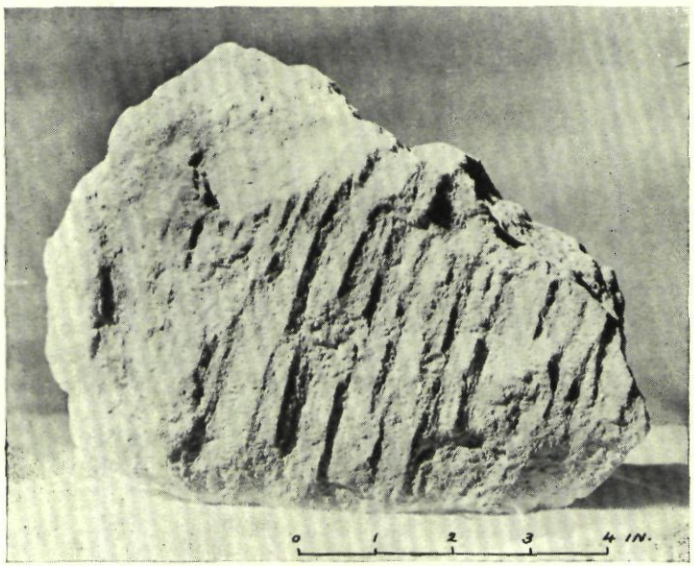

FIG. 13—TOOLED SLAB OF SANDSTONE.

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pit on the northern side of the hill—about one quarter of a mile away.

The beacon theory, advanced by Mr. Percy G. Stone, explains the structure in a satisfactory manner. The circular pit was sunk in the existing barrow as the base for a tall wood stack, and the two tunnels were for the triple purpose of ignition, draught, and—in wet weather—drainage. The earth outside the tunnels must have been cut away, thus giving a clear passage for the admission of air to the base of the beacon. A section through the mound and the centre of the tunnels, with a wood stack in the pit, is given in Fig. 15.

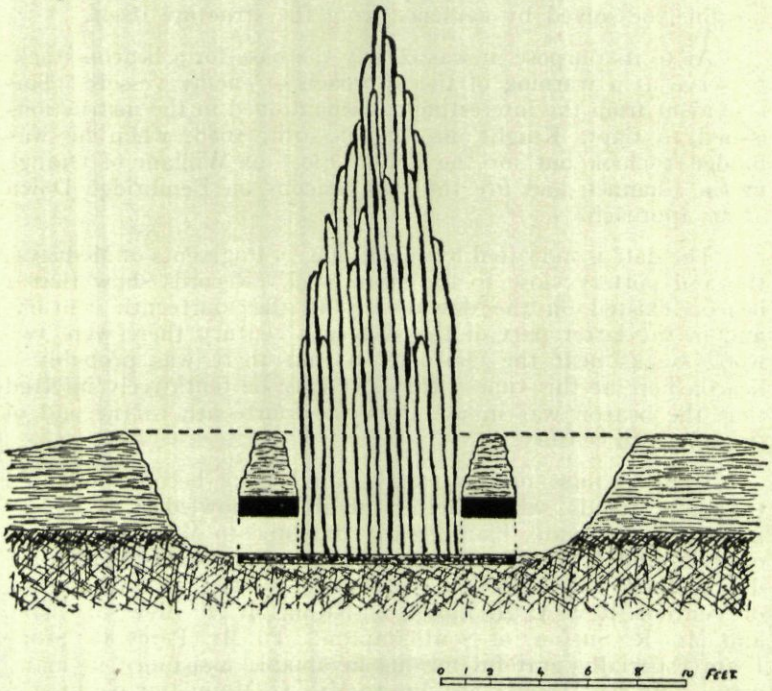

FIG. 15.—SECTION THROUGH MOUND AND CENTRE OF TUNNELS, WITH WOOD STACK IN POSITION IN THE PIT. THE SURFACE OF THE UNDISTURBED YELLOW CLAY IS SHOWN, ALSO THE CLAY FLOOR EXTENDING INTO BOTH TUNNELS.

That beacons formerly existed on the higher parts of the Isle of Wight is clearly shown in the Inquisition, held at Shide Bridge, in July, 1324. There were 29 beacons in all—13 in the East Medine, 16 in the West Medine, the latter including a beacon on Chale Down, watched daily by four men and nightly by two. It is uncertain whether the pit excavated is really the beacon referred to in the Inquisition.

In a small Survey of the down made in 1566, part of which is reproduced in Fig. 16, two conical wood stacks are shown north-east of the Oratory and well over on the Niton side of the boundary fence, each with a circular trench round its base. It seems very likely that the beacon pit was supplied from these two stacks.

CONCLUSIONS.—Apparently nothing similar to the circular wall with its two tunnels has been found elsewhere, so that analogy cannot be applied in helping to explain the problems of its date of erection and purpose. These must, as far as possible, be solved by evidence from the structure itself.

As to its purpose, it was clearly the base for a beacon stack, to serve as a warning of the approach of enemy vessels. This is evident from the interesting case mentioned in the instructions issued to Capt. Knight on August 30th, 1688, when he was bidden to look out for the Dutch Fleet of William of Orange in the Channel, and fire the two beacons on Bembridge Down at his approach.

The date is indicated by the finding of fragments of Mediæval tile and pottery close to the stone wall. Records show that a beacon existed on the down early in the fourteenth century, and in the latter part of the sixteenth century there were two wood stacks near the Oratory, so that there was probably a beacon here at this time. Hence it may be tentatively inferred that the beacon was in use from the fourteenth to the end of the sixteenth century.

In the course of this excavation I have become indebted to many friends, whose help I gladly acknowledge. For permission to excavate, I am greatly indebted to Mr. Henry Way, of Pyle, and Mr. J. P. Collins, of Niton. My warm thanks are due to those who helped in the digging: Dr. J. B. Williamson, of Ventnor, Rev. J. H. Lloyd, of Niton, Mr. F. Mew, of Chale, and Mr. R. Sutton, of Southampton. To Mr. Percy G. Stone I am especially grateful for his invaluable assistance, in many ways. My best thanks are due to Miss C. Morey, for permission to reproduce the 1566 Survey; to Sir Arthur Keith, for kindly examining the human and animal bones; to Dr. E. J. Salisbury, for identifying the charcoal; and to Mr. Reginald A. Smith, for reporting on the chert implement.

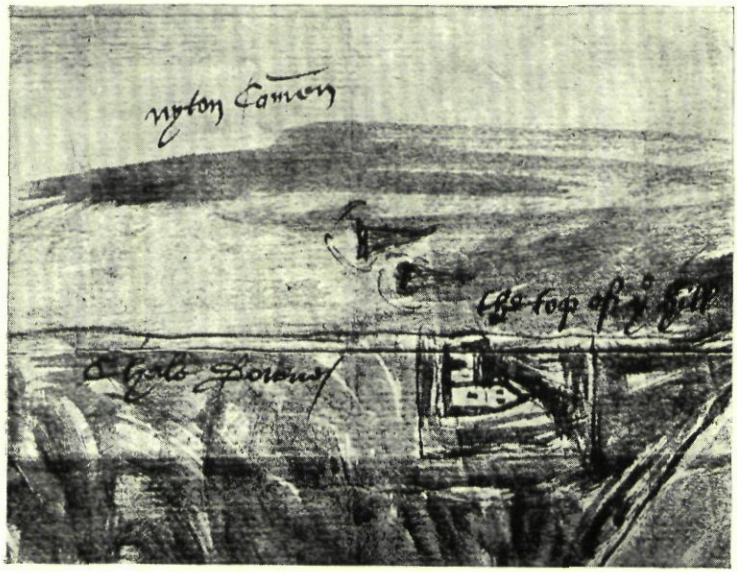

FIG. 16.—REPRODUCTION OF 1566 SURVEY, SHOWING ST. CATHERINE'S ORATORY BEFORE ITS DEMOLITION, AND THE TWO WOOD STACKS TO THE NORTH-EAST.

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