

# ON THE CAIRN AND SEPULCHRAL CAVE AT GOP, NEAR PRESTATYN.<sup>1</sup>

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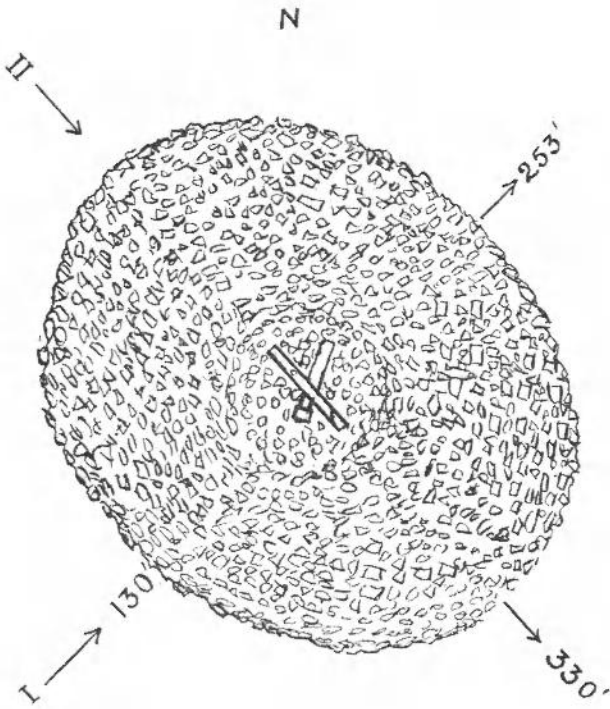
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## INTRODUCTION.

The cairn at Gop first to be described in the following pages stands in a commanding position, at an altitude of 820 feet, at the northern end of the picturesque line of hills forming the eastern boundary of the Vale of Clwyd. It is about two and a quarter miles to the south-east of Prestatyn, on the London and North Western Railway, and about six miles to the east of Rhyl. It commands a magnificent view, westward over the Vale of Clwyd to the Snowdonian range, northward over the Irish Sea, and eastward over the low-lying plain of Cheshire, to Liverpool and beyond. It is recognised generally in the neighbourhood as a tumulus, and is so described in the Ordnance maps. It is attributed in common talk to Queen Boadicea, in spite of the fact that there is no evidence that the famous queen of the Iceni ever set foot in that region. In 1886 Mr. Pochin, of Bodnant Hall, who had bought the Golden Grove estate, on which it is situated, asked me to undertake the examination of this conspicuous landmark, at his expense. The following are the results of the work carried on in 1886 and 1887, which I have been unable to publish before on account of the pressure of other work.

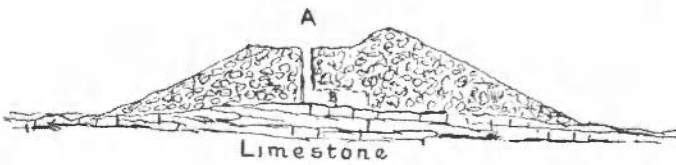
<sup>1</sup> Read June 5th, 1901.



S.W.

Section I

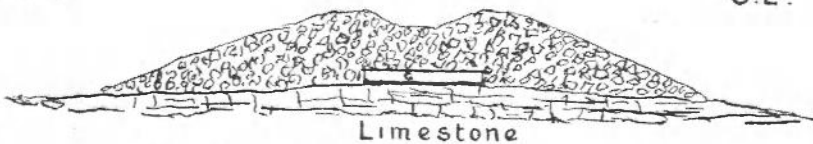
N.E.



Section II

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S.E.



FIGS. 1, 2 AND 3.—CAIRN AT GOP. PLAN AND SECTIONS.  
(Scale 1" = 100'.)

## 1.—THE EXPLORATION OF THE CAIRN AT GOP.

The cairn is composed of blocks of limestone, of a size easily carried, piled up so as to form an oval, with its long diameter 330 feet, pointing from north-west to south-east, and its short diameter 223 feet, from north-east to south-west (see Plan and Sections, Figs. 1, 2, 3). It is 46 feet high, with a truncated top, which may be due either to the removal of the stone for making field-walls, or by the giving way of a chamber in the area immediately beneath it. It rests on solid limestone rock.

The exploration was begun by sinking a shaft (6 feet 6 inches by 4 feet) in the centre, an operation of considerable difficulty on account of the instability of the limestone blocks, down to the solid rock forming the original surface of the ground. It was found necessary to use heavy timbers to allow of the work being carried on. The original surface was struck at a depth of 26 feet (see Figs. 1, 2, 3). A drift was then made, 6 feet high and 4 feet wide, in a north-easterly direction (B of Figs. 1 and 2) to a distance of 30 feet, following the original surface of the rock. Two other drifts were also made, C, C, intersecting B in the line of the Section Fig. 3. The only remains met with were a few bones of hog, sheep or goat, and ox or horse, too fragmentary to be accurately determined. They are, however, of the refuse heap type usually found in prehistoric habitations and burial-places. We failed to obtain evidence of the archæological age, or of the purpose to which it was put. If, as is usually the case, there was a central burial-place, we missed it. The question cannot absolutely be decided until the whole of the stones have been removed. The timbering necessary for our work was not only very costly, but rendered it very difficult to observe the condition of the interior even in the small space which was excavated.

Gop Cairn is probably sepulchral, similar to that in the same range of hills to the east, near Mold, used for years as a stone quarry, in which, in 1832, a skeleton was discovered lying at full length, clad in a golden corselet, and adorned with 300 amber beads. If it be a burial-place its large size implies that it was raised in memory of some chieftain conspicuous above his fellows.

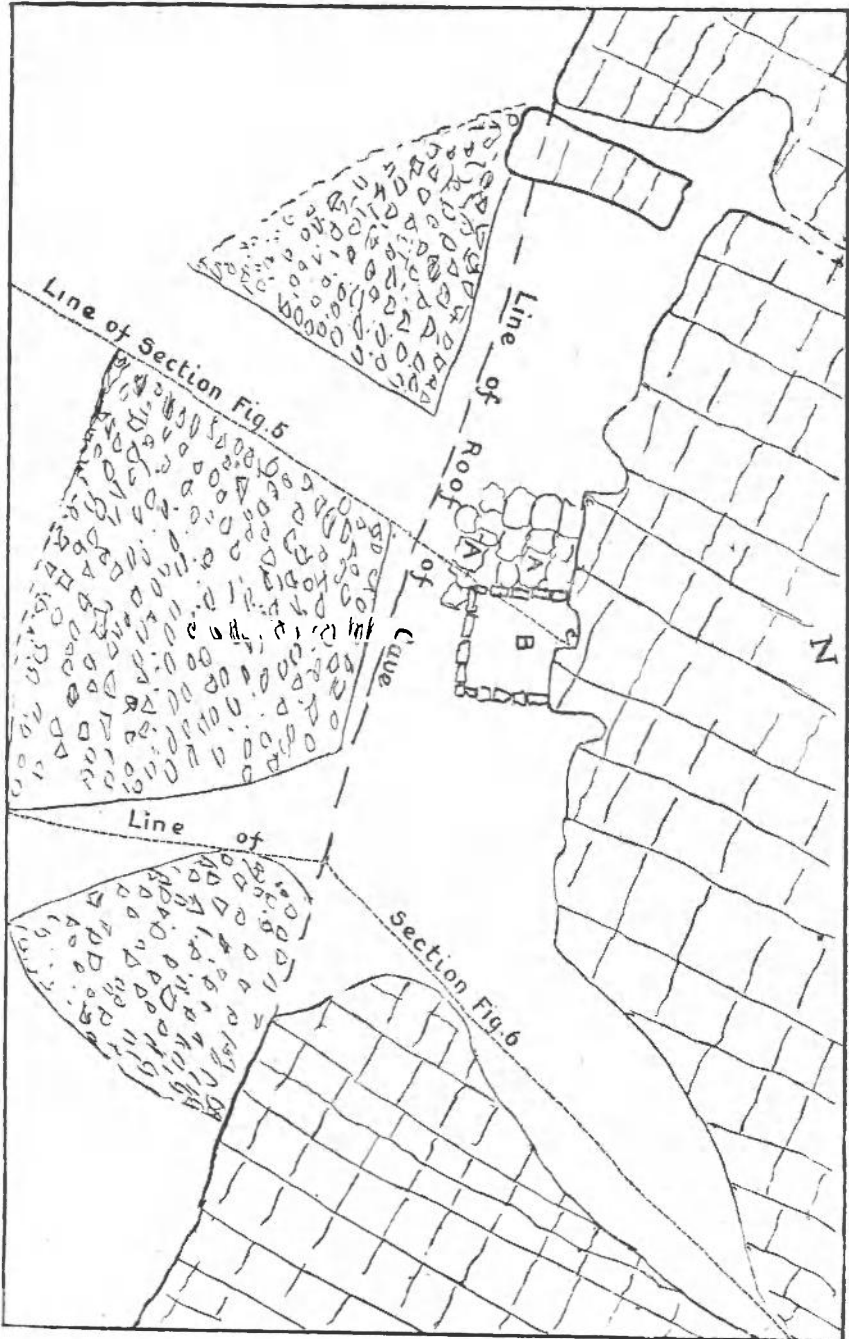


FIG. 4. SERRITHRAL CAVE, GOP. PLAN. (Scale 1" = 10'.)

## 2.—THE SEPULCHRAL CAVE.

While the cairn was being explored my attention was attracted to a fox-earth at the base of a low scarp of limestone 141 feet to the south-west of the cairn. It occupied a position which I have almost invariably found to indicate the presence of a cavern used by foxes, badgers, and rabbits as a place for shelter. I therefore resolved to explore this, with the assistance of Mr. P. G. Pochin. The fox-earth led us into a cave completely blocked up at the entrance by earth and stones (Figs. 4, 5, 6) and large masses of limestone, which had fallen from the ledge of rock above. This accumulation of débris occupied a space 19 feet in width, and extended along the whole front of the cavern (see Fig. 4).

We began operations by cutting two driftways, down to the surface of the rock. We then proceeded to clear out the whole of the interior of the cavern, which was filled very nearly up to the roof with debris. It consists of a wide rock-shelter, passing into a narrow passage at the north-eastern and north-western ends. It faces very nearly due south. It contained deposits of various kinds and of widely different ages, the two lower being pleistocene, while the two upper yielded remains which prove that they belong to the prehistoric period. I shall consider these in some detail.

### A.—*The Pleistocene Strata.*

On the rocky floor of the interior of the cave, strewn with large blocks of limestone, was a stiff yellow clay, No. 1 of Sections (Figs. 5, 6) from 1 to 2 feet thick, containing angular stones and pebbles, some of which are derived from rocks foreign to the district, and occurring only in the boulder clay, which lies in irregular patches on the hillsides in the neighbourhood. It contained neither the remains of man nor of the fossil mammalia found in the caves in the Vale of Clwyd.

Above this, and also within the cave, was a layer of grey clay, No. 2 of Sections, containing stones, angular and water-worn, and some of foreign derivation as before.

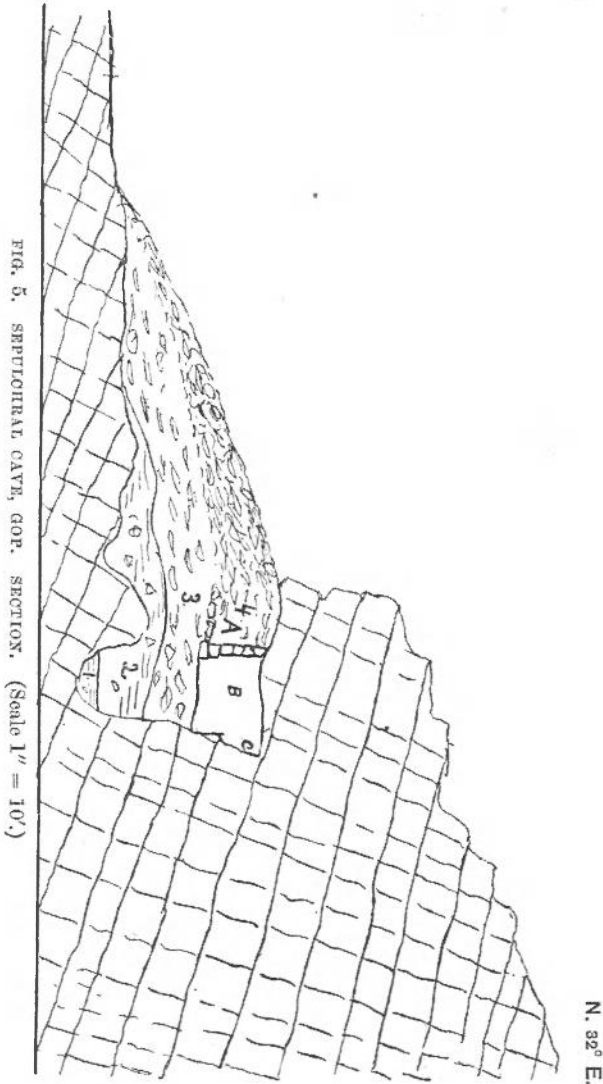


FIG. 5. SRPFLOUHRAF CAVE, GOP. SECTION. (Scale 1" = 10'.)

In addition to these there were water-worn, and in many cases perfect, remains of the following animals :—

Cave-hyæna .. ..	<i>Hyæna spelæa.</i>
Bison .. ..	<i>Bison priscus.</i>
Stag .. ..	<i>Cervus elaphus.</i>
Reindeer .. ..	<i>C. tarandus.</i>
Roedeer .. ..	<i>C. capreolus.</i>
Horse .. ..	<i>Equus caballus.</i>
Woolly rhinoceros ..	<i>Rhinoceros tichorhinus.</i>

Some of these, and more especially the antlers of the reindeer, bore the teeth marks of hyænas, and had evidently belonged to animals which had fallen victims to those bone-eating carnivores. They did not, however, occur in layers on the floors, occupied at successive times by the hyænas, as I have observed in other caves, such as Wookey Hole near Wells, and the Creswell caves near Worksop. They appear to have been washed out of the original hyæna floors by the action of water, and to have been redeposited at a time later than the occupation of the cave by hyænas.

#### B.—*The Prehistoric Accumulations.*

The upper surface of the grey clay, No. 2 of the Sections, Figs. 5 and 6, passed insensibly into the accumulation above, in which the interest principally centres, as it marks the position of the ancient floor of the cave in prehistoric times. It extended nearly horizontally inwards, from a little beyond the entrance to the inner walls of the cave, composed either of limestone or of breccia. On this rested a mixed layer of red earth, broken stalactites, and stones, No. 3 of Sections, containing a mixture of refuse bones of prehistoric age together with those of pleistocene animals such as reindeer and hyæna, obviously derived from the layer below. Pieces of charcoal were scattered through its mass, together with pot-boilers and fragments of pottery. These were, however, less abundant in the lower portion (No. 3 of Sections), which was about 3 feet thick, than in the upper (No. 4 of Sections), where in some places there was sufficient charcoal to blacken the accumulation. This upper layer was about 4 feet thick at the entrance of the cave, shown in section Fig. 5,

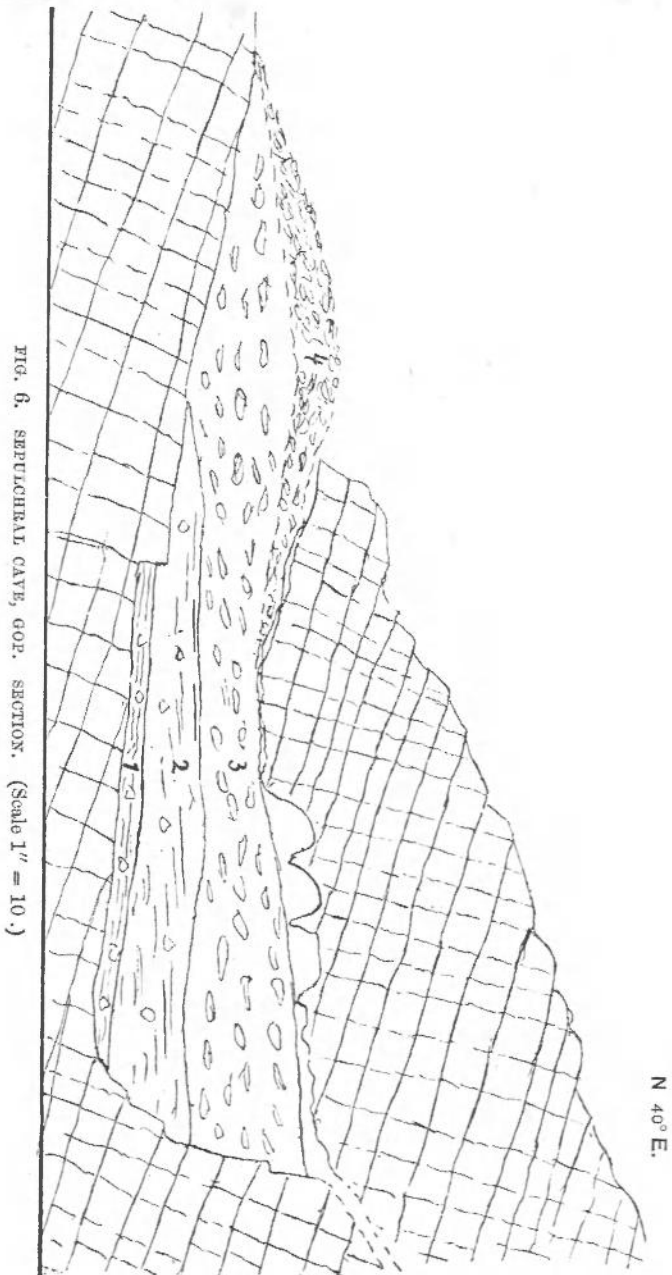


FIG. 6. SEPULCHRAL CAVE, GOP. SECTION. (Scale 1" = 10.)



where it abutted directly on a sepulchral chamber B. In the section shown in Fig. 6, it was thickest outside, thinning away outwards to the edge of the talus, and inwards into the cavern.

As we were clearing a passage inwards, along the line of Section No. 5, a thick layer of charcoal, marked A on the Plan, Fig. 4, covered slabs of limestone at a depth of 4 feet from the surface, and marked the site of an old fireplace. There were similar blackened slabs, at various levels, in the strata Nos. 3 and 4, in other parts of the area excavated. There were also numerous burnt and broken bones of domestic animals and fragments of coarse pottery. Intermingled with these were a large quantity of human bones, of various ages, lying under slabs of limestone, which formed a continuous packing up to the roof. On removing these a rubble wall became visible, regularly built of courses of limestone. This turned out to be the west wall of a rectangular chamber, B of Figs. 4 and 5, three outer sides being formed of similar rubble walls, while the fourth was constituted by the inner wall of the cave. They enclosed a space 4 feet 6 inches by 5 feet by 4 feet. Inside was a mass of human skeletons of various ages, more than fourteen in number, closely packed together, and obviously interred at successive times. Along with them were the fragments of a rude hand-made pot, ornamented in the herring-bone pattern of the Bronze age, and showing in its fractured surfaces small fragments of stone sticking out of the paste. A few white quartz pebbles, or "luck stones," two links of Kimmeridge shale, and a carefully polished flint flake were also found, the three last in one group.

### C.—*The Interments.*

The bodies had been interred in a crouching posture, with arms and legs drawn together and folded. In several cases the long bones lay parallel to one another—the left humerus and left fibula, the left ulna, the right tibia, and the right femur, the left humerus, left radius, and right fibula—of the same individuals. Some of the bones were in an oblique position, approaching to the

vertical. It is obvious that so large a number of bodies as fourteen could not have been buried in so small a space at one time, although it is clear from the natural position of the bones, in one case of an ankle, and in the other of a spinal column, that the whole body had been buried. The bodies, therefore, have been buried at successive times, and the sepulchral chamber is to be looked upon as a family vault. When it became full of bones the area A of Figs. 4 and 5 was used for burials, as I found to be the case with the approaches of the stone-chambered tombs on the opposite side of the valley, near Cefn, described in the *Ethnological Journal*, 1871.

In my opinion the access to the sepulchral chamber was on the west side, in the direction of A of Plan, Fig. 4.

D.—*Cave used for Habitation, and afterwards for Burial.*

On clearing this portion of the cave, we found the section to be as follows:—

			ft.	in.
4. Dark cave earth	..	..	3	6
3. Mixed cave earth	..	..	3	0
2. Grey cave earth	..	..	3	0
1. Stiff yellow clay	..	..	1	0

The stratum No. 4 extended up to the roof of the cavern, and abutted directly on the sepulchral chamber, while No. 3 passed directly underneath it. We may, therefore, conclude that here, as in the sepulchral caves of Perthi-Chwareu and Rhos digre, near Llandegla, in Denbighshire, the cave was used for purposes of habitation before it was used for burial, while it is an open question whether the accumulation No. 4 belongs to the time of the interments. It is probable, however, that the sepulchral chamber was excavated out of it. It is not likely that the same place would be used by the same tribe for habitation after it had been used as a tomb.<sup>1</sup>

<sup>1</sup> These are two out of a group of five caves of the Neolithic age, explored by me in 1869-1872, and described in *Cave-hunting*, Chap. V.

E.—*The Pottery.*

The fragments of pottery are of types repeatedly met with in interments in Britain belonging to the Bronze age. All are hand-made, coarse, grey in colour, or black, or burnt red, and contain small fragments of stone imbedded in the paste. One specimen found in the refuse heap has a bold overhanging rim, bevelled off on the outside, and adorned with herring-bone marks; below this is a shoulder indented with a single row of circular finger marks, the body of the vessel being in addition ornamented with at least two horizontal lines of small triangular impressions. With the exception of

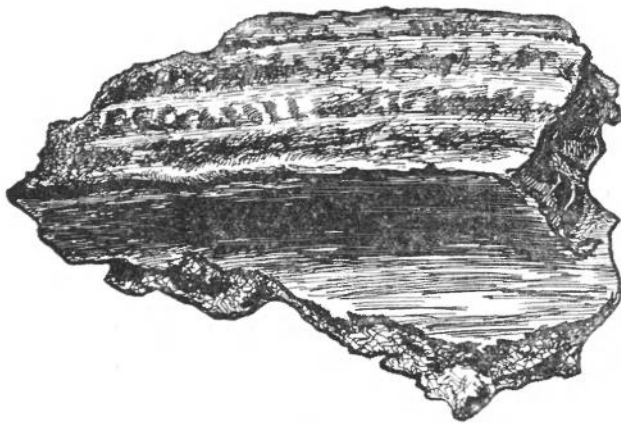


FIG. 7. FRAGMENT OF URN. (Full size.)

the last feature it is of the same type as that figured by Hoare in *Ancient Wilts.*, and described by Thurnam in *Archæologia*, XLIII, 61.

The fragments of pottery found inside the sepulchral chamber belong to an urn with an overhanging rim (Fig. 7), adorned with herring-bone pattern both on the outside and on the inside. A small fragment of the same vase proves also that the body was ornamented with four horizontal bands of oblique lines making two complete herring-bone patterns. The urn to which it belongs is of a type common in interments and refuse heaps of the Bronze age throughout the British Isles.

F.—*The Links.*

Two oval articles found close to the ground flake inside the sepulchral chamber and resembling links (Fig. 8), are made of jet, or Kimmeridge coal. They are carefully rounded and polished, and each has a large oval perforation in the centre. They are of unequal size, and present the following measurements:—

		mm.		mm.
Length	..	54	..	70
Width	..	22	..	29
Height	..	16	..	27
Perforation	..	29 × 14	..	33 × 15

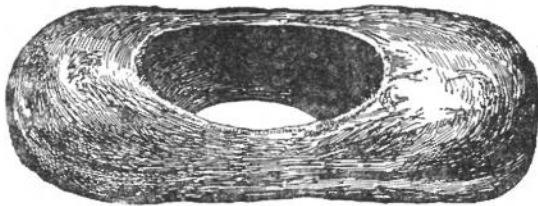


FIG. 8. LINK OF JET OR KIMMERIDGE COAL. (Full size.)

In both the perforation has been formed by scraping, apparently with a flint flake. On neither is there any trace of wear. They were probably intended for dress fasteners. They are of the same pattern as that figured by Thurnam in *Archæologia*, XLIII, 229, Fig. 206, from a round barrow at Thixendale, in the East Riding of Yorkshire, where it was found under the hip of a doubled-up skeleton, and practically under the same conditions as those under notice. It is assigned by Thurnam to the Bronze age.

G.—*Flint Flakes.*

Several splinters of flint, and one rough flake of chert, were discovered in the refuse heap, and need no further notice. A flint implement, however, found inside the

sepulchral chamber is of a rare type. (Fig. 9.) It rested close to a doubled-up human femur, tibia, and fibula. It is a smoothly polished flint flake, 71 mm. long, 14 to 19 mm. wide, and only 3 mm. thick. It has been made by grinding down a flake so as to preserve the natural curvature of the flat side, and to remove the rib on the back, and to give it the appearance of the blade of a paper knife. The edges are bevelled bluntly off, and the end is rounded. Similar objects have been met with, as Evans points out (*Ancient Stone Implements*, 290-291), in Yorkshire. Their use is uncertain. The association of an implement of this type with Bronze age pottery in this sepulchral chamber fixes the archæological age of the whole group.

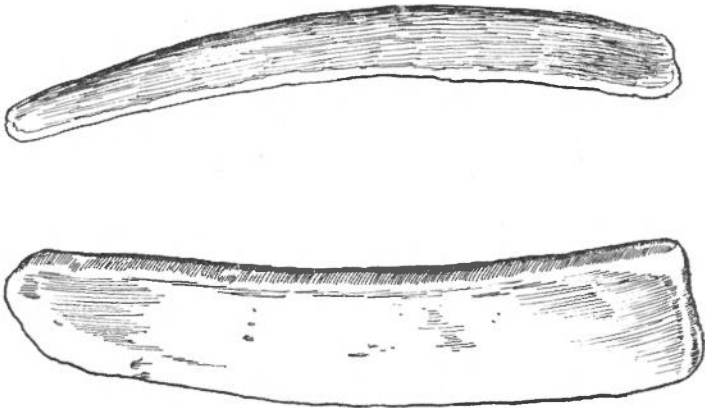


FIG. 9. FLINT FLAKE. (Full size.)

#### H.—*The Animal Remains.*

The remains of the animals found in the two upper strata, 4 and 5 of Figs. 4 and 5, consist of the wild and domestic animals usually associated together in pre-historic refuse heaps. All are more or less broken and burnt. The wild animals of the following list need no special notice. It may, however, be remarked that the fox was an inhabitant of the cave up to the time of our

digging, and that the remains of the horse may belong to a domestic and not to a wild form.

### PREHISTORIC REMAINS FROM REFUSE HEAP.

#### *Wild.*

Fox	..	..	<i>Canis vulpes.</i>
Marten	..	..	<i>Mustela martes.</i>
Badger	..	..	<i>Meles taxus.</i>
Horse	..	..	<i>Equus caballus.</i>
Stag	..	..	<i>Cervus elaphus.</i>
Roe	..	..	<i>C. capreolus.</i>
Hare	..	..	<i>Lepus timidus.</i>

#### *Domestic.*

Dog	..	..	<i>Canis familiaris.</i>
Horse	..	..	<i>Equus caballus.</i>
Shorthorn	..	..	<i>Bos longifrons.</i>
Sheep	..	..	<i>Ovis aries.</i>
Goat (?)	..	..	<i>Capra hircus.</i>
Hog	..	..	<i>Sus Scrofa.</i>

The remains of the domestic were greatly in excess of those of the wild animals, and the most abundant were those of the sheep. These, as may be seen by the following table, based upon the valuable observations of the late General Pitt-Rivers, belong to a breed closely allied to that of the Romano-British villages of Woodcuts and Rotherley,<sup>1</sup> as well as to the recent breed of St. Kilda, the Highland, and the Heather sheep.<sup>2</sup> They were, however, thicker in the leg. They are now represented by the active and slender-legged hill sheep.

<sup>1</sup> *Excavations in Cranborne Chase*, Vol. I, table, p. 188, Vol. II, table, p. 225.

<sup>2</sup> *Op. cit.*, Vol. II, table, Sheep, p. 209 et seq.

TABLE OF MEASUREMENTS OF LEG BONES OF SHEEP.

	Length.	Least Circumference.	Long diameter of Proximal Articulation.	Short diameter of Proximal Articulation.	Long diameter of Distal Articulation.	Vertical measurement of Distal Articulation (cape).
Metacarpals, Gop cave	137	48	23	18	27	33
	125	40	22	16	24	31
	125	40	21	15	25	25
	112	40	20	13	22	25
Average	127	42	21	15	24	28
Metatarsals, Gop cave	126	56	18	—	22	28
	125	38	20	20	23	30
	122	33	20	19	21	25
	114	37	18	18	22	25
Average	122	36	19	19	22	27

	Romano-British Villages.				Average.	Dorset Horned Ram.	Hampshire Ewe.	St. Kilda Ram.	St. Kilda Ewe.	Highland Ewe.	Heather Ewe.
	Woodcuts	Rocherle									
Metacarpals :											
Length	137	113	137	109	124	136	139	112	107	119	111
Least circumference	39	32	42	44	39	55	49	36	34	39	36
Metatarsals :											
Length	139	114	126	119	124	147	150	124	115	128	116
Least circumference	34	30	32	29	31	53	49	34	32	38	34

The remains of the hog belong mostly to very young animals. The same remark applies also to the remains of the Shorthorn. Those of the dog were too imperfect to allow of any conclusion as to the breed.

The whole group of domestic animals is identical with those which I have described from the Neolithic caves and burial-places in the district. It is also just such an accumulation as may be found in the refuse heaps, in the homesteads in those parts of Wales into which the larger breeds of sheep and cattle, common in the low country, have not yet penetrated. This fact establishes a continuity of farming operations in Wales, from the Neolithic age through the Bronze and Iron ages down to the present time. This continuity, as we shall presently see from the examination of the human remains, exists also with regard to the farmers, the great majority of the human remains belonging to a race still represented by the small dark Iberic folk of the secluded villages.

### I.—*The Human Remains of the Two Races.*

The human remains belong to more than fourteen individuals. The skulls sufficiently perfect for measurements reveal the presence of two distinct anthropological types; the one, as shown in the accompanying table, belonging to the long-oval-headed race, proved, by my discoveries in the sepulchral caves and tombs, to have inhabited the district in the Neolithic age. The chief characters observable in the skulls are the mark of a vertical bandage across the head from ear to ear. The forehead is well developed, cheek-bones inconspicuous, nasals prominent, chin square and narrow, tending in some to a point. In one old adult the frontal suture is open.

	Length.	Breadth.	Height.	Cephalic Index.	Height Index.
	mm.	mm.	mm.	mm.	mm.
1 Skull, sepulchral chamber, Gop ....	186	139	142	742	763
2 " " " " ....	196	135	155	688	790
3 " " " " ....	191	137	—	712	—
Average of 8 " skulls, Perthi Chwareu cave <sup>1</sup> ....	180	140	143	765	784
Skull from Cefn caves <sup>1</sup> ....	188	145	132	770	792
Average of 4 skulls, Cefn tumulus <sup>1</sup>	187	141	148	754	791

<sup>1</sup> Dawkins, *Cave-hunting*, Description of Human Remains, by Prof. Busk, pp. 166-187.



The second type is represented by two fragmentary skulls, Nos. 3 and 6 of the following table:—

	Breadth	Least Frontal Breadth.	Greatest Frontal Breadth.	Parietal Breadth.	Frontal Arc.	Parietal Arc.
No. 3 Round skull, sepulchral chamber, Gop	152	95	113	152	135	127
No. 6 " " " "	155	107	134	154	150	152
No. 1 Long-oval skull ....	139	101	118	134	127	122
No. 2 " " " "	135	97	113	145	127	117

No. 3 belongs to a woman and presents the facial characteristics of the round-headed type, being prognathous and having high cheek-bones. No. 6 is an adult male. Both belong to the round-headed Goidels, the invaders of Britain in the Bronze age, whose tombs prove that they penetrated into the remotest of the British Isles in the western sea. Nos. 1 and 2 are placed in the table for comparison.

The skeletons present the following characters:—The humeri sufficiently perfect to be examined are thirteen in number, out of which two are perforated at the same point immediately behind the ulnar articulation. The seven ulnae and the four radii present no points of interest. Their dimensions are given in the following table:—

	Length.	Least Circumference.	Horizontal Measurement of Proximal Articulation.	Vertical ditto.	Horizontal Measurement of Distal Articulation.	Vertical ditto.
Humerus ....	359	69	69	69	49	49
	324	64	61	59	41	41
Ulna ....	293	46	—	—	—	—
	145	41	—	—	—	—
Radius ....	267	44	—	—	—	—
	269	47	—	—	—	—

The femora, twelve in number, are all carinated with the exception of three, and agree in every particular with those found in the Neolithic tomb at Cefn, and the Neolithic caves at Perthi Chwareu and Rhos digre (*op. cit.*, pp. 166, 187). The carination is a character which stands in close relation to the platynemism which is presented by the associated tibiae. Their dimensions are as follows:—

	Length.	Least circumference	Horizontal Measurement of Proximal Articulation.	Vertical ditto.	Horizontal Measurement of Distal Articulation.	Vertical ditto.
1 Femur right, not carinated	465	87	97	89	—	41
2 Femur left, carinated ....	508	72	107	95	82	46
4 Femur right, carinated ....	440	87	—	—	—	41
3 Femur right, carinated ....	508	97	84	97	—	31

The following are the measurements of the tibiae:—

	Length.	Circumference.	Vertical Diameter of shaft at 38 mm. below Proximal Articulation.	Transverse ditto.
1 } 2 } 3 } 4 } 5 } 6 } 7 } 8 } 9 } Platynemic tibia ....	361	79	36	23
	422	89	38	24
	422	89	36	23
	—	—	32	18
	—	—	34	20
	—	—	36	23
	—	—	33	22
Normal tibia ....	—	—	33	17
			28	33

Only two out of the thirteen tibiae examined were not platycnemic, and one of these belonged to a young individual. The flattening of the bone is of the same order as that presented by the Neolithic remains found in the caves at Perthi Chwareu and the cairn near Cefn described and figured in my work on *Cave-hunting* (pp. 167 *et seq.*). It consists of a prolongation of the shaft, sometimes in front, and at other times behind the long axis of the bone, and is, as Professor Busk pointed out in 1871 (*Journal of Ethnological Society*, January, 1871), due to the free use of the feet, never trammelled by shoes or sandals, and therefore more prehensile than the normal foot of civilisation. It is not a character of race, being found in the negro, in the Mongolian tribes of North America, and rarely in Europeans. It goes with bare feet. If the last two figures in the above table be compared with the rest, the difference will be seen between the normal tibia and those which are flattened "en lame de sabre."

The most perfect of the fibulae is 262 mm. long with a circumference of 30 mm.

#### J.—*The Fusion of the Two Races.*

It is obvious from the above anthropological details that the great majority of the people who used the Gop cave as a family vault were of the same physique as the Iberic dwellers in the district in the Neolithic age, and from the presence of the round-headed Goidelic type that the fusion of the Iberic with the Goidelic race had already begun in this district in the Bronze age. It is the first observed case of the fusion of the two races which has been going on in Wales from that time to the present day. Before, however, the fusion between the two races became so complete as to form a people like the Celt-Iberian, the Brythonic invaders conquered alike the Goidel and the Iberian in this region, and absorbed them into their mass so that all became one people. Just as the Iberic tongue has been so completely lost in the Goidelic that no clear trace of it is to be found in Wales, so the Brythonic gradually displaced the Goidelic with the exception of a few place and river names, and Welsh and

not Gaelic became the speech of the country. It is not a little remarkable that in all this flux and change, ranging over an unknown series of centuries, the small dark Iberic aborigines of the Neolithic age should have lived on with but little physical change, so as to be still clearly marked off from the races who have invaded them at successive times.

K.—*Relation of Cairn to Sepulchral Cave.*

Two questions naturally arise. What is the relation of the cairn to the sepulchral cave a short distance below it? Were the cairn builders the same people who buried the dead in the cave? In my opinion it is most probable that the cairn marks the site of the burial-place, and that both belong to the Bronze age and to the same people.