

THE CISSBURY EARTHWORKS.

BY HERBERT S. TOMS AND CHRISTINE TOMS.

AN accurate survey of Cissbury remains to be made; but, with the exception of the flint-mines, its principal archæological features are embodied in the plans and sections illustrating this article.

The site includes:—

(1) An extensive hill-fort. The line of ditches and banks forming the defence may be described as an irregular oval, roughly half-a-mile long and a quarter wide, enclosing the hill-top.

(2) Neolithic flint-mines, the visible shafts of which occupy the major portion of the western area of the fort, their zone being continued for some distance outside, along a line drawn south-east from the southernmost bend of the entrenchment. To the flint-mines only brief allusions are made in the following notes.

(3) The remains of rectangular or parallel earthworks situated within the eastern half of the fort.

(4) Lynchets, or ancient cultivation terraces, in the northern and south-eastern interior, and also immediately south-east in the valley, and on the hill slope known as the "Vineyard."

THE DEFENSIVE EARTHWORKS, FIG. 1.

The Inner Ditch.

The thickest line on the plan (Fig. 1) represents Cissbury's main rampart. Along the inner base of this rampart, on the north and north-west sides of the fort, there are distinctly visible the remains of

CISSBURY

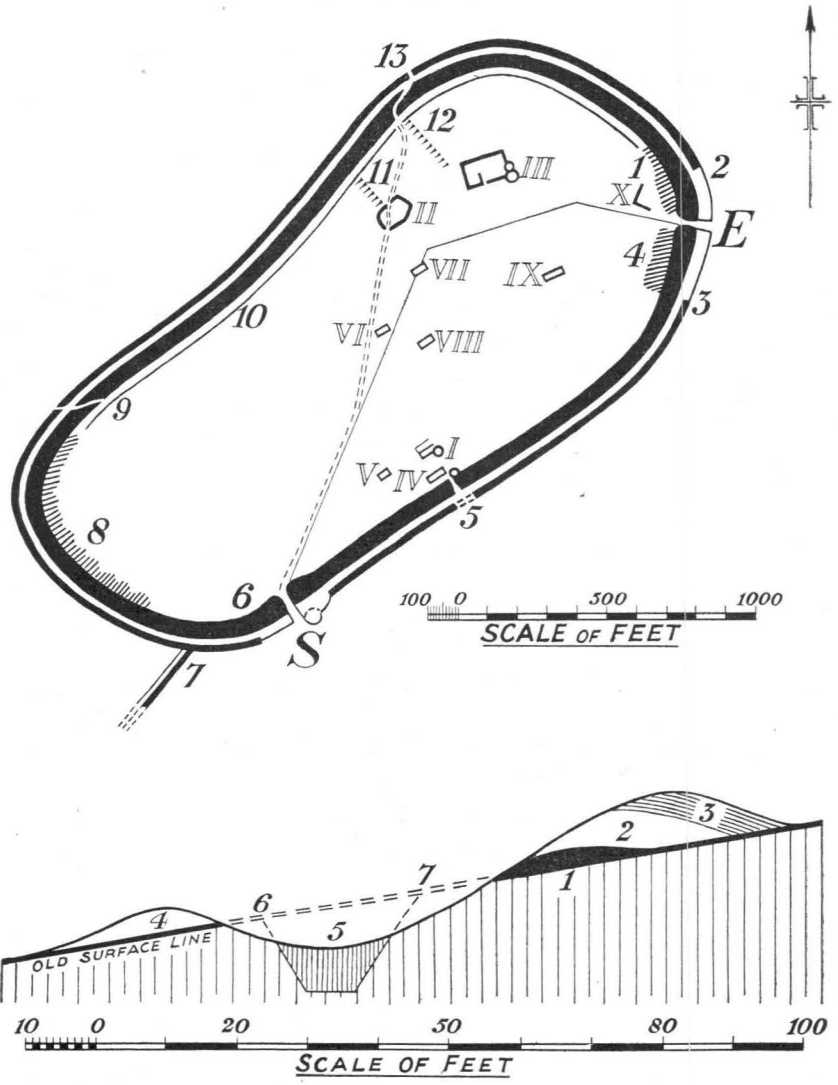


FIG. 1.—DIAGRAMMATIC GENERAL PLAN, AND PITT RIVERS' SECTION SIMPLIFIED.

what must originally have been a comparatively shallow and irregular ditch. Its outer margin is shown by the thin line 10. After skirting and cutting through the talus of several flint-mines between 10 and 9, the inner ditch becomes lost where the earthworks pass through the zone of flint-mines in the west corner of the fort. Here there are irregular scoops and pit-like depressions (some of the latter apparently the mouths of the older mine-shafts) adjoining or very near the main rampart, as roughly shown by the area 8 on plan.

There is no surface evidence of the existence of a similar inner ditch on the south-east area, and it is questionable whether such a ditch ever existed on the seaward side of the fort; but this can be ascertained by the excavation of one or two narrow sections.

The Entrances to Cissbury.

The gaps in the main rampart at E and S, with their well-defined causeways (or banks leading across the outer ditch), are without doubt original entrances to the fort. But the latter remark cannot with certainty be applied to the gaps at 5 and 13. These two minor entrances may be of much later formation. Through the northern gap 13 runs the footpath across the hill, and constant footwear has doubtless been the principal agent in making the gaps in the main and outer ramparts at this point.

It has been recorded that end 6 of the main rampart "is thrown back on itself at a retreating angle." It is true that the actual crest of the rampart fines out in a very short turn; but it is doubtful whether this slight inward twist is original. What one does observe is that both ends of the main rampart at S, like those of the eastern gateway E, are considerably widened and rounded off interiorly, the intention of the old engineers evidently having been to make prominent terminal mounds on each side for the defence of the narrow entrance (See also Figs. 2 and 4.)

CISSBURY.

*Inner Ditch
first visible 50 ft.
from arrow*

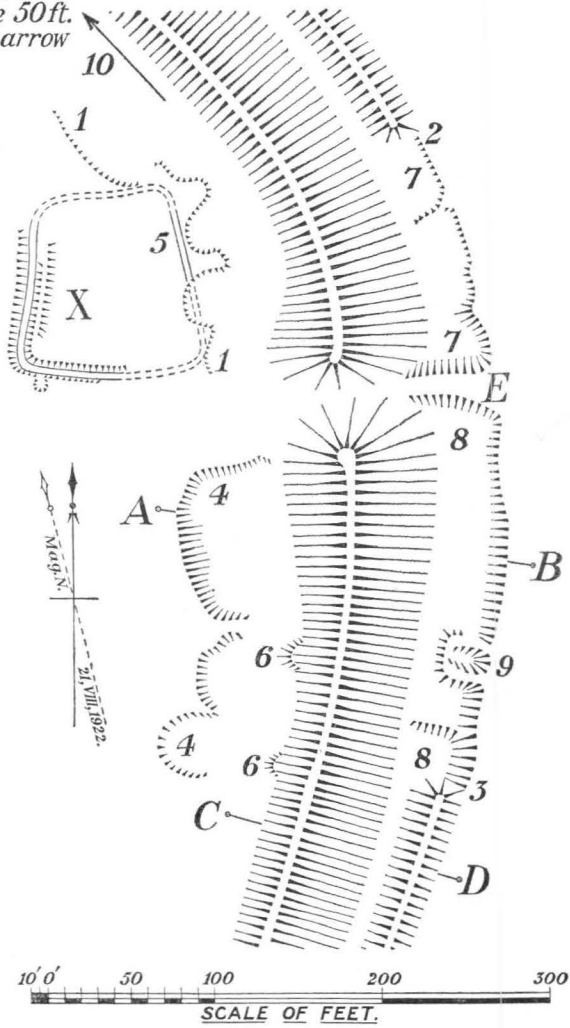


FIG. 2.—EASTERN ENTRANCE, PLAN OF:

The Outer Rampart.

The outer bank or rampart which borders the main ditch of Cissbury is shown by the fairly thick line on plan, Fig. 1. It will be noted that this rampart does not exist for some distance on either side of the two original entrances E and S. The ends of this outer bank at 2 and 3 are remarkably abrupt, and the main ditch from these points up to the causeway has been widened by broad scoops which extend outwards to a line coincident with that which would form the exterior base of the outer rampart, were the latter continued to the causeway. Standing at the terminal points 2 and 3 of the outer bank, and looking towards the crest of the main rampart, one also notes that these points are opposite the spots where the widened and heightened gateway-ends of the main rampart commence to fine out to average proportions.

The Interior Scoops.

Inside the eastern gateway there are also considerable scoop-like excavations (roughly indicated on Fig. 1 by the shaded areas 1 and 4, but more clearly defined by scarps 1 and 4 on Fig. 2). These are of about the same length as the exterior scoops.

Pitt Rivers appears to have been the first to draw attention in his early map of Cissbury to the interior scoops, but he does not comment on them, and his delineation is too regular. Those at 1 require special conditions of light for proper observation (see Fig. 2).

THE "COVERED WAY," FIG. 1.

At 7 on the plan is shown the commencement of a ditch and bank (seven and thirteen feet across respectively) which emanate from a depression at the base of the outer rampart. This ditch and bank, now nearly obliterated, may be followed for about 166 yards in a direct line to the top of Shipden's Holt. The writers have failed to trace the earthwork through the Holt, owing to thick undergrowth, but

its general trend seems to be in the direction of the narrow valley-spur at the bottom of the Holt. In

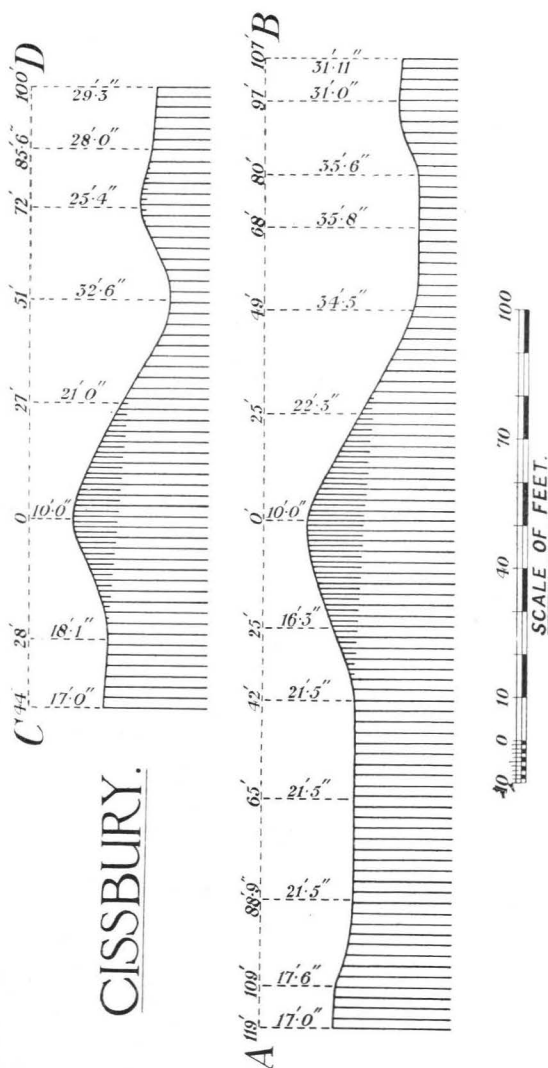


FIG. 3.—EASTERN ENTRANCE, SECTIONS OF.

this respect, and in dimensions, the combined ditch and bank resembles other Sussex examples which are related to the so-called "covered ways." This

resemblance, however, is no proof that the earthwork is of any great age.

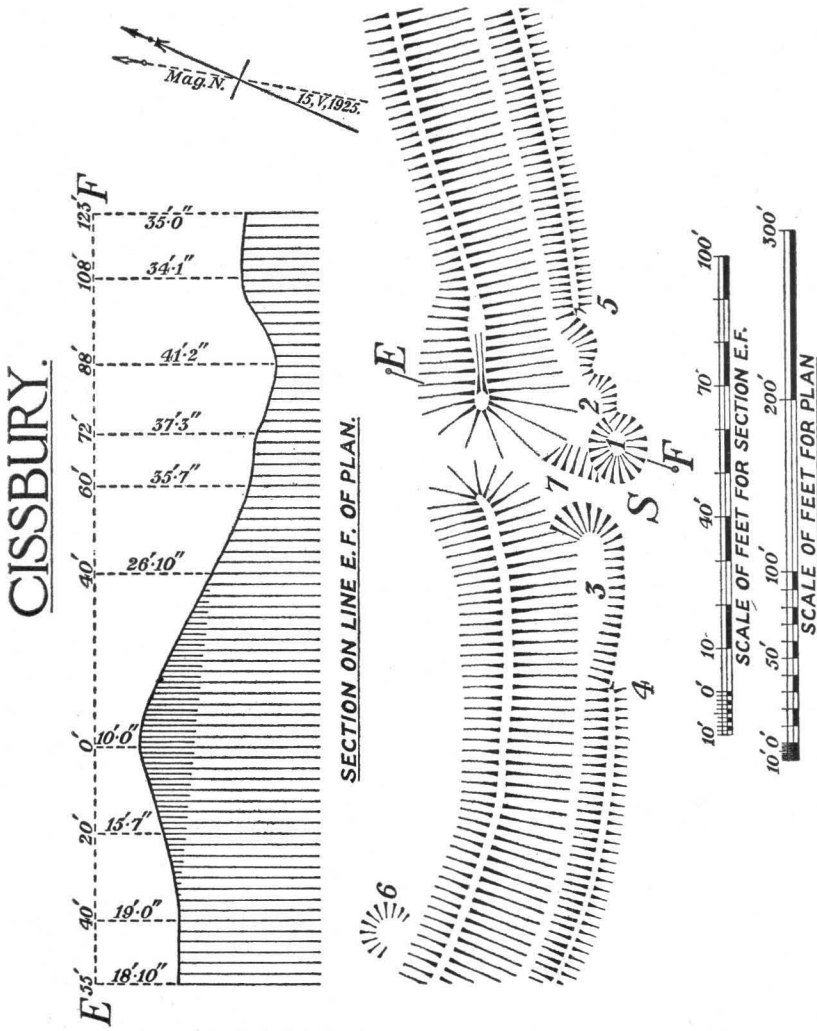


FIG. 4.—SOUTHERN ENTRANCE, PLAN AND SECTION.

THE PROBLEM OF THE GATEWAYS.

An extremely interesting problem is raised by the absence of the outer rampart, and by the presence of exterior and interior scoops, on each side of the eastern gateway at E. The steep ends of the outer

CISSBURY.

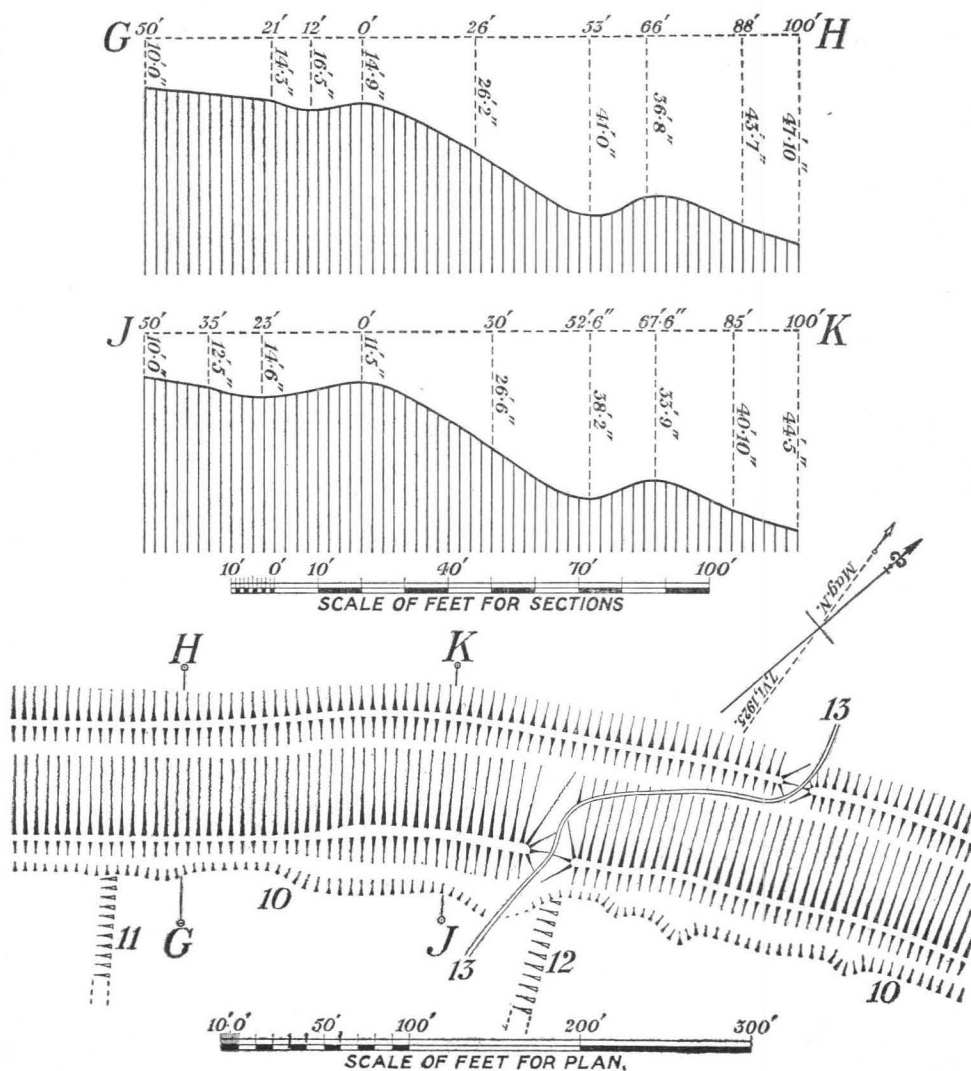


FIG. 5.—NORTHERN ENTRANCE, PLAN AND SECTIONS.

rampart show that they were cut off in making the exterior scoops. These scoops, too, have been carried forward to a line which would represent the outer base

of the exterior rampart, were we to continue the latter to the causeway. This seems sufficient evidence that the outer rampart on both sides formerly ran right up to the causeway, also that the outer rampart was removed by the making of the scoop-like excavations, in order to furnish material for heightening the adjoining ends of the main rampart.

Another point is that the present filling of the true ditch, where it runs into the scoops at 2 and 3, is appreciably higher than the base of the scoops. This feature, and the fact that the scoops were commenced and carried outward at a much higher level than the original bottom of the ditch, indicates that the scoops were made long after the main or outer ditch had commenced to silt up. In other words, the main rampart ends were restrengthened at a period considerably later than the first construction of the hill-fort. The same remarks apply equally to the southern gate S, details of which are shown in Fig. 4.

THE TURF CAPPING ON THE MAIN RAMPART.

A very important feature of the Cissbury defences is the thick layer of turf which, as revealed by rabbits, is seen capping the chalk body of the main rampart on the south-east side.

The practical archaeologist will be at once struck with the apparent thickness of surface soil, as compared with the extremely thin turf mould that usually covers the tops and steep sides of earthworks wholly composed of or dug out of chalk.

All along the south-east rampart, too, this soil capping contains a very large admixture of red clay. Owing to the nature and extremely slow growth of such clay, it is obvious that the clay has not formed in the soil-cap since the main rampart was thrown up. Both the clay and the turf-mould must have been placed on the south-east rampart after the chalk body of the earthwork had been made. This statement is supported by the lower diagram in Fig. 1,

which is a simplified drawing of the section dug by General Pitt Rivers through the ditch and ramparts of Cissbury west of the southern entrance, in the region of figure 7 on the plan, Fig. 1.

Describing this section¹, Pitt Rivers says: "It had already been noticed that all the earth of the rampart could not have been excavated from the ditch. This was confirmed by the section now opened in which we recognise (1) the surface earth thrown up from the ditch, (2) the chalk embankment thrown over it from the lower parts of the ditch, and (3) an addition to the rampart formed by successive layers of turf and rubble, of which as many as seven alternate layers were counted in one place. The original slope of the hill was marked by a red seam representing the original turf-line and surface soil before the rampart was thrown over it, and the greatest height of the rampart was nine feet."

Pitt Rivers does not allude to the outer rampart shown at 4 in the section. It will be noted from the drawing that this rampart is composed of chalk; therefore it must have been formed by chalk thrown out of the ditch. In order to show the depth and shape of the original ditch, the old surface line has been dotted between the ramparts, and the sides of the ditch 5 have been similarly projected up to points 6 and 7².

Considering the loss of material by subsequent denudation, it is evident that the ditch supplied the chalk for both ramparts. The heap of mould above 1 represents the turves removed by the original makers of the earthwork from the top of the ditch (from points 6 to 7) to form the foundation of the rampart. A study of this section makes it clear that there is even now more material in both ramparts combined than could have possibly been excavated from the ditch, and that the thick layers of turves at 3 must have been

¹ *Journ. Anthropol. Instit.*, Vol. V, Pl. 15, Fig. 2.

² Pitt Rivers' sections showed that the bottom of the main ditch was flat, with the exception of a ridge, "fausse braye," running along the centre.

obtained elsewhere, doubtless from the nearest point, or points, within the main rampart itself.

Evidently, too, the clayey coating of the south-east rampart was similarly obtained, for the rabbit holes on the hill slope in the rear of the rampart show that the surface soil is largely red clay and that the turf over this part of the fort has a fairly thick seam of pure clay between it and the chalk.

The "red seam" mentioned in Pitt Rivers's description of the section, and similar seams observed during excavation of the mine shafts, indicate that the clay area extends over a very large part of Cissbury. This being so, it is curious that no such thick layer of mould is seen capping the north and north-west portions of the main rampart, which are bordered by the inner ditch. The only reason for the existence of this somewhat irregular ditch is that it was dug to obtain material for the adjoining main rampart. Is it therefore merely coincidence that, where the inner ditch does not appear on the south and south-east sides, there we have striking evidence of the rampart having been heightened with turves?

The preceding notes deal with the refortification of the Cissbury gateways at a period much later than the first construction of the fort; and, as the main rampart terminals at the southern gateway are also clay-capped, the above remarks raise another equally important question, namely, was the whole of the main rampart heightened (by turving on the one hand and by excavation of an inner ditch on the other) at the same late date³?

³ The construction of fortifications with turf, clay, etc., by the Romans should be mentioned here, but it is too well known to need comment. It is interesting to compare Pitt Rivers' section dug through the ditch and rampart of Seaford Camp, for "a concave line of mould was seen in this section which corresponds to some extent with the section of the rampart at Cissbury." "Excavations in the Camp and Tumulus at Seaford," *Journ. Anthropol. Instit.*, Vol. VI, Pl. 15, Fig. 3.

The great depth, three feet, of mould covering the chalk rubble in the ditch of Seaford Camp very strongly suggests that the chalk body of the rampart of this fortification also was capped by a parapet composed wholly of turf mould which silted into the ditch after the rapid accumulation of the bottom chalk rubble. Immediately resting on this rubble was a zone of Romano-British pottery sherds.

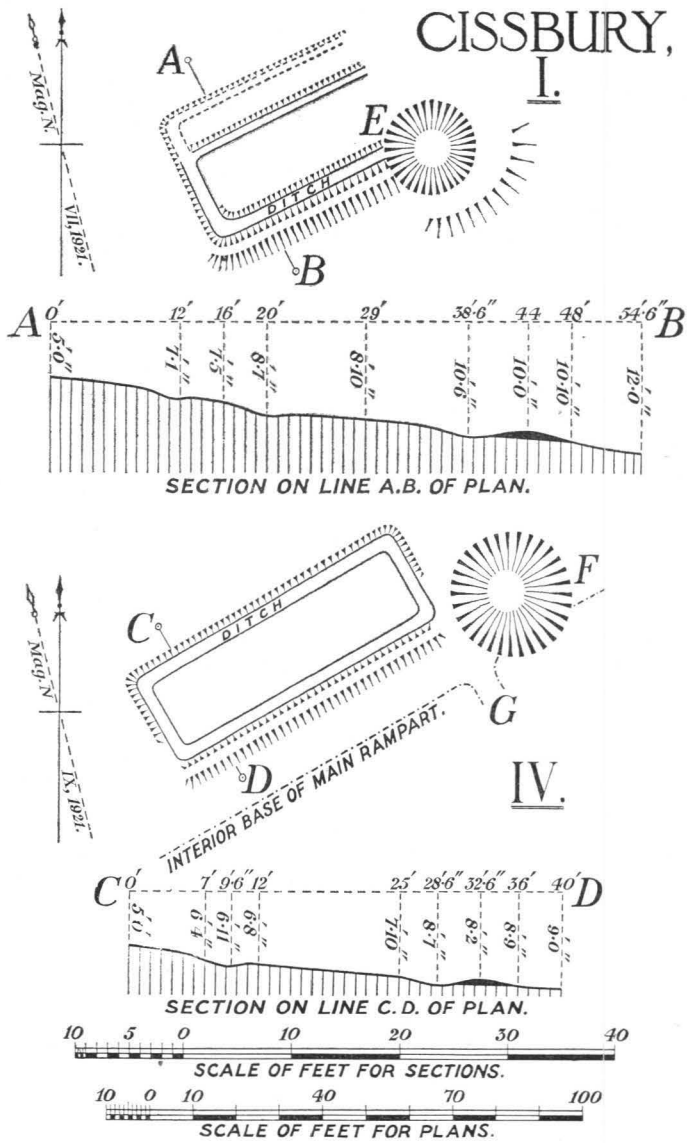


FIG. 6.—INTERIOR ENTRENCHMENTS I AND IV, PLANS AND SECTIONS.

THE INTERIOR EARTHWORKS.

The sites of the interior earthworks are numbered in Roman fashion on the general plan Fig. 1, and, to facilitate reference, the same Roman numerals appear on their detailed surveys and sections in Figs. 6 to 11.

Of these ten minor earthworks, Nos. I to III were recorded and partly excavated by General Pitt Rivers.⁴ The others are here described for the first time, and, to save space, their surveys and sections must mainly speak for themselves.

Nos. I, IV to IX, are similar in type; but with the exception of No. V they are difficult to detect on the ground. If one may judge from the present features of No. V, the most perfect example, this group consisted of slight rectangular ditches bordered (probably on all four sides) by a low exterior bank. It is curious that, lengthwise, they are all very similarly aligned south-west to north-east.

Fig. 6 shows details of Nos. I and IV, which are alike in having pits at their eastern angles. The pit attached to No. I is evidently later than the earthwork, for it has destroyed the latter's eastern angle. Pitt Rivers dug into this pit to a depth of 7 ft. without reaching the bottom, and obtained remains of horse, kid, *Bos longifrons* (Ox), which were associated with oyster, cockle, and mussel shells, sherds of pottery scored in cross pattern and marked with the impress of fingers, also one piece of undoubted Roman tile scored in parallel zigzag lines.⁵ No depths are given for these remains, which appear to belong to Romano-British and, possibly, La Tène times.

Earthwork No. VI (Fig. 7 and 8) has been much reduced by cultivation or some other levelling agency; but, at the time of our survey, the grass over the interspace was much lighter than that at the ends and outside of the nearly obliterated ditches.

⁴ *Archæologia*, Vol. XLII, pp. 45-46, 62-64.

⁵ *Ibid.*, p. 63.

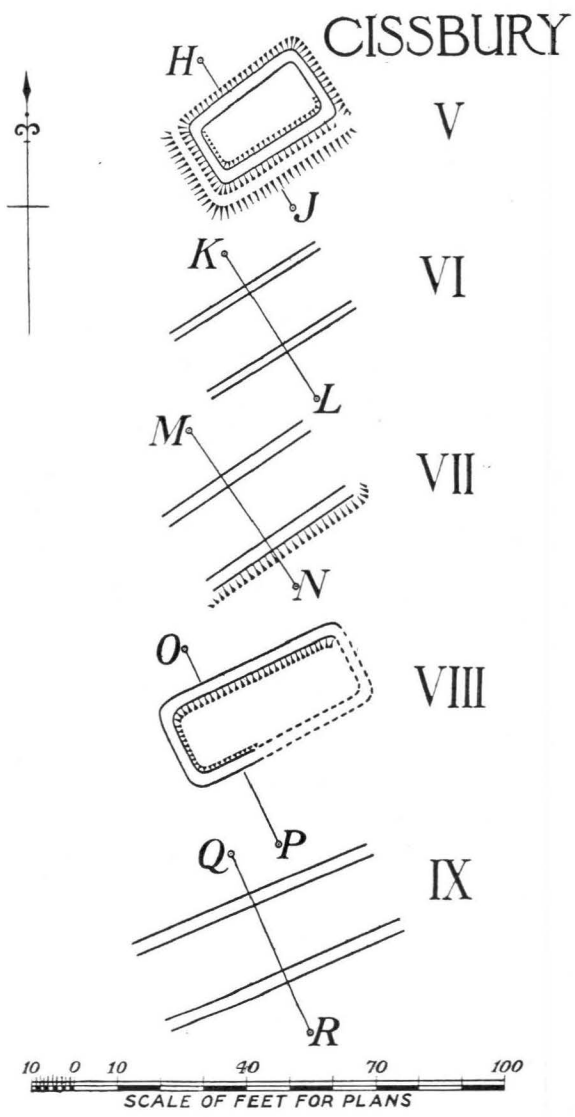


FIG. 7.—INTERIOR ENTRENCHMENTS, V TO IX,
PLANS OF.

The surface of the interior platform of No. VIII (Fig. 7 and 8) has its surface soil largely charged with flint nodules. These may have been dumped from

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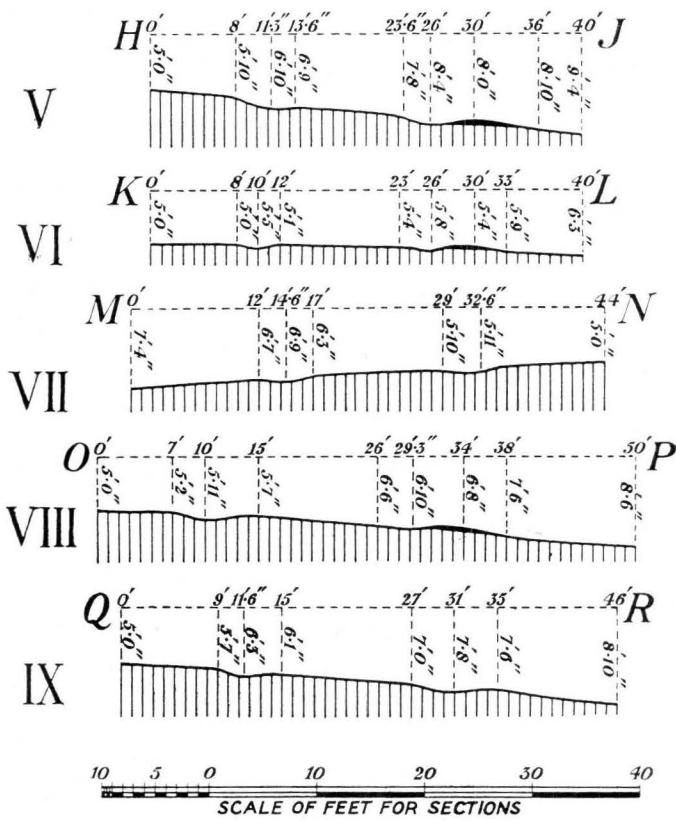


FIG. 8.—INTERIOR ENTRENCHMENTS V TO IX, SECTIONS OF.

neighbouring land under cultivation. It is possible that this flinty platform gave rise to former statements that foundations of buildings were to be observed within Cissbury.

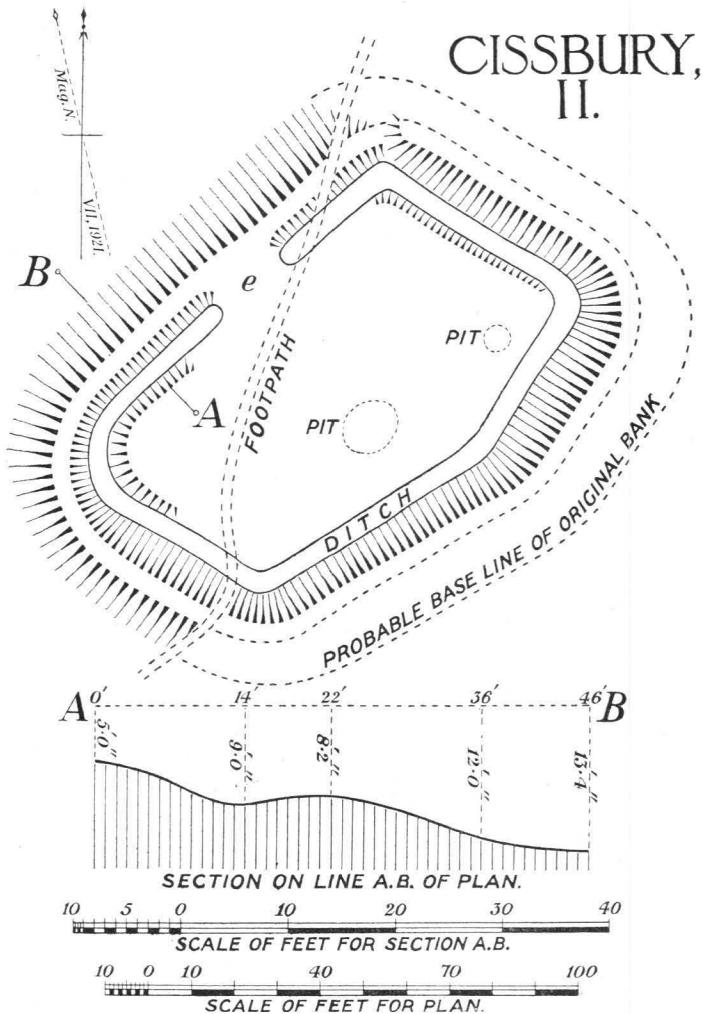


FIG. 9.—INTERIOR ENTRENCHMENT II, PLAN AND SECTION.

Earthwork No. II, Fig. 9.

Although this work is roughly oblong in plan, with its ditch *inside* the bank (Pitt Rivers has, in error, described both this ditch and that of No. I as lying *outside* the parapet), it seems distinct in type

from the group of narrower oblong enclosures described above. The dotted lines on the plan show the probable extent of the denuded and mutilated bank on the north-east and south-east sides. If the break in the ditch at "e" is real (and this can be easily tested by the spade), then the opening represents the original entrance to the enclosure.

Pitt Rivers says "the whole of the northern (? north-eastern) ditch was cleared out, and found to be a foot and a half in depth; it produced several flint implements of the celt type. A slight depression in the interior (? the larger "Pit" marked on our plan) was also excavated, and led to the discovery of one chipped implement and a fragment of a polished celt . . . No pottery was found in this place, which circumstance, coupled with the occurrence of flint implements, and its close proximity to the before-mentioned work (Earthwork No. III in our series) . . . in which pottery was strewed upon the surface and no flints found, leads to the supposition that the two works may not belong to the same period." ⁶

Earthwork No. III, Fig. 10.

Denudation and mutilation seem responsible for the poor relief of this, the largest of Cissbury's interior earthworks. That it has suffered mutilation is witnessed by pits C and D which have destroyed its eastern angle. There is now no trace of a true causeway or entrance, the break in the southern bank being apparently an extension of the ditch in the direction of F.

Romano-British occupation of this site is suggested by the fact that, during thirty years visitation of Cissbury, one has noted that moles and rabbits have turned up, within the enclosure, innumerable small fragments of many types of pottery of the Roman era, the grey ware predominating, with numerous oysters, cockles, and other shells.

⁶ *Archæologia*, Vol. XLII, p. 63.

Pitt Rivers makes special mention of this abundant surface pottery, but he records that none was found

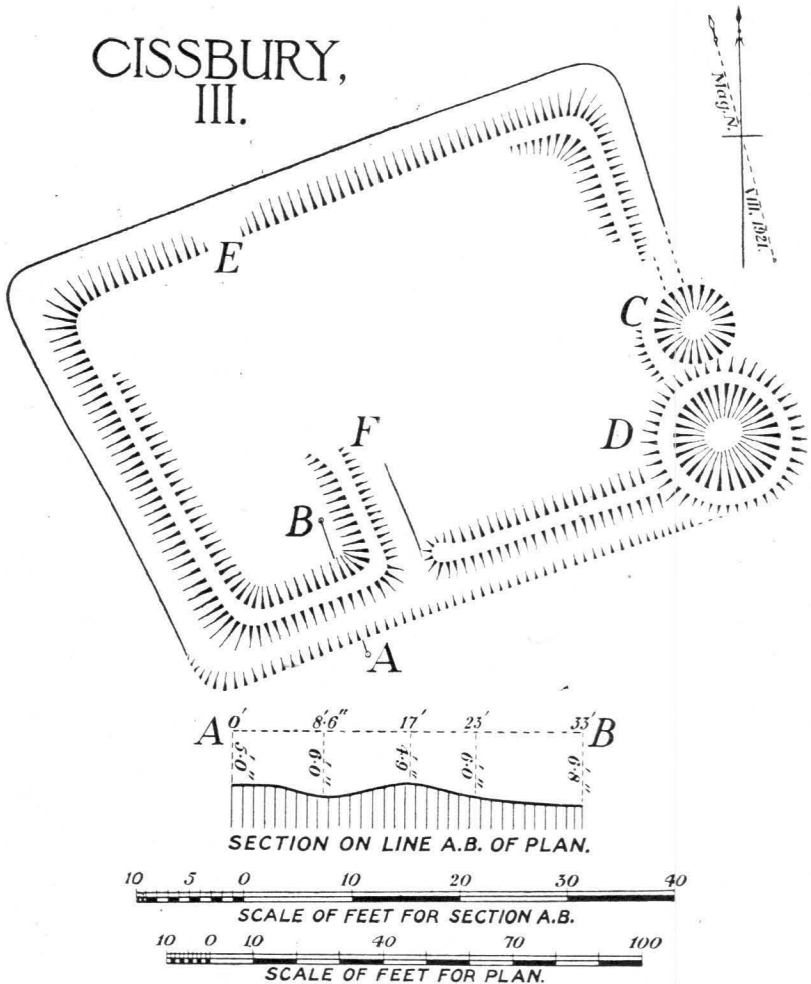


FIG. 10.—INTERIOR ENTRENCHMENT III, PLAN AND SECTION.

in the slight excavation he made at some unrecorded spot in this earthwork. The latter, he conjectured, may very possibly belong to the Roman period.⁷

⁷ *Archæologia*, Vol. XLII, p. 63.

Earthwork No. X. Figs. 11 and (2).

This now consists of an angle-ditch with bank. Reference to Fig. 2 will show an adjacent strip of

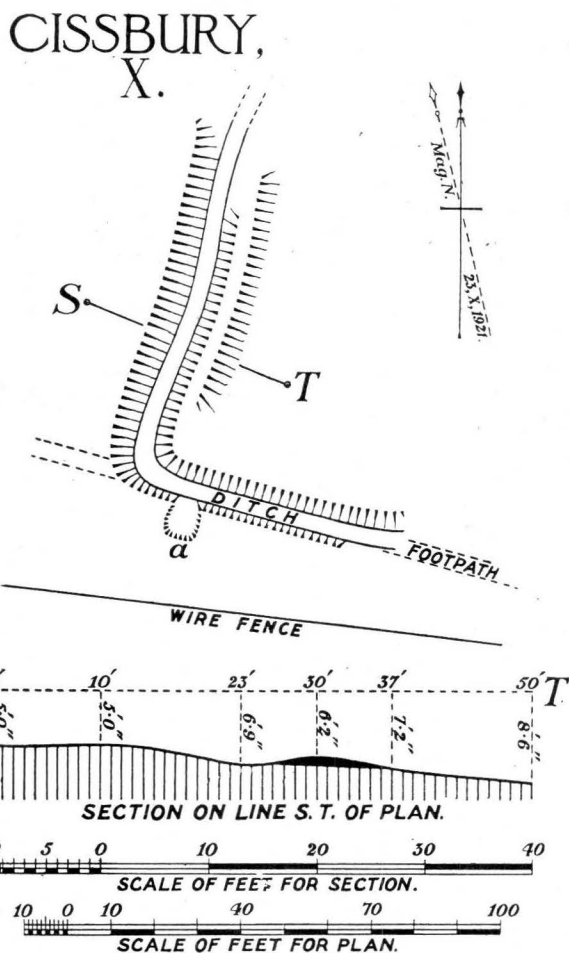


FIG. 11.—INTERIOR ENTRENCHMENT X,
PLAN AND SECTION.

filled-in ditch, 5, barely visible on the ground. These features suggest one original enclosure (hypothetically restored by dotted lines on Fig. 2) which has been largely obliterated by the removal of turves and soil,

during the reconstruction or later heightening of the main rampart opposite.

The edge of the interior scoop (1 on Fig. 2) is very indefinite, but sufficiently visible in a suitable light to show that the line of ditch, 5, lies just outside it.

In concluding this brief description of the interior earthworks, it has to be remarked that further investigation of the hill may reveal that our list is not exhaustive.

THE INTERIOR LYNCHETS, FIGS. 1 AND 5.

That some of the lynchets within Cissbury are distinctly earlier than the fortifications is proved by the inner ditch, which wholly intersects one, and faintly cuts through another very reduced lynchet or balk opposite 11 and 12 on the general plan, Fig. 1.

Fig. 5 shows more clearly how the inner ditch, with its sinuous margin 10, cuts through lynchets 11 and 12. In his *Air Survey and Archæology*, Mr. O. G. S. Crawford, F.S.A., says these two lynchets "meet the inner ditch at right angles. Now, if they had been formed subsequently to the digging of this ditch, a horizontal lynchet must also have been formed at right angles, connecting them up along the third side of the field, and in a direction parallel with the inner ditch and rampart. There are no traces of any such lynchet, and it is, therefore, quite certain that the lynchets are older than Cissbury Camp." This was written by Mr. Crawford after his attention had been drawn to the facts by the first publication of our general plan of Cissbury.

Fig. 12.

This is a detailed survey of the greater portion of the lynchets within the south-east interior of Cissbury. The area it embraces is shown in the inset of Cissbury by a small square, east of the centre of the camp. This area is largely gorse-covered; but the survey shows how the zone of pits (seen in the inset) extends on to

and covers the lynchet areas. With one exception, all the numbered black spots are fairly circular depressions; but Nos. 1, 2, and 3, are pits which have been

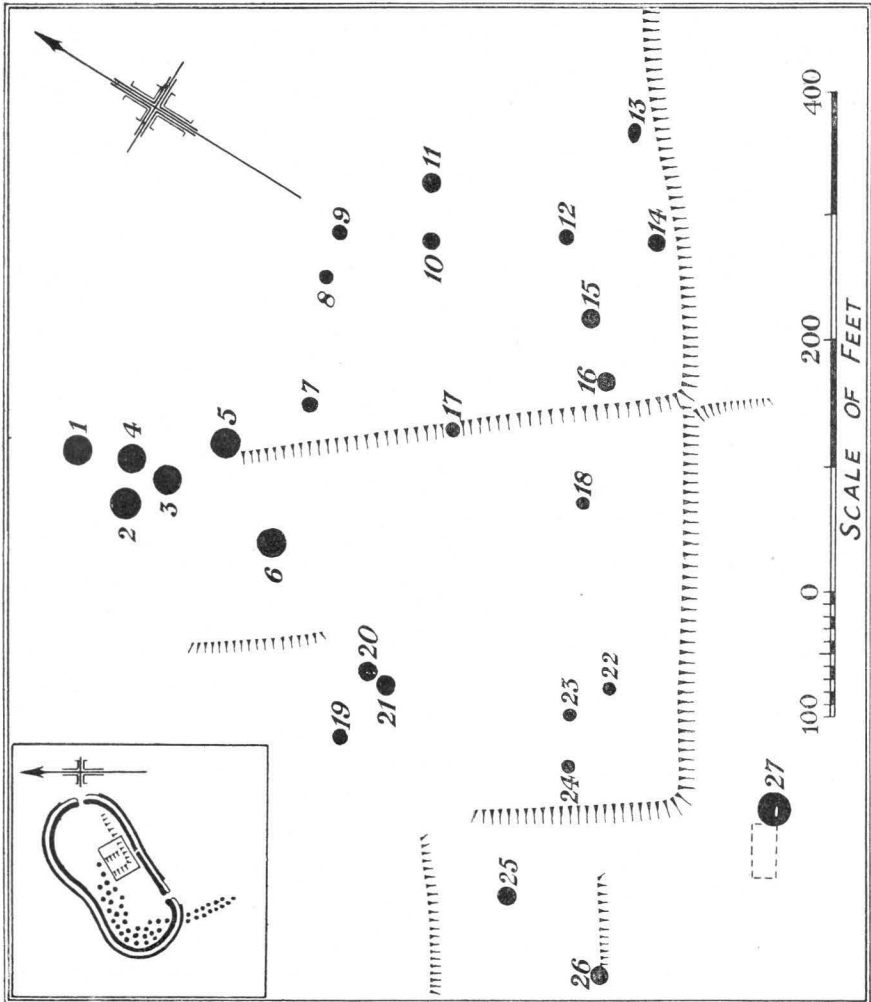


FIG. 12.—PLAN OF ANCIENT CULTIVATIONS AND PITS WITHIN CISSBURY.

filled up level, their presence being noted by difference in surface soil and growth of grass. There are a number of these north-west of the group 1 to 4 which are not marked on the plan.

The pits vary in diameter and, with the exception of No. 27 (which is attached to Interior Earthwork No. 1), do not appear to have been investigated by excavation.

From the depressions of some of the smaller pits, viz. Nos. 7 to 26, rabbits and moles occasionally bring up sherds of Celtic and Romano-British pottery; and, as these pits were most certainly formed on the lynchet areas after the latter had passed out of cultivation, the pottery suggests that they may have been dug by Celtic or Romano-British occupants of the hill-top.

The same remark cannot safely be applied to the larger pits, 1 to 5; for around the edges of these we have obtained large flint cores and flakes similar in character to those which constitute the débris surrounding the late neolithic shafts in the western area of the fort. Such flint-miners' débris with this group of pits, situated at the end of a lynchet scarp, led us to suggest elsewhere⁸ that the lynchet system shown on Fig. 12 may possibly be as old as, or older than the flint-mining industry. There is, too, no definite surface indication that the lynchet scarp originally terminated, or took a turn, when it reached pit No. 5. The excavation of pit 5 will probably help to settle this point. Meanwhile it may be well to bear in mind the evidence of corn-growing in late neolithic times as revealed by the discovery of contemporary querns at Stoke Down in Sussex⁹ and at Windmill Hill near Avebury in Wilts.

THE PERIOD OF CISSBURY HILL-FORT.

With the object of drawing attention to one of the many problems presented by this mighty fort, the first-mentioned writer has in recent years recorded his view that its primary construction may not be

⁸ "The Problem of Ancient Cultivations," by H. S. Toms, *The Antiquary*, November 1911, p. 417.

⁹ "Ancient Flint Mines at Stoke Down, Sussex," by Major A. G. Wade, *M.C., Proceed. Preh. Soc. East Anglia*, Vol. IV, Fig. 2, p. 86.

earlier than the Claudian Invasion of Britain in A.D. 43¹⁰. These notes would, therefore, be incomplete without a brief presentation of the data upon which that view is founded.

In 1875, General Pitt Rivers (then Col. A. Lane Fox) contributed to the *Journal of the Anthropological Institute*, Vol. V, the Report of the Committee's "Excavations in Cissbury Camp." This report is charged with interesting but intricate details of the Committee's excavations which proved beyond doubt that the fort is of later date than the neolithic mines, some of the shafts of which it intersected and partly destroyed.

Pitt Rivers (see his plan *op. cit.*) dug two sections, F and H, in the entrenchment westwards of the southern entrance. His section F was made in the outer ditch only, 200 paces to the westward of the southern entrance, the section being 20 ft. long and 5 ft. wide. Section H was situated about midway between F and the southern entrance, in the vicinity of 7 on Fig. 1 of this article.

Both these sections were in the region where, when making the fort, the mines and flint-implement makers' débris had been cut through and disturbed. Naturally much of this débris was found mixed with the constituents of the rampart and the silting of the ditch. In the endeavour to form any conclusion as to the period of the entrenchments, this earlier débris has to be very largely ignored; and, as in the case of the approximate dating of the deposition of

¹⁰ "Is Cissbury Roman?" by H. S. Toms, *Sussex Daily News*, 10th March, 1921.

"Seaford Camp and Cissbury," by H. S. Toms, *Sussex Daily News*, 6th April, 1921.

"Caburn and Cissbury," by H. S. Toms, *Sussex Daily News*, 4th May, 1921.

"Notes on the Cissbury Earthworks," illustrated, by H. S. Toms, *Sussex County Herald*, 24th June, 1922.

"Notes on Cissbury's Main Rampart," illustrated, by H. S. Toms, *Sussex County Herald*, 8th July, 1922.

"The Devil's Dyke and Cissbury," illustrated, by H. S. Toms, *Brighton and Hove Herald*, 18th July, 1925.

"Romano-British Cissbury," by H. S. Toms, *Brighton and Hove Herald*, 3rd October, 1925.

a hoard of Roman coins, only the later, or latest material must be emphasised.

It is, too, important to note that both sections were "cut in three horizontal layers of about $1\frac{1}{2}$ ft. each, and each layer was completed before the other was commenced, so that there might be no confusion between the objects found at the different levels" (p. 366 of Report). In each section the bottom of the ditch was found to be five feet below the surface of the filling.

The *top layer* of the ditch consisted of "brown mould beneath the turf for a depth of 6 to 8 in., then hard rubble."

The second, or *middle layer* consisted of ferruginous chalk rubble.

The third, or *lowest layer* was composed of *white* chalk rubble.

The *rampart soils* in section H are given on the diagram in Fig. 1 of this article.

Combining the two sections F and H, the more important finds were as follows:—

(1) *Upper layer*: Shells of oyster, *Helix aspersa* (the common large snail), and several sherds of Romano-British pottery.

(2) *Middle layer*: 1 ft. 6 in. to about 3 ft. 6 in. from the surface; Many oyster shells, about 200 *Helix aspersa*, and 200 *Helix nemoralis* (Banded Snail), with many sherds of the common grey Romano-British pottery.¹¹

(3) *Lowest layer*: A number of oyster shells and one small fragment of "British" pottery.

(4) *Rampart*: Oyster shells all through the rampart, and about 25 fragments of "handmade" pottery containing quartz grains¹².

Celtic Caburn.

Subsequently, in his report on "Excavations at Mount Caburn Camp," *Archæologia*, Vol. XLVI, p. 429,

¹¹ These sherds are preserved in the Pitt Rivers' Museum, Oxford University.

¹² *Journ. Anthrop. Instit.*, Vol. V, pp. 366-7, 370, 378.

Pitt Rivers remarks: "Especial attention was paid to the position of any oyster shells, as oysters in this part of the country may be regarded as a sure sign of Roman or post-Roman times. It was found that in most of the pits (at Caburn) these shells were present in the surface mould, but in no case was an oyster found in the filling or at the bottom. The same remark applies to the large *Helix aspersa*."

This important statement of Pitt Rivers was written after his excavation of numerous pits within Caburn Camp, all of which produced evidence that they were dug by Britons as yet uninfluenced by Roman culture, the contemporary tin coins found on the bottoms of the pits (and subsequently identified by Mr. Reginald Smith, F.S.A.) showing the British occupation of Caburn to have been as late as the latter half of the first century A.D.

Celtic Cissbury.

Small pits dug by Britons of precisely the same late Celtic culture in the mining area of Cissbury's western interior, were investigated by Mr. J. Park Harrison, M.A.¹³

In these pits no Romano-British pottery was found, and only one oyster shell. The depth of the latter is not recorded, but it was doubtless in the surface soil as in the case of those found at Caburn. There were, too, no *Helix aspersa* or *Helix nemoralis* shells in the Celtic pits at Cissbury, but shells of the edible sea-mussel occurred.

The Park Brow Romano-British Homestead.

More recent investigations afford remarkable corroboration of Pitt Rivers's statement that shells of the oyster (and also of *Helix aspersa*) may be taken as a sign of Roman or post-Roman times.

¹³ *Journ. Anthropol. Instit.*, Vol. VII, Pls. 10 and 11.

Since the appearance of Mr. Pullen-Burry's article *S.A.C.*, Vol. LXV, Mr. Garnet R. Wolseley has continued the excavation of the homestead site on Park Brow, where, some sixty feet west of the Romano-British building, there is a still visible trench running downhill in the direction of a deep pit. A section of this trench produced nothing but Romano-British remains. Now Mr. Wolseley has discovered two filled-in trenches between the first-mentioned trench and the homestead, both running down in the direction of the pit.

The second of these trenches, like the first, contained many types of Romano-British pottery, together with large quantities of oyster and other shells, thus showing that the first and second trenches were not dug earlier than Romano-British times.

In the third trench, which is about four feet deep, there were Romano-British sherds similarly massed with large quantities of shells of oyster, edible cockle, the cross-cut carpet shell (*Tapes decussatus*), *Helix aspersa*, and *Helix nemoralis*; but this Romano-British refuse occurs no lower than the upper half of the filling of the ditch. The lower portion of the ditch is filled with masses of edible sea-mussel shells, and sherds of purely Celtic pottery, of types not later than the first century A.D.; the finds proving the first habitation of the site in just pre-Roman and its continued occupation well into Romano-British culture.

Romano-British Shell Middens.

Other local Romano-British shell middens here deserve mention:—

(1) The remains of a large midden of oyster, cockle, and *Tapes decussatus* shells found by Mr. J. E. Kemp before 1919, in a zone of black earth about 2 ft. from the surface at the extreme southern end of the flint pits south of the Old Shoreham Road, Kingston-by-

Sea. A brass Roman coin, much burnt, came from an adjoining hole.¹⁴

(2) Shells of oysters, cockles, and part of a *Tapes decussatus*, with many sherds of typical Romano-British grey and other pottery, gathered by Mr. William Law from mole heaps covering the southern slope of the hill crest about 100 yards north-west of Lancing Ring, and quite near the burials and Roman building (? tomb house) discovered many years ago.¹⁵

(3) Oysters, winkle, *Helix aspersa* and *Helix nemoralis*, from the ditch of a presumed Romano-British settlement on the Golf Course on Slonk Hill, Shoreham, Sussex (near the junction of the three parish boundaries), found in October, 1907.

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(4) Oyster shells, winkle, cockle, fragments of *Tapes decussatus*, sherds of typical Romano-British grey pottery, fragment of upper jaw of small pig, and burnt flints; found by Mr. W. J. Jacobs at base of turf, round a rabbit's hole, about 200 ft. south of the highest point of the interior of Cissbury.¹⁶

(5) Oysters, winkles, cockles, and *Tapes decussatus* found within Interior Entrenchment No. III, at Cissbury, by the writers.

From the foregoing facts it will be seen that *Tapes decussatus*, cockle, and winkle, figure with the oyster and *Helix aspersa* in local Romano-British shell middens; and, so far we have found no evidence that such molluscs were eaten locally prior to the spread of Roman culture in these parts.

In his recent excavations of the Bronze Age and Early Iron Age habitation sites on Park Brow, Mr. Wolseley also has found no evidence that the above mentioned molluscs were eaten in prehistoric times; for, as in Pitt Rivers's Caburn excavations, such

¹⁴ *Sussex Daily News*, 26th April, 1922.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

shells found by Mr. Wolseley were entirely confined to the zones of Roman culture.

As this point has been so forcibly demonstrated by Mr. Wolseley close to Cissbury, the student will be interested to learn that we have gathered from chalk brought by rabbits from beneath the deep clay capping of Cissbury's main rampart, shells of oyster, winkle and *Tapes decussatus*. These shells, covered with a yellow chalky deposit, were obtained on the interior slope of the rampart about 200 ft. north-east of the southern entrance¹⁷.

Reviewing the above details, it will be observed that the bottom layer of the Cissbury ditch sections, excavated by Pitt Rivers, consisted of *white* chalk rubble. His subsequent experiments in Cranborne Chase show that this rubble must have silted in and covered the bottom of the ditch within a year or two of the fort's first construction¹⁸. Again, the fact that "chalk rubble" extended right up to the base of the turf points to comparatively rapid natural filling of the whole of the ditch. In Pitt Rivers's records, too, there is no evidence that the outer ditch of Cissbury was here re-cleared of its primary silt to serve the purpose of later defence. This being so, it is clear that the sherds of common Romano-British grey pottery, found on and just above the *white* lower rubble, must have got into the ditch of the fort very soon after its construction.

The constant association of *Helix aspersa* and *Helix nemoralis* in contemporary middens leaves no doubt that these snails were eaten in Roman times (as they are to-day). The association of so many of their shells with grey Romano-British pottery in the middle layer of Cissbury ditch, the presence of oyster shells throughout the filling of the ditch and from top to bottom of the rampart, and our own observation of oysters, *Tapes decussatus*, etc., from the chalk body of the south-east rampart, all point to the same

¹⁷ *Sussex Daily News*, 26th April, 1922.

¹⁸ *Excavations in Cranborne Chase*, Vol. IV, Introduction, p. 24.

late date as that indicated by the grey Romano-British pottery,^{19, 20}.

CONCLUSION.

With the present evidence favouring the first construction of Cissbury fort after the introduction of Roman culture, there arises the question as to the probable date when it was thrown up.

So far as our limited knowledge goes, there appears to be no reason why so great a fortification should have been made in this district during the early days of the Roman period. We are, therefore, led to wonder whether Cissbury Ring may have been first made as a defence against the Saxon pirates who began to harry the coast in the last quarter of the third century, and also whether refortification, as witnessed to by the remodelled gateways, may have been necessitated by the later raids and attacks of the Saxons, before the Romano-Britons had been finally driven from, or had abandoned the earthwork.

¹⁹ There is no evidence in local excavations that this grey type of pottery is earlier than the spread of Roman culture over Sussex.

²⁰ Other Romano-British finds at or near Cissbury are briefly as follows:

(a) Vineyard Hill, about 500 yards S. of the Camp. "Roman remains" marked on the Ordnance Survey, 6" LXIV, N.W. "Interments of the Roman era" shown here on Pitt Rivers' map opposite, p. 33, *Archæologia*, XLII.

(b) "Many Roman coins and some Roman pottery of a very curious kind" found in the garden and paddock of Mr. Wyatt, at the foot of the hill, $\frac{1}{4}$ mile W. of the Camp. *S.A.C.*, III., p. 179.

(c) Roman coins found at Cissbury, mentioned in Gough's *Camden*, p. 289, and in Cartwright's *Rape of Bramber*, p. 32.

(d) Silver denarius of Gallienus, A.D. 253-268. Recorded in *Brighton Herald*, 24th September, 1910.

(e) Tesseræ thrown up by rabbits are said to have been found near the centre of Cissbury in 1876-7.

(f) Brass ring set with opal, ? early fourth century, found a few yards within the eastern entrance. *S.A.C.*, LXIII, 221.