

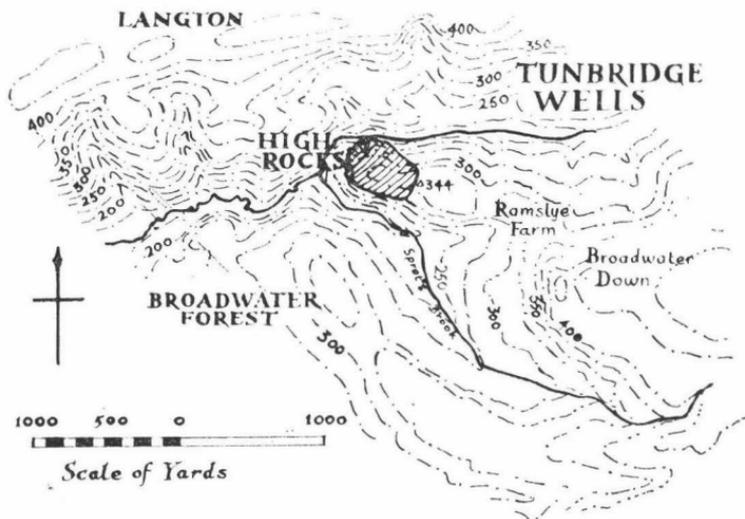
EXCAVATIONS IN THE IRON AGE HILL-FORT AT HIGH ROCKS, NEAR TUNBRIDGE WELLS, 1957-1961

By J. H. MONEY, F.S.A.

THE FORT

The fort (Fig. 1) lies about one mile south-west of Tunbridge Wells, partly in Kent and partly in Sussex (National Grid TQ. 5538-5638). Its discovery by the author in 1939 and a preliminary excavation in the spring of 1940 have already been recorded.¹ The present report describes the series of excavations undertaken between 1957 and 1961.

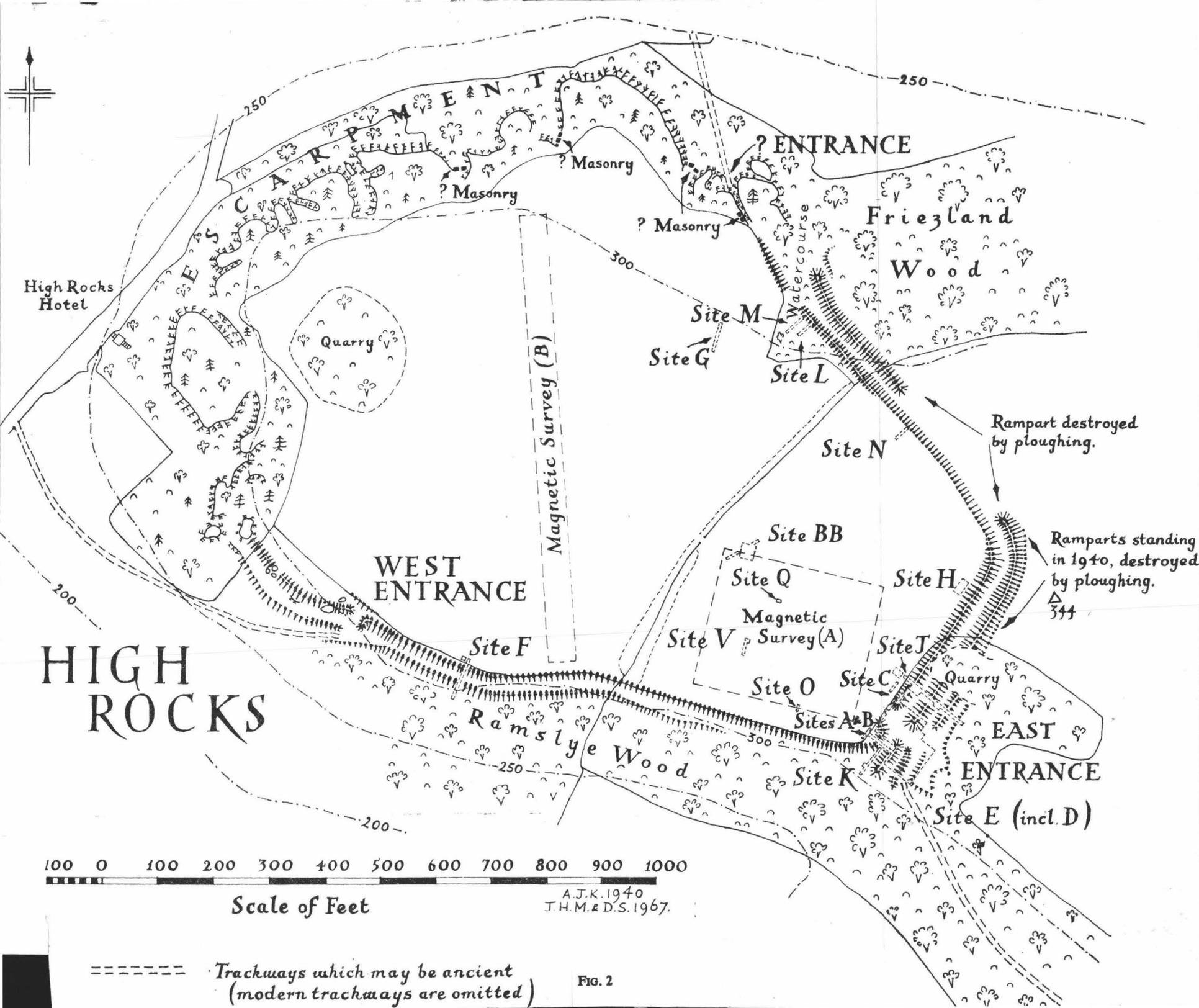
The fort itself (Fig. 2 and Plate I) stands at the end of a promontory, which, although lower than most of the surrounding country, is in a position favourable to defence, with the precipitous sandstone



HIGH ROCKS AND ENVIRONS

FIG. 1

¹ J. H. Money, 'Interim Report on Excavations at High Rocks, Tunbridge Wells,' in *Sussex Archaeological Collections* (abbreviated hereafter to *S.A.C.*), vol. 82 (1941), pp. 104-9.



Scale of Feet

A.J.K. 1940
J.H.M.&D.S. 1967.

==== Trackways which may be ancient
(modern trackways are omitted)

FIG. 2



escarpment of the High Rocks¹ on its north and west sides and a steep hill-slope on the south. 24 acres are enclosed.

The escarpment (Plate II) varies in height from 34 to 41 feet in the west to 20 to 23 feet in the east. Most of it is too sheer and inaccessible to have needed any modification or addition by the builders of the fort. In the rock face, however, there are a number of gaps, in some of which are traces of what appears to be tumbled masonry, and in the north-east corner of the escarpment there is a suspected entrance. No detailed examination was made of any of these features.

Immediately to the south-east of this suspected entrance the double ramparts begin in Friezland Wood and shortly emerge into arable land, where the outer rampart has been destroyed by ploughing and the inner rampart acts as a field boundary. After 400 feet the defences turn sharply to the south-west. In 1940, when the land was still pasture, there were very clear traces of double banks and ditches in this sector. They were ploughed down, however, during the war, and now little remains except a slight swelling in the ground and a scatter of infertile clay and small stones. The ramparts re-appear in Ramslye Wood, at first partly mutilated by a small quarry and then well preserved until the East Entrance is reached. Then the defences run in three distinct alignments along the 300 foot contour, until the West Entrance is reached. Continuing in a north-westerly direction for another 250 feet, the ramparts join the south end of the escarpment of the High Rocks just inside the modern enclosure. The escarpment runs at first due north, then north-east and finally south-east.

COMMUNICATIONS

The trackways which today run down from the entrances of the fort may be of ancient origin. That which descends from the East Entrance in a south-easterly direction serves no modern purpose, but it is well graded and has the appearance of having been engineered. No doubt it continued on along the ridge of high ground south of Tunbridge Wells and may have joined the trans-Wealden track which runs southwards via Ightham, Ivy Hatch, Tonbridge, Southborough, Tunbridge Wells, Frant and Mark Cross to Cross in Hand.² Another track, which is now a farm road, runs

¹ Under the escarpment there are a number of Mesolithic/Neolithic rock-shelters, some of which were excavated by the author between 1954 and 1956; see J. H. Money, 'Excavations at High Rocks, Tunbridge Wells, 1954-6,' in *S.A.C.*, vol. 98 (1960), pp. 173-221, and vol. 100 (1962), pp. 149-151. Scattered flint implements and waste material of Mesolithic and Neolithic types, which have been found at various times within the area of the fort, are probably to be associated with the inhabitants of the rock-shelters; they are discussed in Appendix A.

² *S.A.C.*, vol. 93 (1955), p. 73, and I. D. Margary 'Roman Ways in the Weald,' third impression (1965), pp. 264-5.

down from the West Entrance and would have linked the fort with the high ground of Broadwater Forest and beyond. A third track, which is similar in character to the first, descends from the suspected entrance in the north-east corner and disappears into the modern railway cutting. It looks by its direction as if it may have continued across the valley and found its way on to Langton ridge.

GEOLOGY

The High Rocks are an outcrop of the Lower Tunbridge Wells Sandstone (one of the freshwater deposits of the Lower Cretaceous, which were laid down about 100 million years ago during the period of the Wealden Lake).¹ Superimposed on the sandstone is a thin layer of Grinstead Clay on which the fort as a whole lies. Everywhere, however, the rock is very near the modern surface and projects at some points. The defences, which in many places actually lie on the junction of the two strata, vary in character according to whether the builders were working in sandstone or clay or both at the same time. The involved geological strata also complicated the course and interpretation of the excavations.

ACKNOWLEDGEMENTS

Permission to excavate was kindly given by Lord Abergavenny, to whom the land belongs, and his tenant, Mr. John Coppin.

The expenses of the five seasons' work and the preparation of the report amounted to £821, of which £742 was provided by subscriptions to the Excavation Fund. I am very grateful to all those societies and individuals who so generously gave the money without which the work could not have been undertaken, especially the Sussex Archaeological Society, under whose auspices the excavations were conducted; the Kent Archaeological Society, and in particular its Tunbridge Wells Branch, which under the spur of its Secretary, Mrs. Desborough, raised a substantial part of the total; and, amongst the many private subscribers, Mrs. G. von Harten, Mr. I. D. Margary, F.S.A., and Mr. John Rogerson, all of whom gave very liberally to the Fund.

The late Mr. C. Gibson Cowan allowed us to store the digging equipment at the High Rocks Hotel, and the Borough Surveyor of Tunbridge Wells lent us free of charge a quantity of tools.

The work was carried out partly by volunteers and partly by paid workers, operating under the site supervisors—Mr. Michael Bridge, Mrs. Louis Burn, Mr. Franklyn Dulley, Miss Ann Hamilton, Miss Charmian Phillips (now Mrs. Woodfield), Mr. John Rogerson and Miss Helen Waugh, to whom I am much in debt for their hard work, skill and advice. Of the rank and file I would mention in particular Mr. Gordon Aylward, Mrs. Ian Fleming, Miss K. E. Leigh, Mr. Brian Stapple and Mrs. Ogilvy Watson.

*¹ D.S.I.R. *British Regional Geology, the Wealden District*, 3rd edn. (1954), pp. 24 and 72.

I am grateful also to Mrs. M. A. Cotton, F.S.A., and Prof. S. S. Frere, F.S.A., both of whom guided me year by year, and finally reported on the pottery (see Appendix B); to Dr. M. J. Aitken, F.S.A., who undertook a magnetic survey in the fort and archaeomagnetic tests on one of the hearths which his survey revealed (Appendix D); and to Prof. G. W. Dimbleby, Dr. I. W. Cornwall, Mr. P. Dorell, Mrs. F. L. Balfour-Browne, Mrs. C. M. Guido, F.S.A., Miss J. T. Philips and Mr. John Wymer, F.S.A., for their specialist reports included below.

Photography was carried out by the late Mr. M. B. Cookson (Plates III, VII and VIII), Mr. A. P. Detsicas, F.S.A., (Plate IV), and myself (Plates II, V and VI); the air photograph (Plate I), by Dr. J. K. St. Joseph, F.S.A., is reproduced by kind permission of the Curator in Aerial Photography, University of Cambridge.

The original plan of the fort, surveyed in 1940 by Mr. A. J. Kemble of the Ordnance Survey, has been modified in the light of later discoveries and a check on the geography of the escarpment (Fig. 2). I am grateful to Mr. Franklyn Dulley for much careful work on the planning of the complicated East Entrance (Fig. 14); to Mr. James Clayphan for producing a detailed map of its contours (Fig. 12); and to Mr. Don Sheppard for doing the lettering of the plans and sections as a whole.

SUMMARY OF WORK

In the first week of April, 1940, a section (Site A) was cut through the south-eastern defences in the area of the East Entrance, and a number of minor trenches (Sites B, C, D and E) were dug. This work¹ showed that the defences at this point had a wide and shallow inner ditch and were revetted on their forward faces, being in these respects similar to Period II at Oldbury Hill, Ightham.² The finds included a few sherds of Southern Second B pottery.

Work on the fort was resumed in 1957 when a section (Site F, Fig. 3) was cut through the southern defences and two sites (G and H) were explored in the interior. This section provided the important evidence that the area had been fortified twice.

In 1958 sections were cut through the defences north and south of the East Entrance. The north section (Site J, Figs. 5 and 14) gave more indications of the two periods already referred to and also provided some evidence that timber had been used in the construction of the ramparts. Excavation immediately behind the ramparts in this area produced pottery of Southern Second B type. The section (Site K, Figs. 2, 6 and 14) south of the East Entrance was dug in order to determine the character of the outer defences, which are barely visible on the steep slope in this sector.

¹ *S.A.C.*, vol. 82 (1941), pp. 104-9, op. cit.

² J. B. Ward Perkins, 'Excavations on Oldbury Hill, Ightham, 1938,' *Archaeologia Cantiana* (abbreviated hereafter to *Arch. Cant.*), vol. 51 (1939), pp. 137-81; and *Archaeologia*, vol. 90 (1944), pp. 127-76.

The 1959 excavations were devoted to a search for evidence of occupation within the fort. We were fortunate in having the help of Dr. Martin Aitken, who with his proton magnetometer surveyed parts of the interior of the fort. Two hearth sites (V and BB) were found, the latter of which was surrounded by a horseshoe of post-holes which probably supported the framework of a small hut or shelter.

In 1960 and 1961 the East Entrance (Site E, Fig. 14) was thoroughly explored. This was a complicated task, made more difficult by the fact that the area lay precisely on the junction of the clay and rock, both of which were extensively weathered. Excavation showed that in Period I there was a simple entrance through a single bank and ditch; this was provided with gateposts.

In Period II a new bank and ditch were constructed behind the Period I defences. Both banks were revetted with blocks of stone, strengthened with an elaborate system of timbers, which may also have included a palisade, and provided with gate-posts.

DETAIL OF THE WORK

SITE A (1940)

The main section cut in 1940 through the ramparts in the area of the East Entrance is described in *S.A.C.*, vol. 82, 106-8. Later digging has shown that this account requires revision in the following respects:

(i) the so-called "core" shown at the base of each rampart is probably a marking-out bank, corresponding to the marking-out trench found on Site J (Fig. 5); presumably a bank rather than a trench is used in this sector because the rampart rests on rock and not clay;

(ii) in 1940 the outer ditch was sectioned at an unrepresentative point across a mass of natural rock left *in situ* by the builders (see page 180 and Fig. 14); its profile is shown better in Fig. 13;

(iii) the so-called "hornwork" and "outerwork" were found in 1960/61 to be natural clay and stone, and not in any way artificial; and

(iv) the heightening and revetting of the outer rampart now prove to belong to Period II.

SITES B, C, D AND E (1940)

Site B was a small trench cut into the tail of the inner rampart at right angles to Site A; it produced one sherd of pottery.

Site C, which yielded no finds, was a cutting immediately behind the inner rampart, just north-east of the East Entrance.

Site D, which was incorporated in Site E of 1960/61, was an extension of the main section (Site A) south-westwards along the

outer ditch. Here was found the most complete example of the Period II revetment; the full extent of the ditch and the presence of timberwork in and above the revetment were not detected until 1961 (see pages 180-2).

Site E was a small and unfinished trench cut across the interior of the East Entrance and into the tail of the outer rampart. The surface of what later turned out to be the Period II road was detected in part of this trench. This site was absorbed in the excavation of 1960/61 and its title applied to the digging of the East Entrance as a whole.

SITE F (Fig. 3) (1957)

The principal task in 1957 was the cutting of a trench 5 x 69 feet, starting well inside the inner rampart, through the defences on the south side of the fort (see Fig. 3). Two trenches also, each measuring 3 x 10 feet, were opened in the area behind the inner rampart, just to the west of the main trench, in order to search for occupation material. The main section brought to light one important fact, which was confirmed and amplified by later work on the fort, namely that the area had been defended twice and that between these two periods of fortification agriculture had been practised in or near it.

The defences of Period I (outer rampart and ditch) consisted of a single bank of dumped earth (slightly weathered subsoil), sand and broken stone, with a steep-sided U-shaped ditch. When this rampart was built the platform of natural rock at this point must have been either partly exposed or deliberately levelled, since in some places the rampart lay directly on it. There were, however, patches of soil under the rampart which showed themselves as whitish smooth sand—a leached buried soil similar in character to that found under the inner (Period II) rampart. These patches of buried soil are not shown in the section drawing at Fig. 3, since they were not recognised as such until after the trench had been filled in. The underlying rock surface was stained orange by iron in solution leached out of the rampart material which was left grey in colour. There appeared to be no berm and no evidence that the rampart had been crested or revetted externally with either timber or stone.

The outer (Period I) ditch was cut into the natural rock. At the base of the inner side there were two roughly rectangular holes (not shown in section), both 15 x 6 inches, cut into the rock. The purpose of these holes, which appeared to be artificial, is not known. It is suggested that they may be the lower ends of borings into the rock made during the making of the ditch, to assist the cutting of the rock. The inner side of the ditch, which faces the prevailing south-west wind and rain, was extensively

weathered right back under the rampart. Part of this weathered rock was excavated in error, under the impression that it was rampart material. In section, however, the weathered sandstone, characteristically laminated, was clearly distinguishable from the haphazard rock fragments included in the rampart material.

This type of dumped rampart, with small U-shaped ditch is very similar to that of Oldbury I. Ramparts of comparable structure, e.g. Ambresbury Banks in Epping Forest, were also used in the area north of the Thames Estuary against early Belgic invasions.

No pottery or any other dating evidence was found in either the rampart material or the silt of the outer ditch. There were charcoal fragments of oak at the base of the rampart.

Between the two periods of fortification, soil which contained charcoal fragments of oak accumulated on and behind the outer rampart. When excavated this soil was grey in colour, which, according to Dr. Cornwall, 'suggests some reduction of its iron by the oxidation of contained humus, which must have taken place since burial, in the absence of air.' Samples of this soil, as well as the old land surface under the inner rampart, were taken for pollen analysis. That from the soil under the inner rampart was found to contain traces of a cereal pollen, and in both there were 'high percentages of grasses, plantain, *compositae* and other ruderals'—all of which indicates that between the two periods of defence 'the land use in operation . . . was arable farming.' Pollen analysis (see Appendix C) also shows that at this period Site F, like Site J (just north of the East Entrance) was 'free of woody vegetation' but 'nearer to such vegetation' than Site J (see p. 167-8). From this we may conjecture that the southern part of the fort, if not the whole of it, was cleared of natural forest and in some places at least given over to agriculture.

In Period II the area was re-fortified in an unusual manner. The Period I bank was heightened and re-used as a counterscarp bank for the new defences as a means of providing defence in depth (see Fig. 3 and Plate III). A new ditch, inside the outer rampart, was cut into the natural rock. It was considerably wider than its predecessor, and similar in character to the inner ditch of Site A.¹ Much of the material dug from the new ditch must have been used in the heightening of the outer rampart—material which was yellow in colour, a sample of it being described by Dr. Cornwall as 'clean upcast . . . with fully oxidized iron salts.' In the material as a whole were found charcoal fragments of alder and oak, and one piece of beech.

On the brow of the hill a new rampart was constructed of material taken partly from the ditch and partly from the area immediately behind the rampart. It was crested and faced externally with

¹ S.A.C., vol. 82 (1941), p. 106, Fig. 2, op. cit.

blocks of sandstone which were laid on its outer face to prevent it slipping into the ditch. All this revetment and part of the dumped rampart material was nevertheless found to have collapsed into the ditch.

No post-holes were identified during the digging of 1957, but after the discovery of post-holes in the vicinity of the East Entrance (Sites E and J) it occurred to me that these might have been missed. In April, 1964, therefore, for a length of 12 feet, the crest was stripped and examined for post-holes. Since none were found, it is assumed that posts were not part of the defences in this sector.

A small hearth, containing charcoal of oak and beech, humus and burnt soil crumbs, was found eight feet behind the tail of the inner rampart (see Fig. 3), and in the surrounding area there were a few sherds of both Period I and Period II type pottery, including a fragment of a pedestal base (see Appendix B). Low down in the ditch silt was one sherd of Period I type gritty ware. Its presence, like that of the Period I sherds behind the rampart, can be explained by the fact that some of the material of the Period II construction was derived from a land surface which had been occupied previously by the inhabitants of Period I. Charcoal fragments of oak, possibly derived from Period I, were found in the soil buried under the inner rampart, in the upper part of the rampart itself and in the silt of the inner ditch.

The Period II defences, which, by the incorporation of masonry differ markedly from those of Period I, seem typical of the series of forts with wide shallow ditches and stone-revetted ramparts of the Oldbury II and French Fécamp series. There is an essential difference, however, between High Rocks II and Oldbury II. Whereas in Oldbury II the existing rampart was heightened and strengthened, and the ditch re-cut, in High Rocks II the new defences were inserted behind the Period I rampart.

SITE G - SECTION

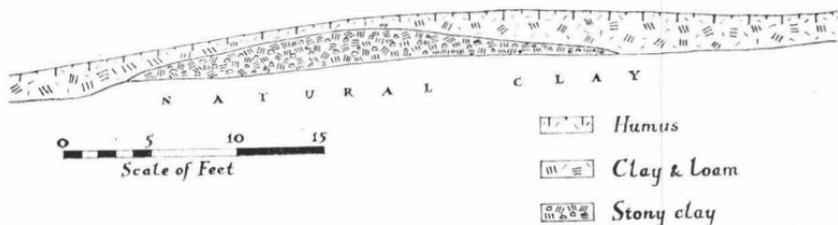


FIG. 4

SITE G (Fig. 4) (1957)

In the north-east part of the fort a low bank runs from the corner of Friezland Wood along the 300 feet contour until, turning south-west just before the ground slopes down to the escarpment, it peters out. On the surface this bank appeared to be either a field bank or the remains of a rampart enclosing a smaller area than the double banks and ditches. It was decided, therefore, to section it and prove the point one way or the other, by discovering whether or not there was also a buried ditch.

The section (5 x 48 feet) showed that the feature was only a low bank of reddish and yellow stony clay 27 feet wide at its base (Fig. 4). In front of the bank there was a very slight depression, where presumably material had been scooped up for its construction, but there was no trace of a ditch. Overlying the bank was a layer of yellow and light brown clay and loam and over this the humus.

The only remains of occupation found in or near the bank were a few flint flakes, blades and a pebble, and a small amount of charcoal in one part of the bank itself. There was no trace of occupation immediately behind it which, on the analogy of Sites F, H, J and N, might have existed, if the bank had been an Iron Age rampart.

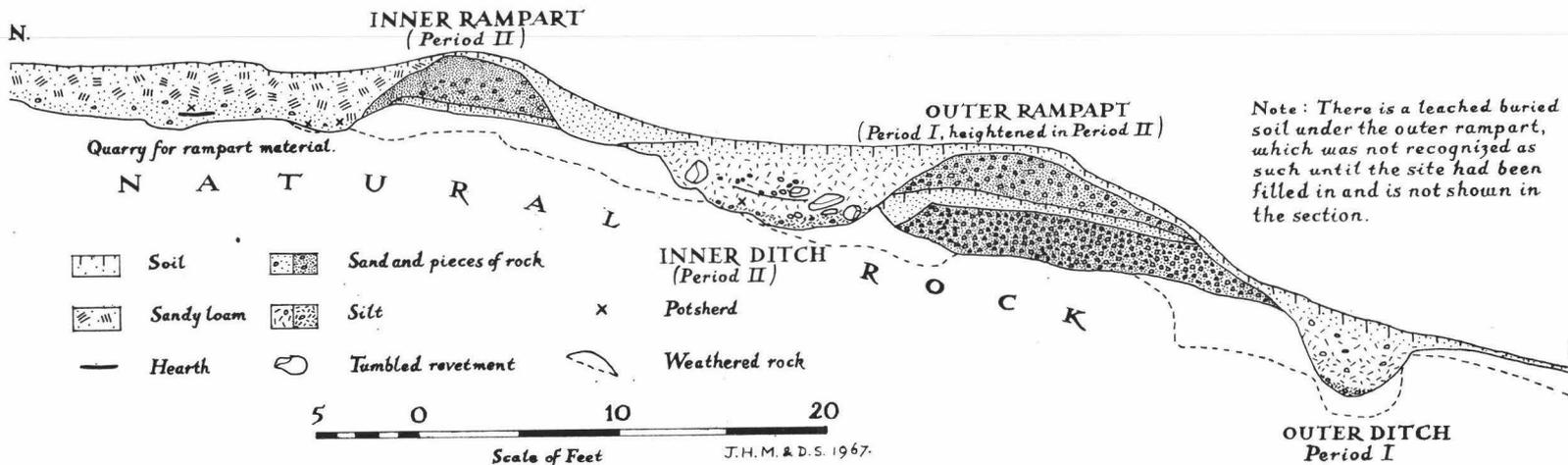
On this evidence it appears that the bank is unconnected with the fort. It is omitted, therefore, from the plan at Fig. 2. It shows as a dark streak on the air photograph at Plate I.

SITE H (1957)

This site was chosen in the hope of finding stratified occupation material in an area which must have required careful guarding. Here for a considerable distance the approach to the eastern corner of the fort is over almost level ground and, whether wooded or not in antiquity, would have been vulnerable to attack. When the fort was surveyed in 1940, the defences in this sector stood splendidly intact, being topped by protective clumps of gorse bushes. During the war they were ploughed down, but, since the resulting spread was mainly of clay and broken stone, nothing useful could grow on it and it was given over to grass and weeds. A good deal of surface pottery has been found here over the years, some of it no doubt coming from the demolished inner (Period II) rampart, which contained derived material of Period I, the rest having been brought up by ploughing within the fort.

An area measuring 15 x 27 feet just behind the inner rampart was trenched systematically. Almost everywhere the natural clay was reached after about nine inches and there was no evidence of a coherent stratification. Several significant sherds were recovered, including the rim of a saucepan pot (Fig. 16, 25), two bases from large pots of Patch Grove type (*ibid.*, 26 and 27) and the rim of a

SITE F - SECTION



J.H.M. & D.S. 1967.

FIG. 3

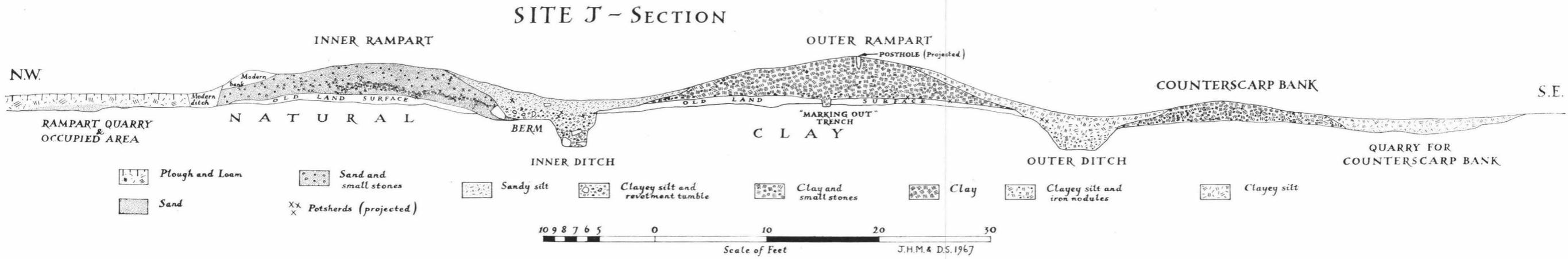


FIG. 5

samian bowl (Dr. Form 27) of Claudio-Neronian date (A.D. 43-68). The last named was found 20 inches below the surface in a depression which contained charcoal, grey sand and fragments of burnt stone. This depression and its filling were overlaid by a mixture of clay, unburnt stone fragments and surface plough soil, some of which was probably derived from the demolition of the inner rampart during the war. Although contaminated by one modern sherd, the underlying depression seemed basically undisturbed and may be the remains of a hearth.

The clay base throughout the excavated area was irregular and showed signs of disturbance. In places there were small stones which appeared to have been laid deliberately on the clay surface, possibly to provide a hard standing behind the rampart. There was also what might have been the footing of a dry stone wall, about 12 inches wide and running for 14 feet roughly parallel with the line of the rampart, but overlying the depression containing burnt material and the samian sherd. Not enough of this feature was uncovered to be able to say what were its character and purpose. There was a pit, 34 inches deep and filled mainly with sand, which contained a thin deposit of burnt earth at a depth of 17 inches below the surface. Finally, there was an area of burning, roughly circular and averaging 3 feet in diameter, at a depth of 9 inches, and resting on the natural clay.

Since these various features fall into no obvious pattern and for the most part are very near the surface it has not been thought useful to publish a plan or section of them. All that can be said is that they indicate occupation during the Iron Age and Roman periods.

SITE J (Figs. 5 and 14) (1958-9)

This section (125 x 5 feet), with two lateral extensions, was cut through the fortifications a few yards north of the East Entrance (Fig. 14), where strong defences were needed to counter the easy approaches from the south-east. The pollen evidence (Appendix C) indicates that the area was at that time 'free of woody vegetation' and that arable farming was conducted nearby. These factors would have made this part of the fort all the more vulnerable to attack.

Pollen and soil analyses have given interesting data about the character and use of the land before the fortifications were built. The old land surface, which lay on a somewhat uneven base of natural clay and varied in thickness from five to twelve inches, was securely sealed under the ramparts. When freshly exposed the top two inches of this old surface (the buried A-horizon) was, to quote Dr. Cornwall, 'a pale greenish colour, due to ferrous iron-compounds, reduced from the red or brown ferric state by decay

of the original humus content, with atmospheric oxygen excluded by the dense cover of the clayey rampart.' Exposed to the air it was gradually re-oxidized and changed to a characteristic shade of brown.

The old land surface which was thus preserved under the ramparts contained extremely little humus but considerable quantities of phosphate (28.8mgs./100g. under the inner rampart and 20.6mgs./100g. under the outer rampart). The high phosphate content suggests that before either rampart was built there was an exposed surface occupied by men and animals. Professor Dimbleby identified traces of cereal pollen in the surface under the outer rampart and 'high percentages of grasses, plantain, *compositae* and other ruderals' under both ramparts (see Appendix C). As already noted this evidence (together with that from Site F described on p. 164) indicates that, both before the fort was constructed and between the two periods of fortification, arable farming was conducted in and near the area. Dr. Cornwall points out that the buried soil under both ramparts, as seen in section, was 'clearly mature and undisturbed, which would rule out tillage within some centuries, one would guess, before the building of the fort.' This, of course, only indicates that there was no tillage in the precise position of Site J and does not invalidate Dr. Dimbleby's general proposition of arable farming nearby.

A small 'marking out' trench (see Fig. 5) had been cut to guide the alignment of this sector of the outer (Period I) rampart, which was composed throughout of dumped clay, containing very little humus but significant quantities of phosphate. The volume of the rampart is considerably greater than that of the ditch. Material for the rampart, therefore, must have come from elsewhere, possibly from the area behind it. On the crest of the outer rampart there is a single line of post-holes about 6 inches in diameter and irregularly spaced (see Fig. 14). This suggests the existence of a palisade, but whether constructed in Period I or Period II is not known.

The outer ditch contains a steady and uninterrupted accumulation of silt, consisting of tumble and wash of material from the sides of the ditch, the rampart itself and a low counterscarp bank beyond the ditch. This counterscarp bank, which contained significant quantities of humus, was probably built of surface soil from the area beyond it, where there is now a shallow depression. It will be observed at Fig. 5 that under the counterscarp bank there is no buried soil such as exists under the main ramparts. It may be that the land surface was removed down to or into the clay before the counterscarp bank was made and the material thus obtained used in the construction of the main rampart. Dr. Cornwall suggests alternatively that the buried soil was insinuated throughout the material of the counterscarp bank by worms operating under its shallow cover.

In Period II a small U-shaped ditch and rampart were dug behind the Period I defences, the earlier rampart being incorporated in a scheme which provided defence in depth. The new rampart consisted of material derived partly from the area of the new ditch and partly from scoops behind. Its forward face was revetted with blocks of local sandstone, and throughout the rampart there was a complex system of posts and stakes, some of which probably served simply to strengthen the basic rampart material, while others may have projected above the crest of the rampart to form a palisade. In the original digging of Site J only a few scattered post-holes were detected. During the excavation of the East Entrance, however, in 1960-61 (Fig. 14) the complex system was recognised for the first time and was found to exist on either side of Site J, as well as elsewhere in the vicinity of the Entrance.

Between the inner ditch and the inner rampart a berm was made as a base for the revetment; despite this, however, almost all the revetment eventually collapsed, stones and rampart material tumbling forwards across the berm and into the bottom of the ditch. Thereafter the ditch area silted up without interruption, until it arrived at its present state.

The photograph at Plate IV shows, in different states of excavation, the inner ditch, the tumbled revetment and the inner rampart. The features worth noting are (arrowed and numbered):—

1. Revetment stones removed from the main trench.
2. Berm partially cleared.
3. Inner ditch cleared down to natural clay.
4. Ditch silt cleared only to top of revetment tumble.
5. Nose of rampart stripped down to the uneven "tip" of clay which runs through most of the lower part of the rampart (see Fig. 5).
6. Natural clay and, immediately above it, the old land surface sealed under the inner rampart.

The evidence of post-holes and stone-work is described and analysed in detail in Appendix E, where an attempt is also made to reconstruct the inner rampart.

Analysis of soil taken from the material of the inner rampart showed significant quantities of phosphates in all samples (in one the content was as high as 31.6mgs./100g.); this was probably derived from bone, dung and general occupation rubbish. This and the potsherds scattered throughout the rampart material were obviously debris left by the defenders of the earlier fortification.

Today the back of the inner rampart is topped by a modern bank and cut into by a modern ditch, which act as a boundary between the woodland and the plough.

A small area (now under plough) behind the inner rampart was explored in the hope of finding stratified remains of occupation. A satisfactory amount of pottery came to light, but the soil, which varied in depth from 15 to 20 inches, provided no evidence of

stratification except possibly in the thin layer of hard greyish sand, from which in fact most of the pottery came.

Details of the pottery found in and under the ramparts and in the ditches (positions of sherds are shown in Fig. 5), and in the occupation area behind the inner rampart, are given in Appendix B, where their significance is discussed.

SITE K (Figs. 2, 6 and 14) (1958)

This trench (60 x 6 feet), with a small lateral extension, was dug down the hillside from the middle of the inner ditch, immediately south-west of the East Entrance, in order to determine the character of the outer defences (if any) in this sector. In 1940, when the first plan of the fort was made,¹ it seemed that the outer rampart petered out on the steep and in places boulder-strewn hillside about 250 feet to the west, and there was no visible trace of an outer ditch. Since it was unlikely that a stretch of the defences would be omitted so near the entrance, it was decided in 1958 to prove the matter one way or the other by digging.

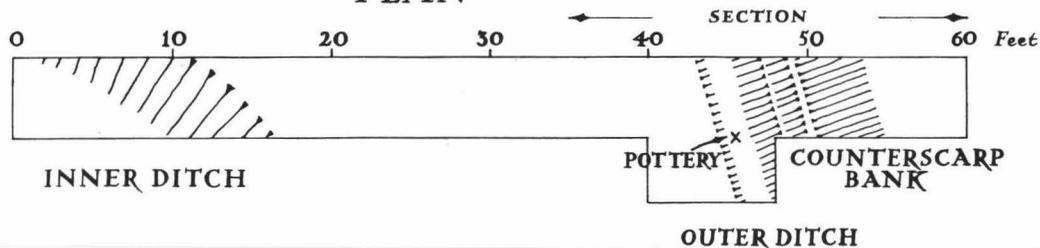
The trench in fact showed that an outer ditch and counterscarp bank outside it existed in this sector (see Fig. 6). The ditch, which was cut partly into the natural rock and partly into earlier hill-wash, was found completely filled with silt, pieces of rock and later hill-wash. The counterscarp bank was made of brownish-orange sand, broken sandstone and patches of clay. There was no apparent trace of an outer rampart behind the ditch. It is possible that whatever remains there still are of the bank were not distinguished from the hill-wash (of much the same material) which accumulated behind it. On the other hand, if it once existed, it may have been completely eroded and washed down into the ditch.

In the hill-wash above the ditch there were a few sherds of pottery and pieces of revetment which had tumbled from the inner (Period II) rampart. In the ditch itself, two feet below the modern surface, were a thin spread of charcoal and several fragments of a large hand-made pot (Fig. 16, 2), which is discussed in Appendix B. These are probably remains left by a squatter soon after the Period I defences fell into disuse. Its position (projected) is shown in the section drawing at Fig. 6.

Higher up the hill part of the inner (Period II) ditch, filled with silt and tumbled revetting stones, was uncovered. Characteristically it was wide and shallow. The underlying natural was very uneven, with the rock cut away in some places by quarrying and projecting in others. The exact contours of the ditch were not easy to determine; the approximate shape is shown in Fig. 6 and Fig. 14 (B/C 4).

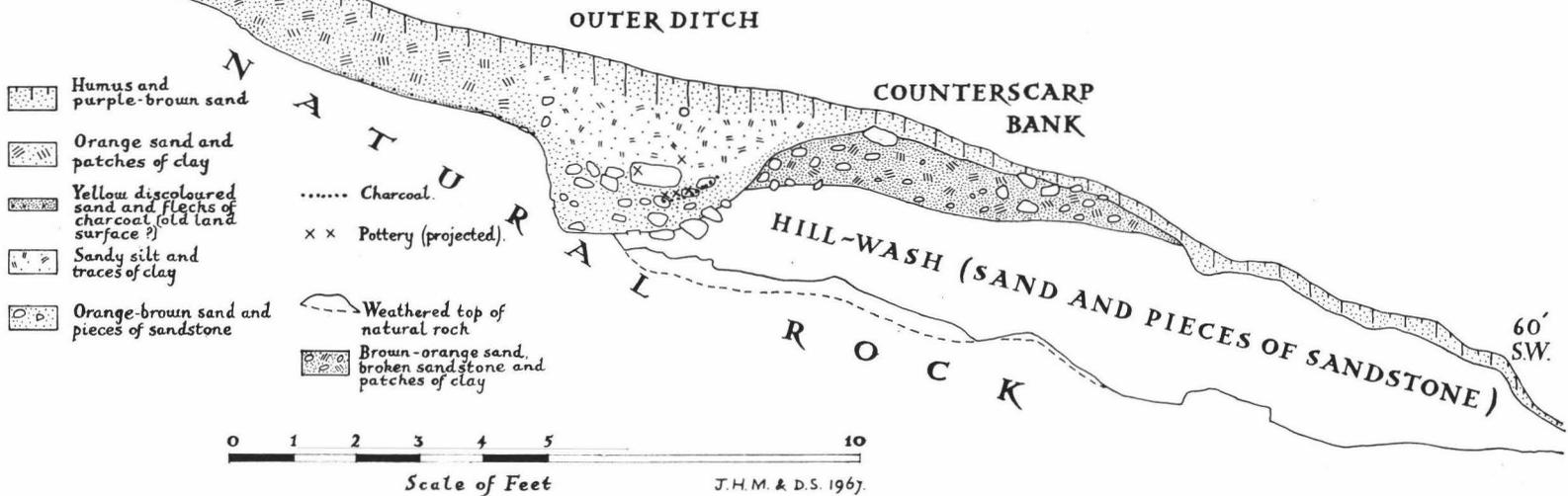
¹ S.A.C., vol. 82 (1941), p. 105, Fig. 1, op. cit.

SITE K PLAN



35'
NE.

SECTION



Site K, therefore, proved that in Period I the defences continued along the hillside in this sector. When the area, which is densely overgrown, was examined again a continuation of the slight swelling caused by the counterscarp bank (see section in Fig. 6) was noticed in a number of places and no doubt indicates its course. The visible surface indications, however, are too slight and disjointed to justify inclusion on the plan at Fig. 2.

SITE L (Fig. 7) (1959)

A trench (4 x 24 feet) was dug behind and into the back of the inner rampart (Period II), in order to examine the rampart make-up and look for traces of occupation in this sector. One nondescript sherd (probably derived from Period I) was found in the rampart material, which consisted of a mixture of brown earth, sand and small stones. In the area behind the rampart, at a depth of nine inches, there were fragments of charcoal (beech and birch), which may be associated with the fort.

SITE L - SECTION

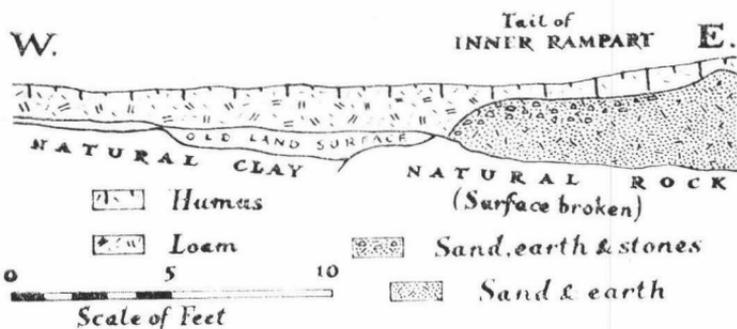


FIG. 7

The rampart lay directly on the natural rock, from which the original capping of humus and clay had been removed. The whole surface of the rock was broken and uneven, which suggests that the builders of the Period I (outer) rampart derived some of the material for it from the area behind, on which the Period II (inner) rampart was eventually placed.

SITE M (1959)

Immediately behind the inner rampart at this point (Fig. 2) there is a shallow depression, about 18 feet in diameter, which in any but the driest weather holds water. Running from it is a narrow watercourse, which plunges steeply downhill through the inner rampart. It was thought that, if during the life of the fort there

had been a spring here or even if it had acted as a reservoir for water draining off the surrounding higher ground, there might be traces of occupation around it.

A trench (4 x 39 feet) was dug through the middle of the depression (which, owing to the extremely dry summer, was free of water), continuing through the area immediately behind the rampart and into the tail of the rampart itself. This produced no trace of occupation except one sherd of pottery and a small quantity of charcoal (birch and oak) in the rampart. It showed that the depression lay on clay, overlaid by a layer of earth and sand, and was apparently natural. It seems likely that it and the watercourse running from it have been created by constant drainage from higher ground.

SITE N (Fig. 8) (1959)

A trench (27 x 4 feet) was dug through the area behind the inner rampart (Period II) of the north-eastern defences (Fig. 2) and into the back of the rampart itself, the top of which has been shaved off by ploughing. Behind it later deposits have been built up to a depth of about two feet over the occupation debris.

The underlying natural in this area is a confused mixture of humus, sand and stones, and probably represents the "periglacial head" which washed off the top of the hill. The rampart, which is composed of yellow clay, humus and small pieces of stone, lies immediately on the natural. In the rampart material were a few sherds and some charcoal, probably derived (as elsewhere) from Period I rubbish. This pottery and that found in the occupation zone behind the rampart are discussed in Appendix B. The occupation pottery, which was relatively more plentiful than in any other site, included fragments of foot-ring bowls and saucepan pots, and a rim of Patch Grove ware; most of it came from just above the old land surface. The layer containing and overlying

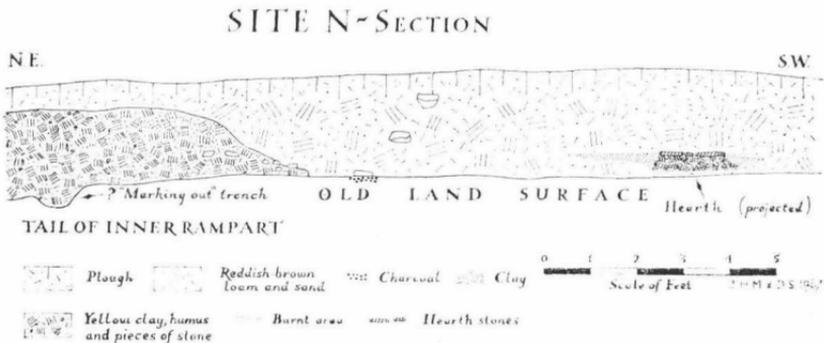


FIG. 8

the occupation material consisted of reddish brown loam and sand.

Just behind the rampart, at a depth of 23 inches, was found a small dark yellow annular glass bead, which Mrs. Guido compares with a number of early Roman beads¹ found on various British sites¹ and considers under the circumstances to belong to the 1st Century A.D.

On top of the natural, immediately behind the rampart, there was a scatter of charcoal, and eight feet away was a small hearth, which had been firmly and carefully constructed (Fig. 8). Its foundation consisted of an artificial bed of clay, in which were laid small pieces of sandstone; above this was another layer of clay, two inches thick, in which the six hearthstones of ferruginous sandstone were carefully placed. The area below and around the hearth was heavily burnt. The heavy burning and almost complete absence of charcoal suggests that more than one fire was lit on this hearth and that it was the habit to clean it after use. If so, it is perhaps best explained as the base of a small baking oven, of which the clay superstructure has now vanished.

SITES O TO BB (Figs. 2 and 17) (1959)

These sites—"anomalies" which were detected by the proton magnetometer—are discussed in Appendix D. Sites O, Q, V and BB call for further description below. Sites P, W, X and AA were proved to be "anomalies" of geological origin; R, S, T, U, Y and Z were not tested by excavation.

SITE O

Excavation produced one nondescript sherd and some charcoal in an undisturbed layer of mixed clay and earth, between two and three feet below the modern surface. There was also a subterranean cavity which came to light in the side of the trench. The cavity was domed at the top and then roughly cylindrical, averaging 26 inches in diameter. The top of the dome was 15 inches below the modern surface. The first 12 inches of the cavity was empty. The next 21 inches was a filling of clay, which contained some charcoal. Neither the inner surface of the cavity, however, nor the filling, samples of which were tested by Dr. Cornwall, showed any traces of burning. Owing to lack of time it was not possible to complete the excavation. There is nothing to connect the cavity with the life of the fort; it is possibly the "earth" (of which the upper part has collapsed) of a burrowing animal.

¹ The examples, which are recorded in Mrs. Guido's corpus of British beads, come from: Corbridge (Northumberland); Bredon Iron Age Fort (Gloucestershire); Kenchester Magna (Herefordshire); Caerwent (Monmouthshire); Bath (Somerset); The Verne, Portland (Dorset).

SITE Q

This "anomaly" consisted of a hearth, possibly associated with the fort, situated on the natural clay 14 inches below the modern surface. The area of burnt clay, which was roughly circular, was two inches thick and four feet in diameter.

SITE V (Figs. 2 and 9)
(1959)

This site, consisting of a substantial hearth, was detected by the proton magnetometer as a very strong "anomaly."

The hearth was used at least twice. In preparation for the first hearth a shallow depression was cut into the land surface (a mixture of sand, earth and small pieces of rock) and underlying natural clay. The remains of this hearth, which averaged about four inches in depth, consist, in the words of Dr. Cornwall, of a 'mass of small fragments of charcoal permeated by roots; when the roots perished, the clay washed into the rootholes, forming a breccia.' Some of the charcoal is of oak. After a brief interval (represented by a thin soil line) the hearth was remade on a smaller scale, with a lining of clay smeared round the lip of the depression, some of the outer edge of the previous hearth being removed in the process. In course of time the hearth was covered by a characteristic mixture of sand, earth and small stones, which when excavated was indistinguishable from the land surface into which the hearth depression was cut. Dr. Aitken took samples of the underlying burnt clay for archaeomagnetic tests in his laboratory at Oxford (see Appendix D).¹

¹ See also M. Aitken 'Prospecting, Magnetic Location' in 'Science in Archaeology' (1963, ed. Brothwell and Higgs), p. 566.

SITE V - SECTION

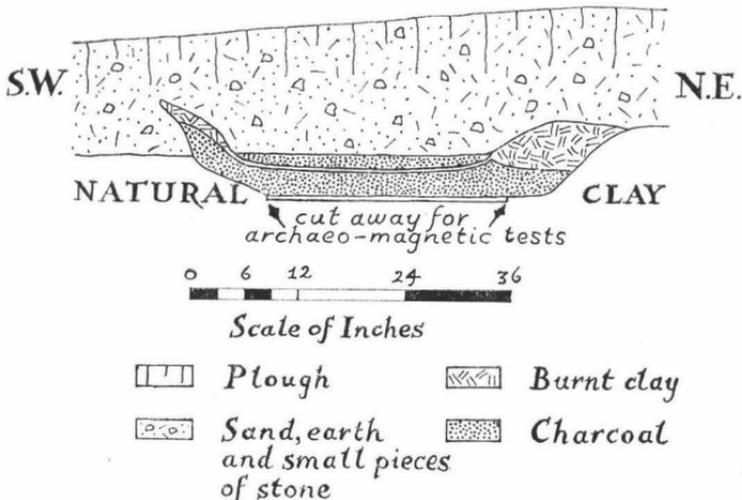


FIG. 9

An area 3 x 24 feet to the S.S.W. and 3 x 8 to the E.S.E. of the hearth which was cleared down to the natural clay yielded no occupation material or structural remains of any sort. The use to which the hearth was put can only be conjectured. Possibly it was kept burning as a source for lighting minor camp fires around the defences, such as those found in Sites F and N.

The proton magnetometer also detected a small "anomaly" 32 feet south-west of the hearth described above. Excavation revealed a small hearth about 30 inches in diameter and two inches thick consisting of charcoal and burnt clay, in character not unlike that found at Site Q.

SITE BB (Fig. 10)
(1959)

This site, set centrally on a ridge in the south-eastern part of the fort, was detected as a very strong "anomaly" and proved to be a hearth set in an artificial hollow. Plate V shows part of the site excavated down to the top of the hearth, with Dr. Aitken's peg in position very near the centre of the "anomaly." Excavation around the hearth revealed six post-holes arranged in the shape of a horse-shoe and a narrow trench running diagonally across the site (see Fig. 10).

Before considering the archaeological aspects of the site a word should be said about the soil sequence, which was different from any other encountered in the area of the hill-fort and was as follows:—

- (a) Surface plough (6 inches).
- (b) Brown sand and sandstone fragments (6-10 inches).
- (c) Orange sand (in north-east corner only; 3-7 inches and deepening towards north-east).
- (d) Bedrock, consisting of:
 - (i) a thin sheet of hard rock (in north-east triangle only; 3-4 inches);
 - (ii) pale yellow stony clay (11 inches);
 - (iii) sticky yellow clay (visible only in the bottom of trench and post-holes; depth unknown).

Dr. Cornwall suggested that (d) (ii), had originally been rock similar to (d) (i), but had reacted to local conditions in a different way. He considered that (c) was the relic of an earlier soil profile, probably of Tertiary age, which had been built up in tropical conditions after the bedrock had been denuded to its present level. This earlier soil appears only where the bedrock is fairly deep below the modern surface; in the shallower parts it has been modified into the present temperate podsol.

Of the relationship between the various archaeological features, all that can be said with certainty is that the trench was dug first and deliberately filled in before the hollow was cut out and used as a receptacle for the hearth. This sequence is clear from the fact

that the digging of the north end of the hollow shaved off the top of the trench and its filling, which was then overlaid by the material filling the hollow and surrounding the hearth (see Plate VI).

The original purpose of the trench is uncertain. The fact, however, that at its north-eastern end there were two groups of closely placed stake-holes suggests that at some stage the trench (or part of it) was used as the footing of a fence or protective screen, and it may originally have been dug for that purpose.

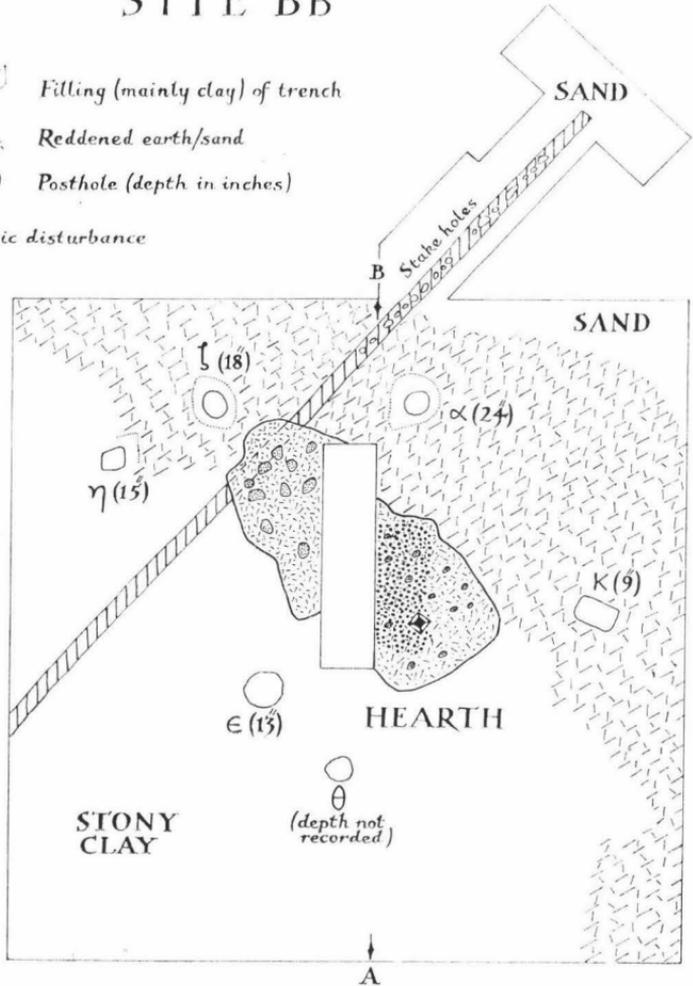
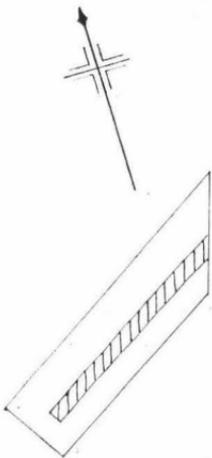
SITE BB

-  Rock
-  Charcoal
-  Stone
-  Centre of magnetic disturbance
-  Filling (mainly clay) of trench
-  Reddened earth/sand
-  Posthole (depth in inches)

Note:

The ground slopes down gradually to the N.E. The rock overlies the clay; and the sand, the rock.

A ← → B
Section at Fig. 11



Scale of Feet

FIG. 10

The trench was just short of 45 feet long and in the parts from which we removed the filling averaged about 12 inches deep; it averaged 7 inches wide at the top and tapered slightly towards the bottom. The north-eastern end of the trench, which was cut through the orange sand into the stony clay beneath, was filled with hard dry clay in which were set the stake-holes already referred to; none of the filling in this part was removed. No stake-holes were found in the filling (mainly clay) of the remaining two-thirds of the trench. It appears, therefore, that any stakes which it may have carried perished or were removed when the trench was filled in. It will be noted in Fig. 10 that the stake-holes stop just short of the horse-shoe shaped structure. The builders of the latter may have found it useful to leave the fence or screen in position or renew it as a wing to their own shelter.

Two samples were taken of the filling of the gully for analysis. These showed 0.21 and 0.24mgs./g. of humus, and 7.0 and 4.0mgs./100g. of phosphate respectively. The phosphate figures suggest a small degree of human occupation.

The filling of the depression varied from part to part (see Fig. 11). The hearth area consisted of concentrated charcoal mixed with reddened earth and sand and a few small pieces of sandstone, and was clearly the product of a fire *in situ*. The surrounding filling varied from (in the south) dark crumbly earth, sand and small pieces of sandstone to (in the north) a more glutinous purple mixture, together with slabs of rock. Most of the slabs were lying at an angle of 45 degrees and had obviously come from the thin layer of rock which lies at the top of bed-rock in this area.

The post-holes clearly indicate the existence of a horse-shoe-shaped wooden structure, facing south, round the hearth. Owing to later disturbance the packing in post-holes θ and κ , which are nearer the present land surface than the rest, had completely vanished, and had almost disappeared in post-hole ϵ . Of the other three holes, α was more or less intact, with the packing material around the post-hole still in position.

SITE BB - SECTION A-B

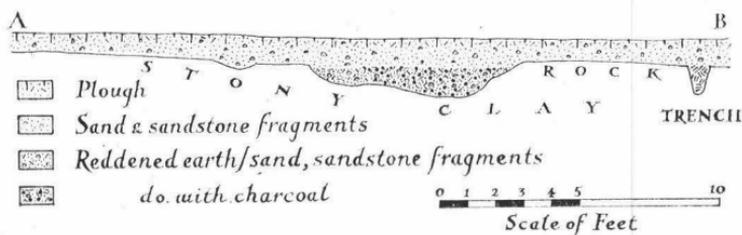


FIG. 11

In the upper part of the filling of post-hole *a* there were pieces of iron-slag. These may have been part of the top of the packing and have fallen in when the post had gone. The presence of the slag suggests, incidentally, the existence of an iron-working site in the vicinity. In the opinion of Mr. Henry Cleere, Assistant Secretary of the Iron and Steel Institute, who kindly examined it, the slag came from a bowl furnace and had not been tapped. It is, therefore, probably of pre-Roman date. He also examined a sample of the hearth itself and stated that there was nothing in the sample to suggest that the hearth was connected with iron-working or was for any but domestic use.

The only occupation material found were six fragments of iron, two of which appeared to be nails and one either a nail or part of a brooch. There was no pottery. In the filling of the hearth there were two pebbles which may have been sling stones.

As will be seen from Appendix E the archaeomagnetic tests gave no information about the date of the hearth.

To sum up, the sequence of events (proved or probable) was as follows:—

(i) the trench was dug to hold a fence or protective screen; (ii) the greater part of the wooden structure was removed and the trench filled in; (iii) the hollow was cut out; and (iv) the hearth, with other filling material, was installed in the hollow and a horse-shoe shaped timber structure was built round it.

In considering the purpose of this site, which provided the only evidence of structure within the fort, it is worth noting that it is placed at a vantage point in the south-eastern part of the fort and that from it almost the entire circuit of ramparts would have been visible. It is unlikely that so slight a building was the social or military focus of the fort, which such a situation suggests. It is more likely to have been simply a look-out post.

THE EAST ENTRANCE (SITE E. Figs. 12 and 14) (1960-61)

As a final task the greater part of the East Entrance was stripped the result is shown in the gridded plan at Fig. 14, to which referenc; is made throughout. There is a detailed contour plan of the site before excavation at Fig. 12.

The ground on which the entrance lies slopes down from north to south and is situated at the junction of the clay and the sandstone (which comes to the surface in C7, C8 and D8). The builders, therefore, were working sometimes in rock, sometimes in clay and sometimes in a mixture of the two. On one side of the entrance, for example, the outer ditch (C7-E7) was cut out of the rock, whereas a few yards away on the other side it was dug from the clay (G7).

The Period I builders, whether they were working in clay or rock, cut a U-shaped ditch throughout, as already seen in Site F (Fig. 3).

In Period II, however, the rock-cut ditches were wide and shallow, as, for example, the inner ditch at Sites A and F, and the recut outer ditch south-west of the entrance (C6/7). On the other hand, where the Period II inner ditch was dug from the clay (H3 and J3), it was found to be U-shaped.

Abundant rock was available and was either broken up small to provide rampart material or (in Period II especially) cut into slabs and blocks for use in various ways.

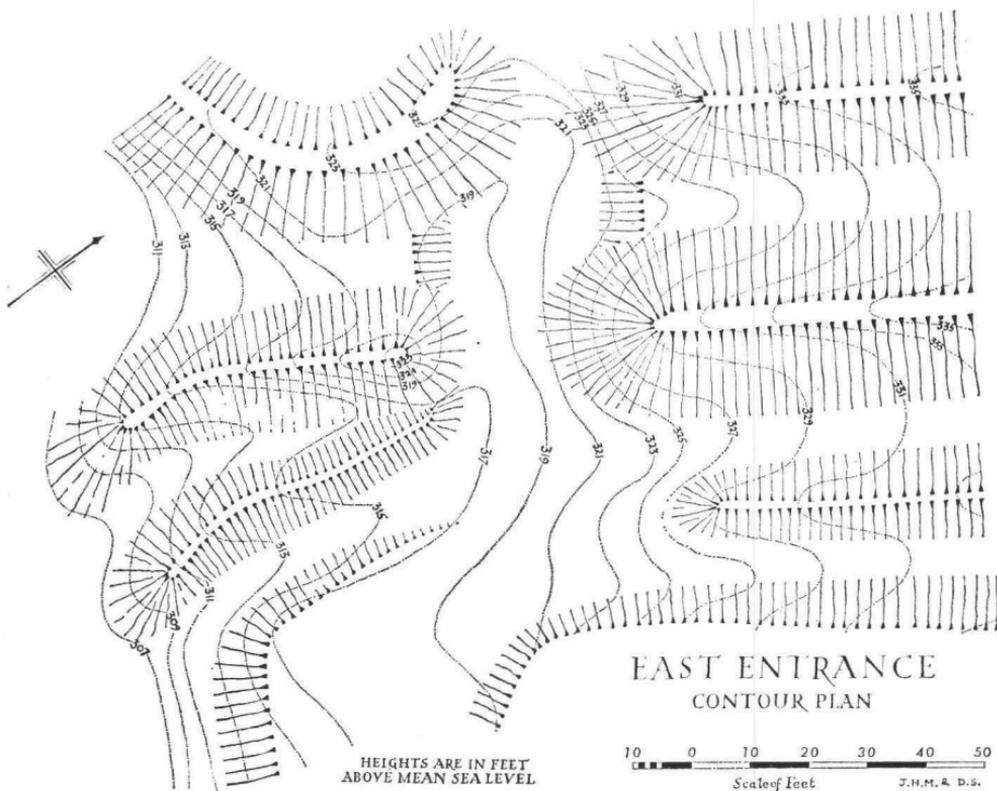
Briefly the sequence of construction was as follows:—

Period I

Outer ditch, and outer rampart and counterscarp bank of dumped clay and stone. Entrance protected by gate.

Period II

A revetted and timbered inner rampart and inner ditch for the main defences; gate moved back. Outer rampart and outer ditch re-used for defence in depth, part of the outer rampart (B6-E6) being



heightened, revetted and timbered, and part of the outer ditch recut. Metalling laid down on approach and throughout the entrance. Low banks of stones and clay, and posts placed along the north-east flank of the entrance and in the area of the Period I entrance. The whole history is well illustrated by the Section of the outer ditch at Fig. 13, which shows the Period I ditch with its inner side recut in Period II, the silts of both periods and the revetment (partly collapsed) of the Period II reconstruction.

Period I

South-west of the entrance the Period I builders cut a U-shaped ditch into the natural rock. In C/D7, 25 feet from the end of the ditch, the rock was left unexcavated, forming a causeway across the ditch and creating a length of ditch (D7-E7) into which rain-water from most of the surrounding area would have drained and which may have been used as a reservoir. Plate VII shows this causeway, the ditch beyond it and the section which is illustrated at Fig. 13. At the bottom of the ditch silt in C7 was found the unfinished upper stone of a rotary quern, which is discussed in Appendix F and illustrated in Fig. 19.

On the other side of the entrance the outer ditch was dug into the clay and was roughly the same size and shape as the outer ditch in Site J (see Fig. 5).

SITE E - SECTION A-B

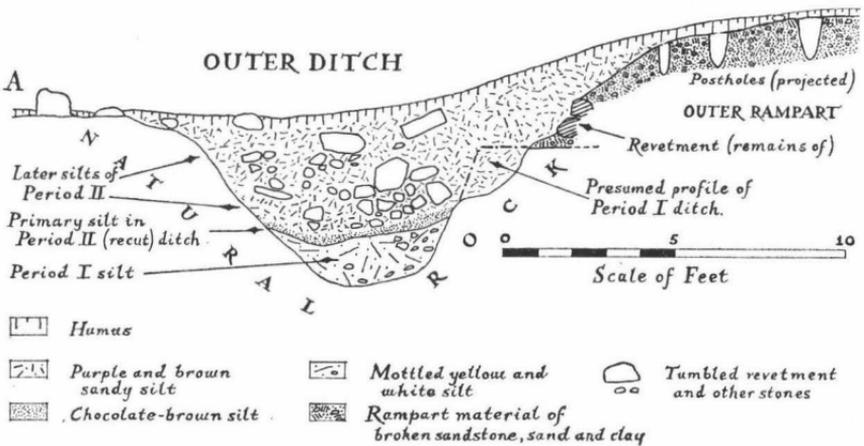


FIG. 13

The main plan (Fig. 14) shows many post-holes of various sizes in the area of the outer entrance. In E6 there are two large post-holes packed round with stones, which can fairly be regarded as sockets for the gate-posts on the south-west side of the Period I entrance. The filling of both holes included metal of the Period II road, which incorporated in its make-up the packing stones round the posts. What was left of the inner post-hole was 9 inches deep; of the outer, 11 inches deep. No trace was found of corresponding posts on the other side of the entrance (F6); it is likely that, if they existed, they were obliterated either by later erosion or by the Period II builders.

The significance of the other post-holes shown in the plan is discussed on p. 183 below.

Period II

In Period II new and stronger defences were built behind the old, and the main entrance was correspondingly moved back.

Stone and timber were used extensively, sometimes separately and sometimes in combination, to supplement the basic material, which was dumped clay and earth. There was extensive revetting on the forward face of the inner rampart and on either side of the inner entrance, and throughout the construction a remarkable system of timbers, which has survived in the form of numerous post-holes. These fall into four main groups:—

(i) The smallest holes, which form the majority and are scattered throughout the rampart; in their present state they vary from 3 to 5 inches in diameter and from 5 to 9 inches in depth;

(ii) two rows of larger holes on the crest of the rampart (H2 and I2), which vary from 5 to 8 inches in diameter and from 7 to 11 inches in depth;

(iii) holes of similar width but of depths up to 17 inches amidst the *in situ* masonry on either side of the entrance (F2 and G2); and

(iv) several isolated holes on the crest of the rampart, which are from 9 to 14 inches wide and from 12 to 20 inches deep.

It seems likely that the posts of Group (i) were wholly or mainly used to consolidate and bind together the rampart material; those on the forward face may have been used, possibly in conjunction with horizontal timbers or brushwood, to support the stone revetment (see Appendix E and Fig. 18). Groups (ii) and (iv) were probably the posts of a palisade. Professor Frere has suggested that Group (iii) provided the footings of a bridge across the entrance, to link the rampart walks on either side. None of the posts in Group (iii) were obviously gateposts. It is suggested that two or more of them may have carried gates in addition to acting as supports of a bridge. There is a general view of this area at Plate VIII.

The builders of Period II also strengthened that part of the outer

rampart which lies south-west of the entrance, increasing its height (this is illustrated in Site A)¹ and incorporating timbers to consolidate the rampart material, strengthen the revetment and possibly also provide a palisade. In addition they trimmed the end of the old rampart, added a retaining wall (E6) and built a look-out post on top of the rampart end (E5/6). The presence of several substantial post-holes surrounding the remains of the stone foundations of this structure suggests that upright timbers were incorporated in it, possibly in order to support a platform and parapet of clay and stones.

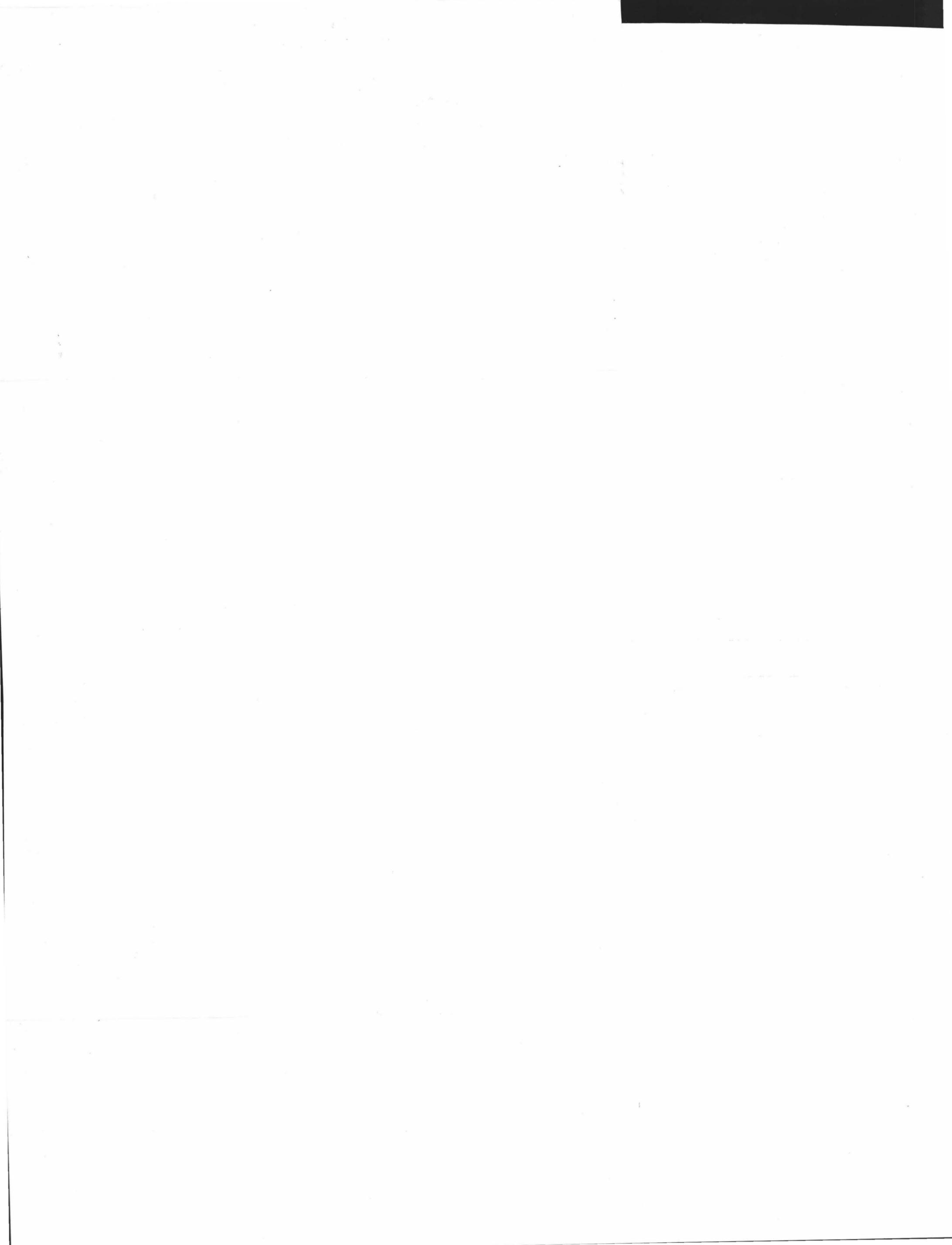
Part of the outer ditch was recut, notably on its inner side in C7, where the deep U-shaped ditch of Period I was left partly silted up and converted into the broader and flatter ditch characteristic of Period II (see Fig. 13). The end of the ditch was shortened by six feet, so as to correspond roughly with the trimming of the outer rampart.

A road, consisting of beaten earth mixed with broken sandstone and pieces of slag (now largely disintegrated), was laid down inside and outside the entrance; much of it has survived (see Fig. 14). The surface, which becomes progressively thinner outside the entrance, was traced as far as C9 and looked as if it was heading towards the trackway which runs away to the south-east. It will be noted that this road ran over the filled-in end of the Period I ditch.

The outer rampart and ditch on the north-east side of the entrance (G5/6-J5/6) were also modified in Period II, but to a lesser extent and in a different way. As far as can be judged from the section of Site J (Fig. 5), the outer rampart was not heightened in Period II, nor can the line of palisade post-holes on its crest be assigned definitely to one period rather than another. The end of this rampart was found in a denuded state, with substantial quantities of silt and fallen stone-work lying below it (F6). The presence of this stonework and the post-holes which still survive in the rampart end (G5/6-H5/6) suggest that there was a look-out post there also.

There is no evidence that the outer ditch on this side was cleaned out, recut or modified in Period II, except at its end (F7). Here there were stake-holes set in the ditch silt and a group of *in situ* stones. This appears to be the remains of a bank of clay, timber and masonry built at the end of the partially silted-up Period I ditch and designed to stop water and more silt from flowing out over the road. Two similar but larger banks of clay and stones (F4 and G3), built on this side of the entrance in the area between the outer and inner defence, probably had similar functions. The edge of the road was closely defined by the stones of the bank in F4.

¹ *S.A.C.*, vol. 82 (1941), p. 106, Fig. 2, *op. cit.*



Finally, something must be said about the post-holes (mostly mere stake-holes two to three inches in diameter) which are peppered about the outer part of the entrance (E/F 5-8). It would appear that, apart from the two gate-posts belonging to Period I (see p. 181 above), as a whole they belong to Period II; the arrangement of them is certainly comparable with that of the timbers used on the Period II ramparts. Most of those in the area of the roadway were detected as soft fillings in the road metal and underlying natural clay. A few had traces of metalling in the fillings and these at least may be earlier than the road, but equally they could be contemporary with the road and the metal have fallen in or been trodden in later.

On the north-east side of the roadway (F5-F7) there is a line of larger post-holes, which follow the edge of the road closely and at one point in F6 are combined with stonework. This is possibly the remains of another construction of timber, earth and stone, designed to prevent water and silt from washing over the road; it will be noted that the posts end exactly where the bank of clay and stones (F/G4) begins. Beside this line of post-holes there is another of smaller holes set on a different alignment and running out well beyond the outer ditch. The purpose of the latter is not clear; it may have been used in some way as a retaining fence, or to guide cattle in and out and prevent them straying over the ends of the banks and ditches. On the other side of the road there is a less well defined line of holes running roughly parallel with the retaining wall. More or less at right angles to these rows there are several short lines of post-holes crossing the entrance at various points between the outer ditch and outer rampart; the most clearly defined are three such lines in E/F5. They suggest the existence of fences or hurdles for blocking this part of the entrance, when the main gate had been moved back to the inner rampart. Finally, there is a miscellaneous collection of post-holes in the area outside the outer ditch; their purpose is not clear, but they may, like some of the others, be the remains of a fence or a bank strengthened by timbers.

CONCLUSIONS—HISTORY OF THE SITE

The earliest occupation of the site was by Mesolithic and Neolithic peoples, who were probably based on the rock shelters under the escarpment of the High Rocks and left a scatter of flint implements and waste material (Appendix A).

Parts of the area were occupied and arable farming conducted, at a time unknown, before the fort was built.

The Period I fort was built by Wealden people with a Southern Second B culture (Appendix B). The probable stimulus for this initial fortification was the first penetration of the Belgic (First Southern C) peoples into South-Eastern England, which occurred

at the latest around 100 B.C. and on the new coin evidence¹ could have been up to some 50 years earlier. Both the cultural and structural analogies of the Period I defences link this phase with that of Oldbury I and other Wealden hillforts; in general a wave of fortification in the area seems probable somewhere between 150 and 100 B.C., to counteract the threat of the new arrivals. There is, at present, no evidence that High Rocks was attacked then or subdued by these First Southern C people. Indeed the Weald, both then and later, appears to have succeeded in resisting any significant penetration.

According to the evidence of the pollen analysis (Appendix C) this first phase was succeeded by an interval during which the defences were abandoned and the site was turned over to cultivation.

High Rocks I, therefore, appears to have been a hill refuge rather than a continuously occupied site, with but a temporary use as a defensive position until things became more peaceful during the first century B.C.

It is difficult to offer any precise dating for the construction of the Period II defences, as associated contemporary material is lacking. The most probable occasion for a refortification of the site would be either that of the advance of Cunobelinus into Kent c.A.D.25, or his pressure against the kingdom of Verica in Sussex c.A.D.40, or the Roman invasion of A.D.43 itself.

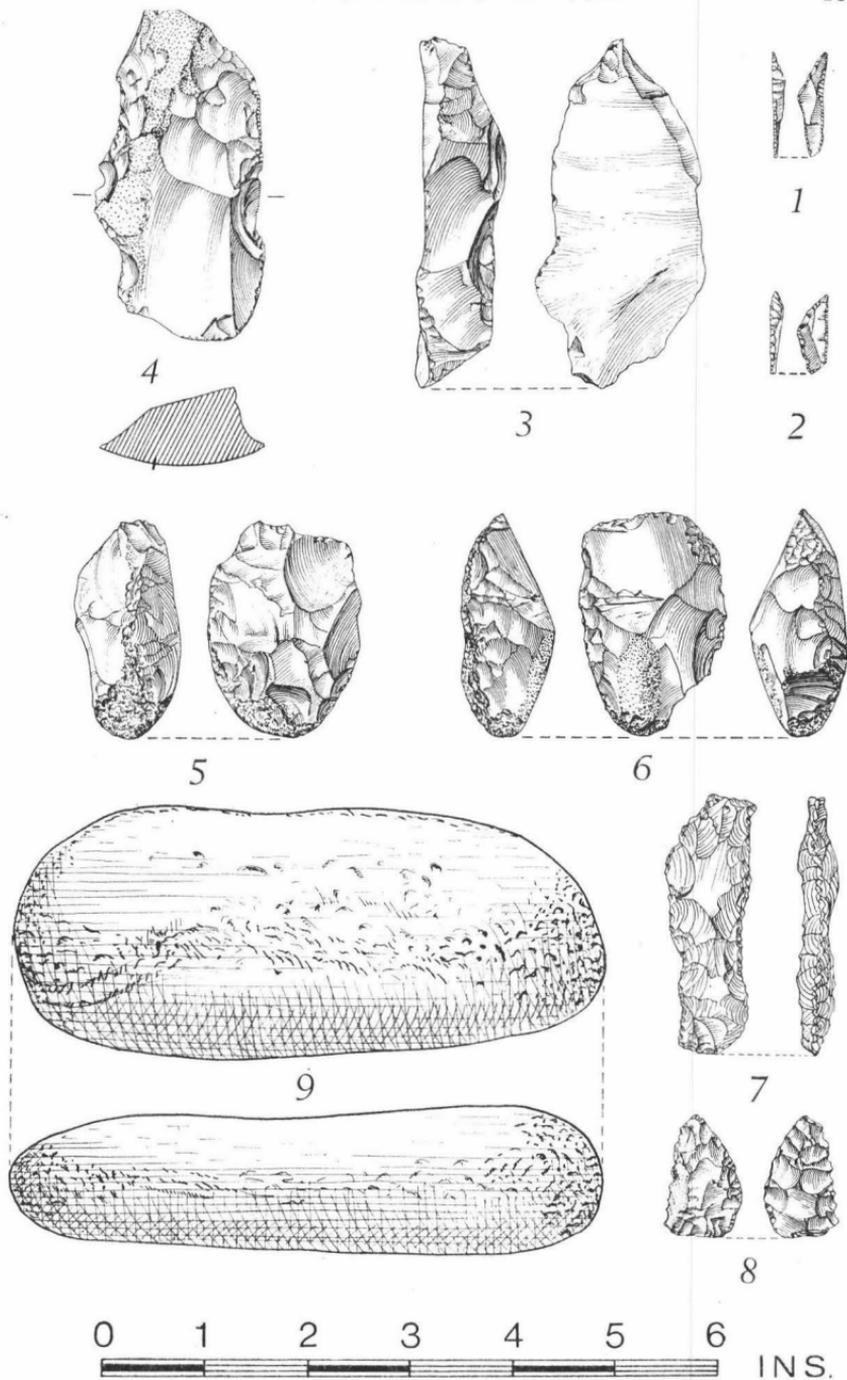
Repeating the former tactics, the descendants of the same Wealden folk returned to High Rocks. But in High Rocks II they constructed stronger defences and in effect created a bivallate promontory fort. Using the remains of the Period I fortifications they built, inside the old defences, a new rampart with a wider, shallower ditch. The new rampart was crested and faced externally with a revetment and in places it carried a palisade. There was an improved and stronger East Entrance.

Whether these new ideas were derived from knowledge of what the Belgic C peoples were doing elsewhere is conjectural. On the present pottery evidence, however, it can scarcely be said that the builders of High Rocks II either came under marked C influence or were a C people. Indeed, in the Wealden area, with its absence of C cultural material, and late continuance of an Iron Age tradition, only anti-Belgic defences would seem to be in order.

Finally, pottery evidence, in the shape of a rim of a samian bowl of Claudio-Neronian date, two Romano-British fragments and pieces of Patch Grove pots, suggests that the site was occupied or at least visited during early Romano-British times.

It is clear that the occupation of the site was at no time intensive

¹ cf. D. F. Allen, 'The Origins of Coinage in Britain: a Reappraisal,' in 'Problems of the Iron Age in Southern Britain' (University of London, Institute of Archaeology, Occasional Paper No. 11, 1960, ed. Frere), pp. 97-128.



HIGH ROCKS CAMP - FLINTS

FIG. 15

and during the period of fortification existed mainly in the areas immediately behind the ramparts.

Eventually agriculture ceased in the area of the fort and the forest returned.

APPENDIX A. FLINT AND STONE ARTEFACTS

By J. J. WYMER, F.S.A.

Over the years ploughing in the area covered by the hill-fort has turned up a number of flint artefacts and pieces of foreign stone, including some finished implements, cores, flakes, pebbles and a hammerstone. In addition, a number of flints were found in various stratified positions during the excavations. The latter include some forms which are diagnostic of Mesolithic and Neolithic industries, so their positions are fortuitous and have no chronological significance; clearly they had been swept off the original land surface by the diggings and activities of the Iron Age. The same is probably true of all the other non-diagnostic flint flakes found in stratified contexts.

Taken as a whole, the flints are a mixture of Mesolithic and Neolithic types and may have belonged to the inhabitants of the prehistoric rock shelters under the High Rocks.¹ 23 pebbles, however, may have been sling-stones connected with the period of the hill-fort.

Nine pieces, which are worth individual mention, are illustrated in Fig. 15:

- 1-2. Sub-triangular microliths. Mesolithic.
3. Oblique, multi-faceted graver. Mesolithic.
4. Flake-axe. Mesolithic.
5. Broken small axe with battered butt. Mesolithic?
6. Flake-axe with battered butt. Mesolithic.
7. "Strike-a-light." Neolithic?
8. Rough leaf-shaped arrowhead. Neolithic.
9. Hammerstone of imported igneous rock. Mesolithic?

The two sub-triangular microliths (Clark's type D) are comparable to those excavated from the High Rocks shelters, where they were found in association with obliquely-blunted points, hollow-based or 'Horsham points' and rod-like microliths. It seems likely that the occurrence of such minute sub-triangular microliths with rod-like forms, both mainly not made by microburin technique, represents a very late or final phase of the Wealden Mesolithic sequence.² The flake-axes are of particular interest for their rarity on British

¹ J. H. Money, 'Excavations at High Rocks, Tunbridge Wells, 1954-56,' *S.A.C.*, vol. 98 (1960), pp. 173-221, and Supplementary Note, *ibid.* *S.A.C.*, vol. 100 (1962), pp. 149-51.

² W. F. Rankine, 'Further Excavations at Oakhanger, Selborne, Hants.: site VIII,' *Wealden Mesolithic Research Bulletin* (1961). Published privately.



Photo by J. K. St. Joseph. Crown Copyright Reserved

PLATE I—Aerial view from the east

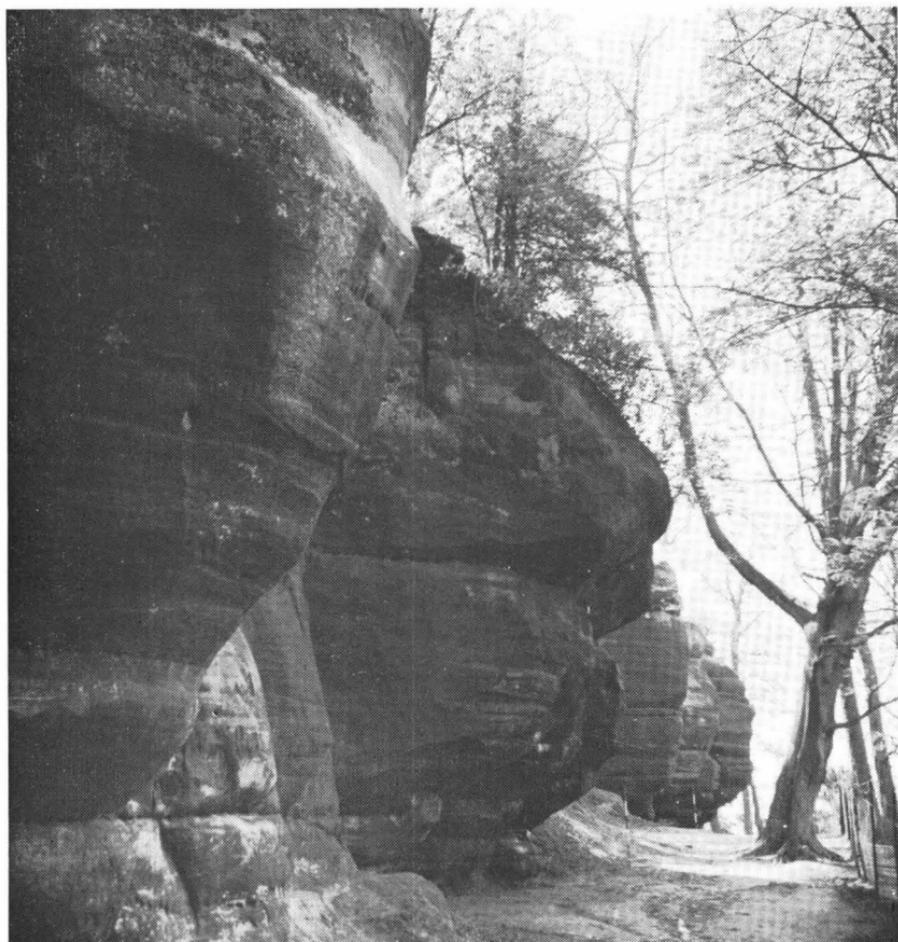


PLATE II—A view of the High Rocks escarpment, looking south-west

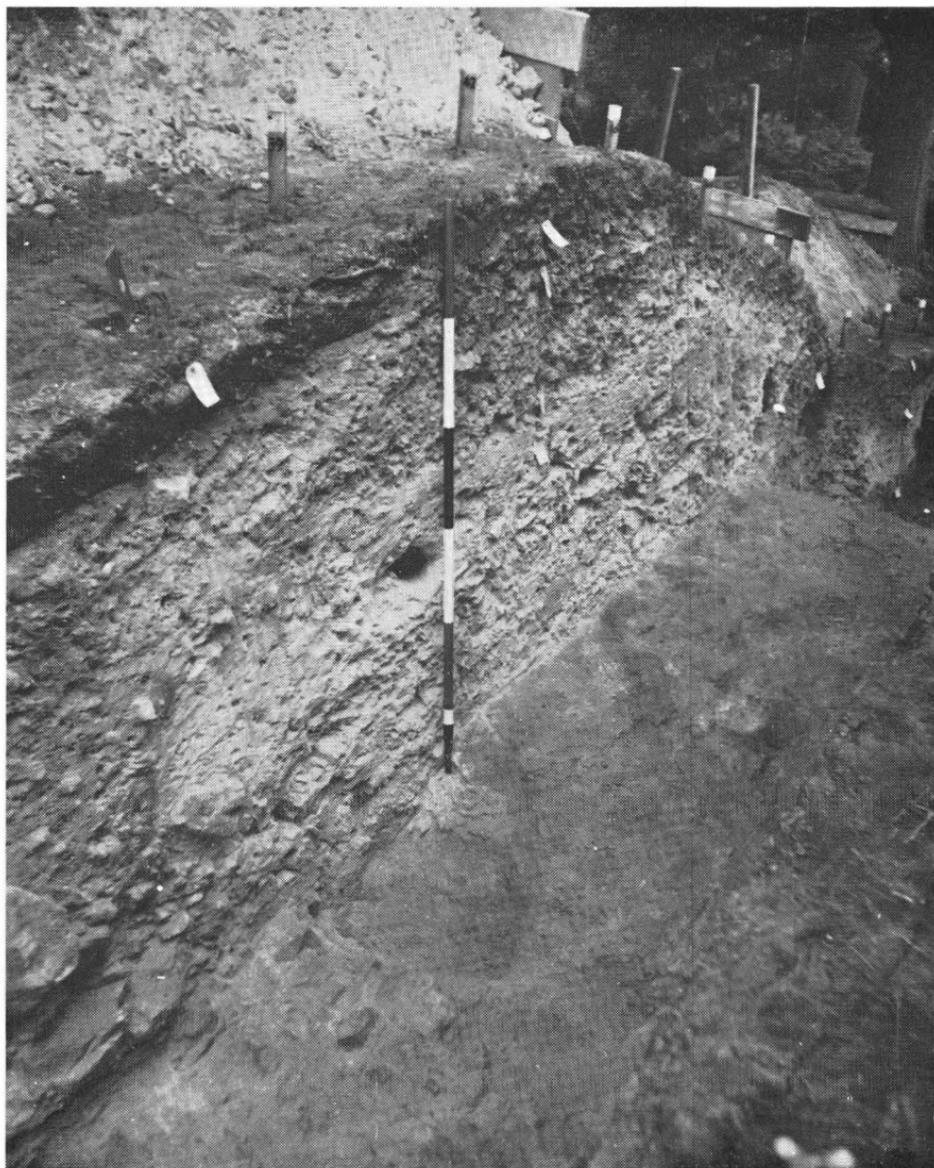


PLATE III

SITE F. East face of outer rampart from the north, showing the rampart material of Periods I and II separated by zone of intervening soil. Behind it is the silt of the inner (Period II) ditch

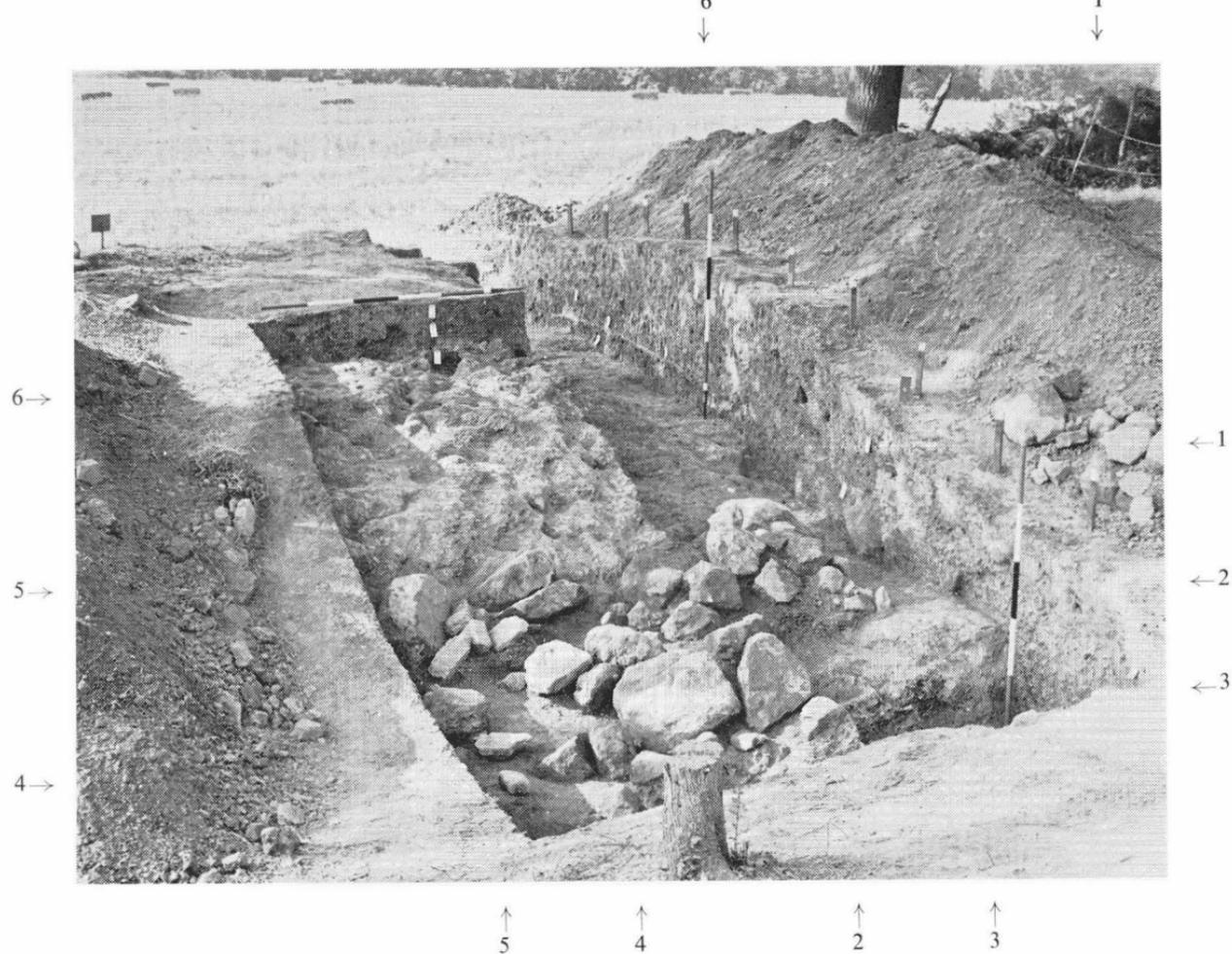


PLATE IV—SITE J. Inner ditch and inner rampart, looking north. Numbered features are described on p. 169

sites. The only site where they have been found in a definite Mesolithic association is at Lower Halstow, in North Kent.¹ Flake-axes, or *spalter*, are common in the Danish Mesolithic industries which continue into the Neolithic period. Two of the three axes found have much-battered butts and have either been used as hammerstones or wedges in conjunction with a stone hammer.

APPENDIX B. THE POTTERY

By Mrs. M. AYLWIN COTTON, F.S.A., with additions by Professor SHEPPARD S. FRERE, F.S.A.

Pottery in Period I levels attributable to Period I

No pottery was found in the make-up of the outer rampart, or in the primary silt of the outer ditch. The secondary silt of this ditch (in Site J) yielded 11 tiny scraps of hand-made pottery, with a gritty paste, fired red or red and black, of Iron Age character. On the old land surface under the outer rampart, Site J produced some five sherds and a few scraps of similar pottery.

On the old land surface under the inner rampart Site N produced a sherd with a dark sandy paste; and Site J one sherd and the following base, which may belong to Period I.

Fig. 16, 1. A small fragment of the base of a hand-made footring bowl. In fairly fine-grained brown paste, only slightly gritty, it has a smoothed black surface.

The occupation level inside the outer rampart had been cut away by the Period II inner ditch, so that no pottery in position was available. Inside the Period II inner rampart no occupation level that was attributable solely to Period I could be distinguished, and the bulk of the pottery found that belonged to this phase is described below where it occurred in the Period I/II occupation level. On Site K, in the hill-wash outside the inner rampart, there occurred sherds of hand-made wares, as above, and, in the outer ditch, the following pot.

Fig. 16, 2. A rim and part of the wall of a very large hand-made pot, in a rough badly-fired ware, of a black to dark brown paste with many coarse mixed grits. The rim is roughly flattened and may show the last faint traces of a pie-crust tradition. It bears some resemblance, in size and ware, to a pot found at Hammer Wood, Iping,² though it lacks the carination of that pot and the external scratch marks. The Hammer Wood pot was found in a hearth in a position comparable to that of the High Rocks example. In both cases the pots are in the most degenerate stage of the Iron Age A situlate tradition.

¹ J. P. T. Burchell, 'The Shell Mound Industry of Denmark as represented at Lower Halstow, Kent,' *Proc. Prehist. Soc. E. Anglia*, vol. 5 (1925), pp. 74-6, and Fig. 6 (p. 78).

² J. R. Boyden, 'Excavations at Hammer Wood, Iping: 1957,' *S.A.C.*, vol. 96 (1958), p. 157, Plate I.

Pottery in Period II levels

The make-up of the Period II inner rampart yielded but little pottery. Small sherds of wares, similar to those found in Period I levels, were found in this derived position in Sites A and B (5), J (3 and a very worn rim scrap), L (1), M (1) and N (3). But Sites A, B and N produced in addition a few sherds of ware of the type described below under saucepan pots. The only sizable rim came from Site N.

Fig. 18, 3. A rim, in a fine-grained gritless black paste, with smoothed brownish red surface. The rim is slightly everted with a flattened top which seems to show a possible finger-nail imprint. It is probably derived from the Period I material.

There was no pottery in the primary silt of the Period II inner ditch, but the secondary silt, in Sites F and J, produced a sherd of Period I type gritty ware, one of saucepan type ware, and a sherd of the grey 'porridgy'-paste ware described below.

Pottery in the Period I/II occupation level inside the inner rampart

With the exception of a few sherds from Site F, the pottery found in this position came from Sites J and N, and forms the bulk of the material for dating the occupation of the site.

Although the area was occupied twice as a fort and according to the pollen evidence (see Appendix C) used in the break for cultivation, it was not possible to distinguish more than one occupation level. This may be explained by the fact that the intervening cultivation would have churned up the thin layer in which the Period I pottery lay and left the soil unconsolidated, so that earlier and later material became easily confused.

Footring bowls. Footring bowls are small pots distinguished by an S-shaped profile and squat pedestal bases, usually called footrings in order to differentiate them from Iron Age C pedestal bases. Their bases vary in form from a well-defined pedestal to a flat base demarcated by a mere beading. They were distinguished by Ward Perkins at Crayford¹ and Oldbury.²

Footring bowls constitute a type fossil for the Wealden form of the Southern Second B culture, which pertained in Region 10 from c. 200-100 B.C., though it continued with later influences

¹ J. B. Ward Perkins, 'An Early Iron Age Site at Crayford, Kent,' *Proceedings of the Prehistoric Society*, vol. IV, Part 1 (1938), p. 163, Fig. 9, 1-4.

² J. B. Ward Perkins, 'Excavations on the Iron Age Hill-fort of Oldbury, near Ightham, Kent,' *Archaeologia*, vol. 90 (1944), pp. 144 ff., Fig. 5, with a distribution map at Fig. 6. This map has since been amplified. See A. E. Wilson, 'Sussex on the Eve of the Roman Conquest,' in *S.A.C.*, vol. 93 (1955), pp. 62-3, Fig. 3. Compare also A. E. Wilson and G. P. Burstow, 'The Evolution of Sussex Iron Age pottery,' *ibid.*, vol. 87 (1948), pp. 91-3.

until after the Roman conquest.¹ Having regard to the small total quantity of pottery found at High Rocks, footring bowls are relatively common there.

Fig. 16, 4. The base of a footring bowl with a well-defined pedestal form. In a hand-made ware, with a sandy grey-brown paste, fired to a brown corky surface. The small scrap shown as No. 1 was of this form.

Fig. 16, 5. Another base, in the same hand-made ware as the last, which shows a less well-defined pedestal form. Three other examples were found.

Fig. 16, 6. In this example, in the same ware as the last two, only the demarcating groove remains and the base is flat; this makes it uncertain whether the original vessel was a very devolved footring bowl or possibly a saucepan pot. There were six others of this form.

Fig. 16, 7. The rim of a bowl with an S-shaped profile. The everted rim has an internal angularity. In the same ware as the above three bases.

Fig. 16, 8. A simple everted rim, from a bowl with an S-shaped profile. In a ware of a 'porridgy' gritty grey paste, this example had lost its surfaces. The paste is very typical of the Wealden ware of the period. Another example occurred.

Fig. 16, 9. A shoulder, and part of the rim, of a footring bowl, in the same ware as that of the last, but with a smoothed brown surface outside which shows the horizontal markings of wheel-turning. Its inside surface was missing.

Saucepan pots. Saucepan pots, of wide diffusion, are a very typical form in the Southern Second B culture.² Three sub-groups may be recognised in the general type:

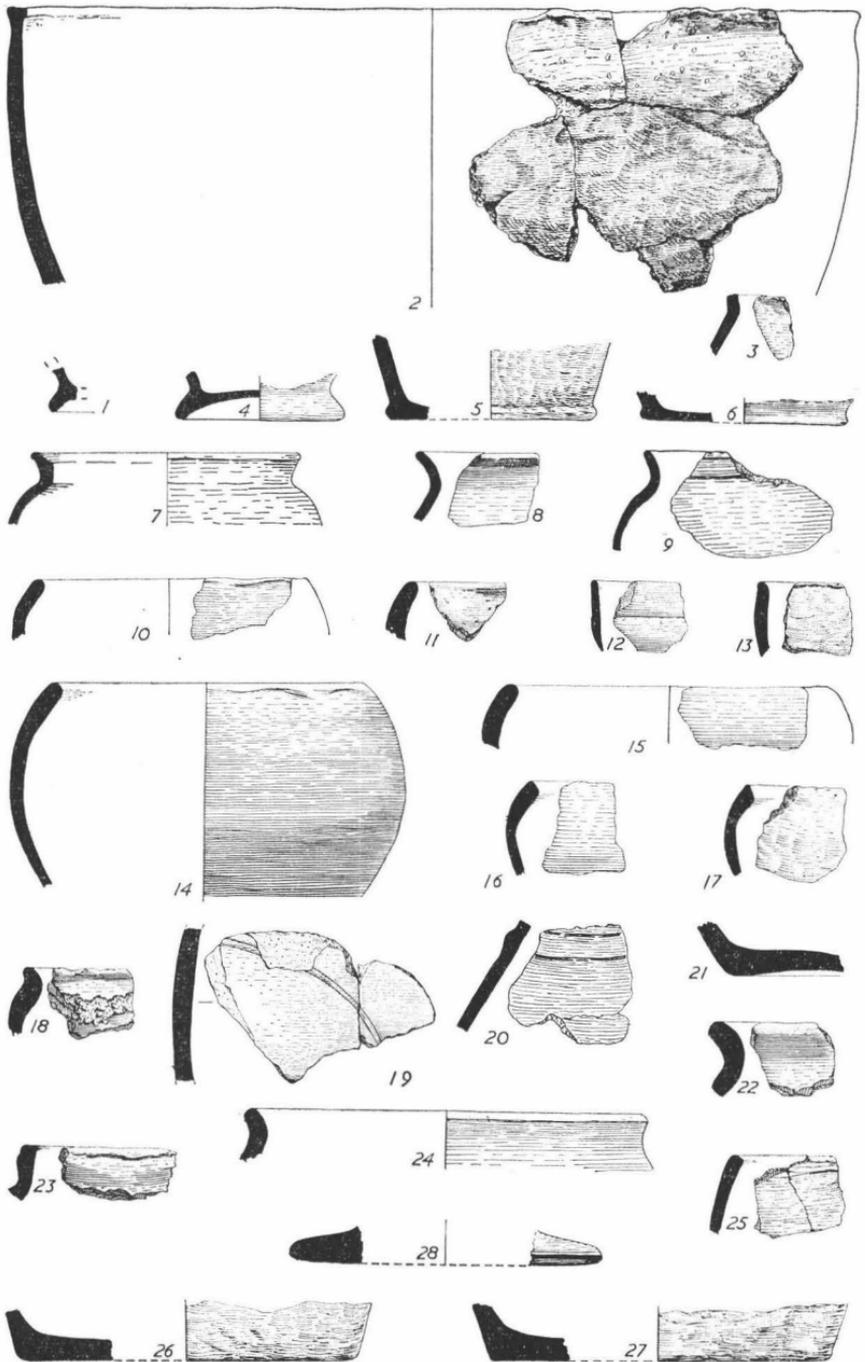
- (a) bowls with almost vertical sides and simple rims, cf. nos. 12 and 13 below;
- (b) globular or curved-wall bowls with simple or bevelled lips often very incurving, cf. nos. 10, 11 and 14-17 below; and
- (c) convex bowls with moulded or beaded lip, cf. no. 18 below.

(a) *Bowls with almost vertical sides and simple rims*

Fig. 16, 12-13. Two rims from saucepan pots, from Site J. No. 12, in a thin ware, has a grey-black paste with an external pinkish-red slip, but its internal surface has been lost. No. 13 is in a much

¹ cf. Christopher Hawkes, 'The ABC of the British Iron Age,' in *Antiquity*, vol. 33 (1959), p. 181 and chart at Fig. 4. For the second century dating, cf. Hawkes, 'The Caburn Pottery and its implications,' *S.A.C.*, vol. 80 (1939), p. 237; and S. S. Frere, 'Problems of the Iron Age in South Britain,' *op. cit.*, p. 91, referring to evidence from Holwood Camp, Keston.

² For accounts of this form, cf. Hawkes *S.A.C.*, vol. 80 (1939), pp. 231 ff.; and Wilson and Burstow, *S.A.C.*, vol. 87 (1948), pp. 91-3.



0 1 2 3 4 5 6
INS.

HIGH ROCKS CAMP-POTTERY

FIG. 16

coarser thicker rather porridgy ware, with a gritty dark brown paste, fired to a brownish-black surface. A comparable rim sherd came from Site N.

(b) *Globular bowls with simple or bevelled inturned rims*

These would seem to be a sub-group of the saucepan pot type: the very rounded profile is not uncommon,¹ though normally there is a groove to demarcate the lip (as in no. 18 below). This plain type of profile, with undifferentiated lip, is perhaps a local type, difficult at present to parallel.

Fig. 16, 10-11. Two rims from globular saucepan pots, from Site N. They have a slightly gritty black paste, and a smooth soapy black burnished surface. No. 11 has a faint line below the rim on the outside. Two similar rims were found in this level of Site N, with three from Site J.

Fig. 16, 14. A bowl, with a well-rounded body, and a simple inturned rim. In a hand-made ware with a fairly fine-grained black paste, it is fired to black and leathery brown, and both the inner and outer surfaces are well smoothed and show faint tooling marks. From Site N.

Fig. 16, 15. A similar rim, from Site J, is in a much coarser ware, with a gritty grey paste, fired black and brown, and with a much more corky surface. Two similar rims came from this site.

Fig. 16, 16-17. Two rims, from Site J, in the same ware as the last. They differ from that example in that the inside is bevelled and not rounded.

(c) *Convex-sided saucepan pots with moulded lip*

Fig. 16, 18. The beaded rim of a hand-made bowl in a grey slightly 'porridgy' ware with a polished grey surface. With another rim from Site N, probably from the same bowl, this was the only example found of this form.

Sherd of Southern Third B (South-Eastern B) ware

Fig. 16, 19. A sherd, in a porridgy grey paste, with a well-smoothed grey-black surface outside (the inner surface is lost). From Site J. Probably from the shoulder of a large pot, it shows two lines of a decorative "eyebrow" swag pattern. This is the only sherd that can be ascribed to the Southern Third B (South-Eastern B) culture.

Southern First C ware

Fig. 16, 20. A wheel-turned sherd with part of a cordon. In fine-grained, slightly gritty, black paste, it is fired brown, and has a smoothed surface which on the outside shows distinct marks of wheel-turning. From Site N.

Fig. 16, 28. A Belgic quoit-shaped pedestal base, in a fine-grained brown paste with a burnished surface.

Patch Grove type pots

'Patch Grove' type pottery, distinguished by Ward Perkins at

¹ See R. E. M. Wheeler, *Maiden Castle, Dorset* (1943), Figs. 66, 67, etc.

the Patch Grove site outside Oldbury hill-fort¹ is characterised by a porridgy grey ware with orange surfacing. The form is a large jar with a curled-out rim, a carinated shoulder decorated with horizontal rows of firmly impressed finger-tip jabs, or stab-marks imitating them, and a flat base; it is derived ultimately from the Southern Third B culture.²

Fig. 16, 21. A base, in a porridgy red paste, fired red, with a rough surface, and showing soot-blackening. From Site J, with three other examples.

Fig. 16, 22. An everted rim, from a large jar, in the same ware as the above. From Site J, with three smaller but similar rim fragments, and one from Site N. No shoulder sherds were found which might have shown the decoration typical of these pots.

Miscellaneous rims

Fig. 16, 23. A rim, in hand-made ware, of a gritty grey paste, fired dark brown, with a corky surface. Flattened on top, the upright neck is thickened externally below a slight beading. From Site N, it is probably derived from the Period I material.

Fig. 16, 24. Another slightly everted rim, from Site J, in a similar ware.

Pottery from unstratified levels

Fig. 16, 25. The rim of a saucepan pot, in a fine-grained dark grey paste, with a well-burnished soapy surface. From Site H, with another example.

Fig. 16, 26-27. Two bases, from large pots, in Patch Grove type ware. Unlike the examples of nos. 21-22 above, these have a smoothed polished orange surface. From Site H.

Unillustrated. The rim of a samian bowl of Dr. Form 27. Except for a small area inside, the gloss has been lost. From Site H. Of Claudio-Neronian date (A.D. 43-68). This, with a sherd and a broken rim fragment were the only true Romano-British forms found, though the Patch Grove pots, of native form, are of contemporary date.

Conclusions

Although the pottery stratified in Period I levels is of insignificant quantity, and almost entirely lacking in shape, when taken with the derived material in the Period I/II occupation level, there is sufficient evidence to show that the culture of the first phase was essentially that of the Wealden form of Southern Second B of the second century B.C. Footring bowls, the type fossil of that culture, were relatively common. Saucepan pots were present in sufficient numbers to supplement this evidence.

¹ J. B. Ward Perkins, 'Excavations on Oldbury Hill, Ightham, 1938,' *Arch. Cant.*, vol. 51 (1939), pp. 137-81, and *Archaeologia*, vol. 90 (1944), pp. 149, 150, 165 and 175-6.

² S. S. Frere, *Arch. Journ.*, vol. 101 (1946), pp. 61 ff. and map at Fig. 9.

The pottery stratified in Period II levels in the defences is very scanty, and is only, as might be expected, of sherds derived from the Period I phase. In the occupation level, however, new influences are now seen. Though much of the material is either derived, or is a continuation of the same Wealden culture, in the interval these folk have had some contacts with other and later cultures. The one sherd of Southern Third B places their return to the site as later than the arrival of that culture in the south-east. Also, the two sherds of undoubted Southern First C origin show a contact with the Belgae, perhaps those to the east of the Medway. Neither is likely to have been acquired until after *c.* 100 B.C., and perhaps not until after 50 B.C.

The pieces of Patch Grove pots and the one samian rim indicate a use of the site into Romano-British times. This is consonant with finds elsewhere in the Weald, where a native culture under Roman influence is known to have lasted into the second century A.D.

There does not appear to have been any intensive occupation of the site at any time.

APPENDIX C. POLLEN ANALYSIS

By Prof. G. W. DIMBLEBY

Thirteen samples were submitted for examination from selected layers in the section at Site F and five from Site J. Most of these samples proved to be poor or completely deficient in pollen, but counts were achieved for six of them (see Table II).

These six samples were taken as follows:—

P1—Immediately above the hearth which was found behind the inner rampart (Site F).

P2—In the above-mentioned hearth (Site F).

P4—From the old land surface beneath the inner rampart (Site F).

P6—From the old land surface between the Period I material of the outer rampart and the Period II addition (Site F).

P16—From the old land surface beneath the inner rampart (Site J).

P26—From the old land surface beneath the outer rampart (Site J).

First of all these six analyses must be set in chronological order. This must be done on the basis of the relative proportions of the different tree pollens, but in view of the difficulty of obtaining counts of adequate numbers of tree pollen, the results given in Table I are only approximate; this is especially true for samples P16 and P26, which were particularly deficient in tree pollen.

TABLE I
PERCENTAGES OF TREE POLLEN

	P1	P2	P4	P6	P16	P26
SUM OF TREE POLLEN	163	204	64	49	20	16
ALNUS (ALDER)	4	4	27	20	15	31
BETULA (BIRCH)	41	35	19	12	5	6
FAGUS (BEECH)	3	5	—	—	—	—
FRAXINUS (ASH)	1	—	—	—	—	—
PINUS (PINE)	—	—	—	—	—	6
QUERCUS (OAK)	52	55	42	43	70	25
TILIA (LIME)	—	—	13	24	10	31
CORYLUS (HAZEL)	34	33	98	124	30	50
NON-TREE POLLEN	55	55	241	263	1315	1556

Applying the usual criteria, it is apparent that P4, P6, P16 and P26 are older than the others, even making due allowance for inadequacy of the counts. These four all show lime pollen, which is absent from the others. Moreover, alder is highest in these four samples, and beech, which generally spread as lime went out, is not recorded. It may be noticed in passing that the absence of beech from these earlier samples implies that this species did not persist in the neighbourhood after its apparent occurrence here in the late Atlantic period.¹ Samples P1 and P2 clearly go together, both containing beech, a little alder and much more birch than the first group.

Having grouped the six analyses in rough chronological order, other features of the spectra may now be examined.

Group A

P4, P6 (Site F)

P16, P26 (Site J)

These four samples are from well-defined turfines, so that they may be assumed to be slightly older than or contemporary with their respective sections of the earthwork. On archaeological grounds they should all fall within the Iron Age, yet lime is present in surprisingly high percentages and frequencies. Since lime is usually poorly represented after the beginning of the Sub-Atlantic period, about 500 B.C., this occurrence is anomalous. The parallel occurrence of holly (*Ilex*) in P4 and P6 is significant because in England holly was not abundant until the more oceanic conditions of the Sub-atlantic. It seems necessary to assume, therefore, that lime persisted here into the early Sub-atlantic—a situation not without precedent. Holly, however, was not recorded in P16 and P26, but it cannot be said whether this was due to a difference in date or to the fact that these samples came from Site J, some 300 yards away.

¹ J. H. Money, 'Excavations at High Rocks, Tunbridge Wells,' *S.A.C.*, vol. 98, p. 214, and *S.A.C.*, vol. 100, p. 151.



PLATE V

SITE BB. Post-hole α and hearth, looking south-west. The bamboo marks the site of Pm 12 (see Appendix D)

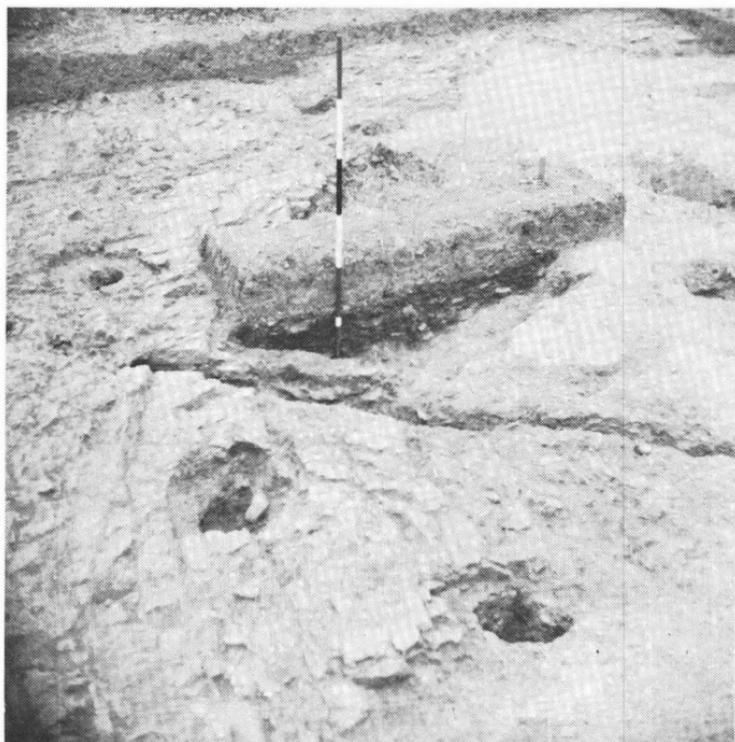


PLATE VI

SITE BB. A view of the hearth, trench and surrounding post-holes, looking south-east



PLATE VII

SITE E (EAST ENTRANCE). Rock-cut outer ditch (re-cut in Period II), looking south-west. Details of the Section are shown in Fig. 13. The ditch is set at two different levels, divided by a mass of natural rock. White posts indicate the position of Period II post-holes on the crest and forward face on the outer rampart. Much of the revetment is still in position



PLATE VIII

SITE E (EAST ENTRANCE). Inner entrance (Period II), looking north-east. The revetment, both *in situ* and tumbled, and many post-holes, large and small, are shown. The inch scale rests in one of the major post-holes

Archaeologically P26 immediately predates the earlier phase of construction (Period I), whilst P4, P6 and P16 precede that of Period II. Comparing P4 and P6 the pollen spectra are remarkably similar (though the frequencies differ), and the same is true of P26 and P16. There are minor differences between the members of each pair, but they do not show any consistent trend. In view of the fact that this was clearly a period of human activity locally, one would have expected pronounced differences if the time interval had been anything but brief.

The two Site F samples differ markedly from those from Site J. The latter indicate much less influence of forest locally (NTP/TP more than 1,000) than the former (NTP/TP about 250). The relative proportions of hazel and holly pollen were also much greater on Site F. These differences could be due to the spatial separation of the two sites, particularly in relation to the forest margin. Both sites were themselves free of woody vegetation, but Site F was nearer to such vegetation.

The land use in operation on or near both sites clearly was arable farming. Traces of cereal pollen were found, and the high percentages of grasses, plantain, Compositae and other ruderals, all accord with this conclusion.

Group B

P1, P2

Both these samples were associated with a hearth which is presumed to belong to Period II. It has already been shown, however, that they are recognisably later than P6, which itself is supposed immediately to predate Period II. This raises the question of the duration of Period II, which can only be answered by evidence other than pollen analysis.

To all intents and purposes these two analyses are identical. The pollen frequencies are the same in both; there is no indication that fire had destroyed the pollen in P2, so it must be assumed that the pollen was deposited later, possibly after the end of the Period II occupation.

In comparison with the previous group, these samples indicate much more wooded conditions; indeed it seems probable that the site was covered by open woodland. Though the grasses continued to be well represented, the occurrence of weed pollen was much less than in the Group A samples, so that it seems unlikely that cultivation could have been taking place. If these two samples—in effect only one—can be relied upon as having collected their pollen where they were found, the implications must be that during or soon after Period II agriculture had ceased in the vicinity and forest had returned, forest in which the important species were oak and birch and in which the beech now occurred. No comparable samples were available from Site J.

TABLE II

PERCENTAGES OF TOTAL POLLEN AND FERN SPORES

	Site F				Site J	
	P4	P6	P1	P2	P26	P16
Alnus	5.1	3.2	1.6	2.2	1.1	0.7
Betula	3.6	1.9	18.1	17.0	0.2	0.2
Fagus	-	-	1.4	2.7	-	-
Fraxinus	-	-	0.3	+	-	-
Pinus	-	-	-	-	0.2	-
Quercus	8.1	6.8	23.3	27.1	0.9	3.3
Tilia	2.4	3.9	-	-	1.1	0.5
Corylus	18.9	19.6	15.3	16.3	1.7	1.4
Hedera	-	-	0.3	-	-	-
Ilex	7.2	7.7	2.5	5.5	-	-
Salix	-	0.3	-	-	-	-
Calluna	6.0	3.2	1.1	1.0	1.5	0.7
Gramineae	26.9	13.8	17.8	16.1	29.2	41.2
Cerealia	+	-	-	-	0.6	-
Caryophyllaceae	+	-	+	-	-	-
Cf. Scleranthus	-	0.6	-	-	0.6	-
Chenopodiaceae	-	-	-	0.2	0.9	-
Compositae:						
Artemisia	-	-	-	-	0.2	-
Liguliflorae	1.5	6.4	0.8	0.2	6.0	0.9
Tubuliflorae	0.3	0.3	+	0.2	0.4	0.7
Cuscuta	-	-	-	-	-	0.2
Cyperaceae	-	-	0.3	1.0	-	-
Plantago	3.0	7.7	0.8	1.0	7.1	10.4
Ranunculaceae	0.3	-	-	0.2	4.3	2.6
Rubiaceae	-	-	0.3	-	0.4	0.2
Rumex	-	0.3	-	0.2	0.4	-
Succisa	0.3	0.6	-	+	0.4	-
Umbelliferae	-	-	-	-	-	0.2
Urticaceae	-	-	-	-	-	0.2
Varia	0.6	0.3	0.8	1.5	1.3	4.5
Botrychium	-	-	-	-	0.2	-
Dryopteris Type	8.1	6.1	6.0	3.7	24.5	18.4
Lycopodium	-	-	-	-	0.2	0.2
Polypodium	4.8	15.4	1.9	1.7	12.3	12.0
Pteridium	3.0	1.6	7.4	2.5	4.1	1.4
Absolute frequency (Grains/gm.)	93,500	14,500	255,500	292,000	10,000	7,500
TOTAL COUNT	334	311	365	417	465	425

Charcoals

Charcoals from both periods and from the original surface were submitted for identification. These are noted at appropriate points in the main narrative. Oak preponderated throughout, and apart from one occurrence of alder (C17), found in the Period II addition to the outer rampart, the only other species represented was beech. Beech occurred in two samples near the hearth with which P1 and P2 were associated, the two samples which contained beech pollen. The only other occurrence of beech (C18) was from the Period II material of the outer rampart. The charcoal therefore confirms the pollen analyses in suggesting that beech did not appear on the site until Period II.

APPENDIX D. MAGNETIC SURVEY AND ARCHAEO-MAGNETIC RESULTS

By DR. M. J. AITKEN, F.S.A.

The Survey

The detection of archaeological features^{1, 2} with a proton magnetometer was first tried out³ in the spring of 1958 on the Romano-British kiln-site at Water Newton, Huntingdonshire. Subsequently, in 1958 and early 1959, several Iron Age sites (Dane's Camp, Worcestershire; Madmarston,⁴ Oxon; Burrough, Leicestershire; Barley, Hertfordshire, had been surveyed with this technique; many pits were accurately located as well as one or two hearths. The survey at High Rocks afforded an opportunity to assess the method in yet another geological context.

Measurements were taken with the proton magnetometer "detector-bottle" one foot above the ground surface and with an instrumental sensitivity of 0.5 gamma (100,000 gamma = 1 oersted). In each area of 50ft. x 50ft. 100 measurements were made, positioned on the intersections of a 5ft. x 5ft. sub-grid. Subsequently, in regions where the magnetic readings were abnormal, further, more closely-spaced measurements were made in order to investigate the details of such "anomalies" and to pinpoint the exact centre of the significant ones with a marker-peg. Fourteen such pegs were

¹ M. J. Aitken, 'Magnetic Prospecting—an interim assessment,' *Antiquity*, vol. 33 (1959), pp. 205-7.

² M. J. Aitken, *Physics and Archaeology*, Interscience Publishers, New York and London (1961).

³ M. J. Aitken, G. Webster and A. Rees, 'Magnetic Prospecting,' *Antiquity*, vol. 32 (1958), pp. 270-1.

⁴ P. J. Fowler, 'Excavations at Madmarston Camp, Swalcliffe,' *Oxoniensia*, vol. 25 (1960), pp. 3-48.

HIGH ROCKS CAMP ~ MAGNETIC SURVEY

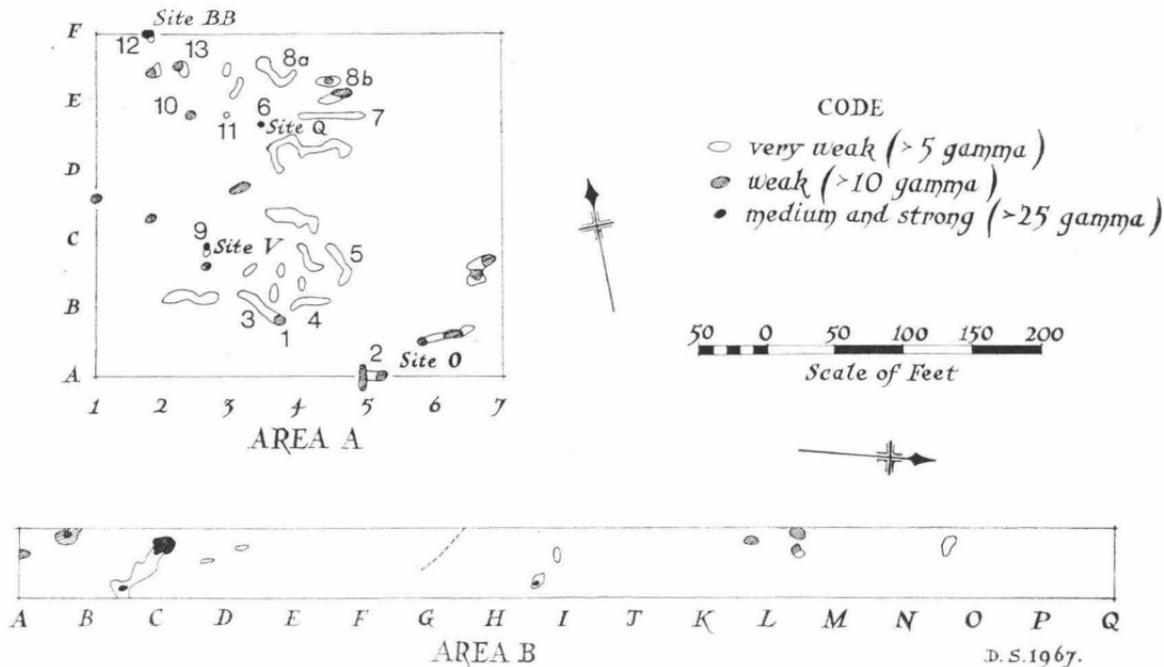


FIG. 17

inserted in the main area (Area A of Fig. 17) and the details are given in Table I:—

TABLE I			
Peg No.	Site	Strength of Anomaly	Result of Excavation
1	R	5 gamma	Not excavated.
2	O	15 gamma	Cavity containing charcoal and red clay.
3	T	6 gamma	Not excavated.
4	S	7 gamma	Not excavated.
5	P	7 gamma	Gully in the clay; presumed of geological origin.
6	Q	20 gamma	Small hearth.
7	U	5 gamma	Not excavated.
8a	X	15 gamma	Gully containing ferruginous soil; presumed geological.
8b	W	25 gamma	Ditto.
9	V	115 gamma	Clay hearth, diameter 4ft. 6in., the top of which lies about 15in. below surface.
10	Y	10 gamma	Not excavated.
11	Z	10 gamma	Not excavated.
12	BB	130 gamma	Clay hearth, 6ft. by 13ft. in area, about 12in. below surface.
13	AA	20 gamma	Similar to 8a.

It is evident that on this site small geological features can give rise to significant magnetic anomalies. It is possible, therefore, that all the disturbed areas indicated in Fig. 17 as "very weak" and "weak" arise from this cause. This illustrates the importance of test-digging, for on some sites all anomalies of this strength would be of archaeological origin—parts of a ditch system, different thickness of occupation debris, for instance. In addition to the results listed in the Table, a trench was also dug across the elongated anomaly SSW of peg 9 with the possibility in mind that it might emanate from a ditch. In fact, a one- or two-inch layer of burnt clay and charcoal was found about 1ft. below the surface, approximately 2ft. 6 in. wide.

The question of whether any of the anomalies detected might represent pits can only be answered with any certainty by excavation. Comparison with the detailed readings from other sites suggests that it is unlikely, except for the two medium disturbances shown in squares A and B of Area B (see Fig. 17). It can be said with much greater certainty that the areas that are blank magnetically are most unlikely to contain pits, gullies, ditches or hearths.

In advance of the survey, laboratory measurements were made of the magnetic susceptibilities of soil samples taken from two test-holes. The results, which are typical of many sites, are given in Table II:—

TABLE II	
Plough soil	(0-9in.) 1.0×10^{-4} and 0.6×10^{-4} electro magnetic units (e.m.u.)/g.m.
Hard clay/loam	(9in.-15in.) 0.3×10^{-4} and 0.05×10^{-4} e.m.u./gm.
Natural clay	(about 16in.) less than 0.05 e.m.u./gm.
Natural clay/sand	(about 24in.) less than 0.05 e.m.u./gm.

The susceptibility contrast between the plough soil and the underlying hard clay/loam and the natural clay is sufficient to explain the anomalies from the soil-filled gullies. The very strong anomalies from the two large hearths are, of course, due to thermoremanent magnetism.

Archaeomagnetic Results

When clay cools down from baking it acquires a weak permanent magnetism. The direction of this magnetism is identical with that of the earth's magnetic lines of force at the time of cooling, and although the latter direction changes appreciably century by century the "fossilized" magnetic record remains stable over millions of years. Thus, when baked clay has remained *in situ* from firing, it is possible by magnetic measurements to determine the ancient direction¹ of the earth's magnetic lines of force. For this purpose eight samples were extracted from hearth Pm 9 (Site V) and four samples from hearth Pm 12 (Site BB). Before extraction an exactly horizontal plaster surface was formed on each sample, and a line having a known orientation with respect to true North marked on it. Using a 'spinning magnetometer' the direction of remanent magnetization in each sample was measured. For hearth Pm 9, the average values of Declination (D) and Angle of Dip (I) were:—

$$D = 15^{\circ} \text{ E}, \quad I = 55^{\circ}.$$

This average excludes one sample (for which $D = 31^{\circ} \text{ W}$, $I = 37^{\circ}$); the remaining seven spread between 5° E and 22° E in Declination and 49° and 63° in Angle of Dip. The Fisher index at the 80% level of confidence is 3.3° for these seven. While the individual results are rather widely scattered they are considered to be a reliable indication that the contemporary Declination was substantially further East than at present (8° W) and the Angle of Dip substantially shallower than at present (67°).

In default of other evidence the average values quoted can be tentatively accepted as an indication of the geomagnetic direction during the period of occupation of the fort, though the absence of any archaeological evidence in the hearth must be borne in mind. There is at present no other archaeomagnetic evidence for Britain between the Late Bronze Age and the Roman occupation. Certainly the average values rule out any suggestion that the hearth was connected with re-occupation during Roman times, and less certainly post-1000 A.D. This exclusion cannot be extended to the Dark Ages, for as with the pre-Roman period, there is at present no knowledge of the geomagnetic direction during those centuries.

The four samples from the second hearth (Pm 12) spread between 1° E and 30° E in Declination and 31° and 66° in Angle of Dip. The

¹ Defined by the angle of declination, D, between magnetic North and true North, and by the angle of inclination (dip), L, by which the magnetic direction dips below the horizontal.

scatter is too great to warrant any conclusions. Two possible reasons for the scatter may be advanced; firstly, trampling on the hearth subsequent to its last use, and secondly, the magnetic effects of a close-by strike of lightning—it may be noted that Pm 12 lies on the ridge of the fort.

APPENDIX E. THE CONSTRUCTION OF THE INNER RAMPART BETWEEN THE EAST ENTRANCE (SITE E) AND SITE J

By J. H. MONEY

Wherever the inner rampart (Period II) was sectioned or stripped (Sites A, E, F and J), there were traces of a substantial sandstone revetment (either *in situ* or tumbled into the ditch); and on either side of the East Entrance (Site E) there was a complex arrangement of post-holes set in the rampart material (see Fig. 14). A detailed record was made of revetment stones, both tumbled and *in situ* in Site J; and of the holes and *in situ* stones in Site E.

East Entrance (Site E)

The post-holes of the Period II East Entrance are discussed on p. 181 above, and together with the masonry are planned in Fig. 14 and illustrated in Plate VIII.

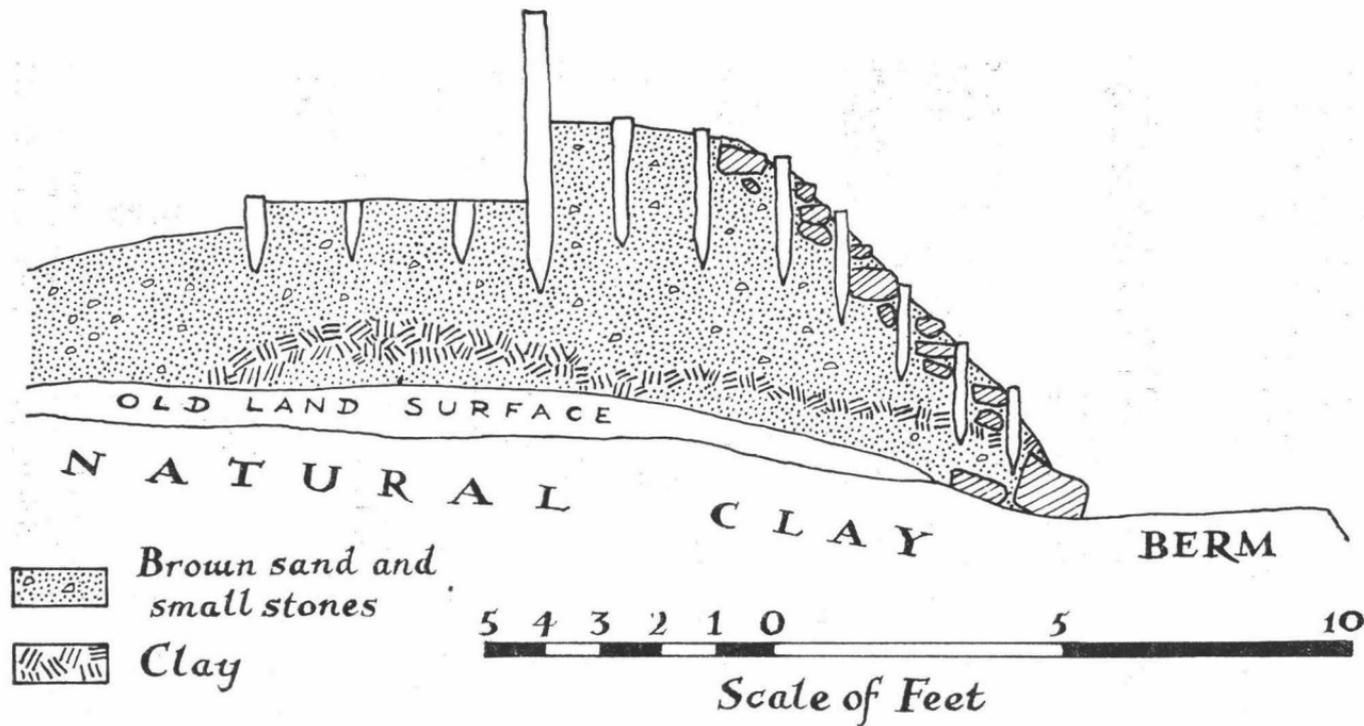
Site J

The revetment of the inner rampart in Site J is described on p. 169 above and illustrated in the section drawing at Fig. 5. The following passage sets out details of the stones.

At the base of the outer face there were five stones, lying *in situ* at the very back of the berm and distinct from all the rest, which had tumbled. At this point the berm slopes slightly downwards for just over two feet and then flattens out until it reaches the ditch. These five stones, which were part of the base of the revetment, are shown in the plan at Fig. 14 (J3). The two largest of the *in situ* stones, which just overlapped, were found tilted slightly forward, following the slope of the berm on which they rested. The approximate dimensions, cubic capacity and depth (measured from the present land surface to the top of each stone), all given in inches, are as follows:—

	<i>Dimensions</i>	<i>Approximate Volume (cu. in.)</i>	<i>Depth</i>
1.	18 x 18 x 5	1,620	28
2.	18 x 11 x 5	990	24
3.	6 x 4 x 2	48	24
4.	6 x 5 x 3	90	22
5.	12 x 9 x 7	756	22

There was a sixth stone embedded in the section (see also Fig. 5), which had retained a position in the existing rampart material and, if not exactly where it was originally put, was probably not far off.



RECONSTRUCTION OF INNER RAMPART

IN AREA OF SITE J

FIG. 18

There were 58 tumbled stones which ranged in size from 22 x 18 x 9 (4,356 cu. in.) to 5 x 3 x 2 (30 cu. in.), with the majority in the range of 900-200 cu. in.

The total volume of the 63 measured stones (including the five *in situ*) is 37,517 cu. in. or 21.713 cu. ft. Without the *in situ* stones, which total 3,504 cu. in. or 2.027 cu. ft., the volume is 34,013 cu. in. or 19,506 cu. ft.

The following points may be noted:—

- (i) the *in situ* stones are all of different size and interspersed with other rampart material; they span a width of about three feet;
- (ii) the great majority of all the stones are "slabs" rather than "blocks";
- (iii) different sizes of stones occur indiscriminately at various depths;
and
- (iv) two of the largest tumbled stones (3,960 and 1,530 cu. in.) came to rest at the top of the silt and were found only one inch below the modern surface.

Reconstruction of the crest and forward face of the rampart

Taking into account all the evidence of Sites E and J, a tentative reconstruction is attempted in Fig. 18. This shows the forward part of the rampart, with its revetment held in place by stakes and earth, built up against a palisade. Behind the palisade would have been a fighting platform supported by more stakes, the back of the rampart sloping away behind it. The major post-holes on the crest of the rampart immediately north of the inner entrance (H/I2 of Fig. 14) suggest a stronger (possibly double) palisade in this short stretch.

I know of no exact parallels to this form of construction. A system which is closely related, however, (except that it lacks the elaborate timbering of High Rocks) is to be found in the reconstruction of the North-East Gate at Oldbury.¹

APPENDIX F. THE QUERNSTONE

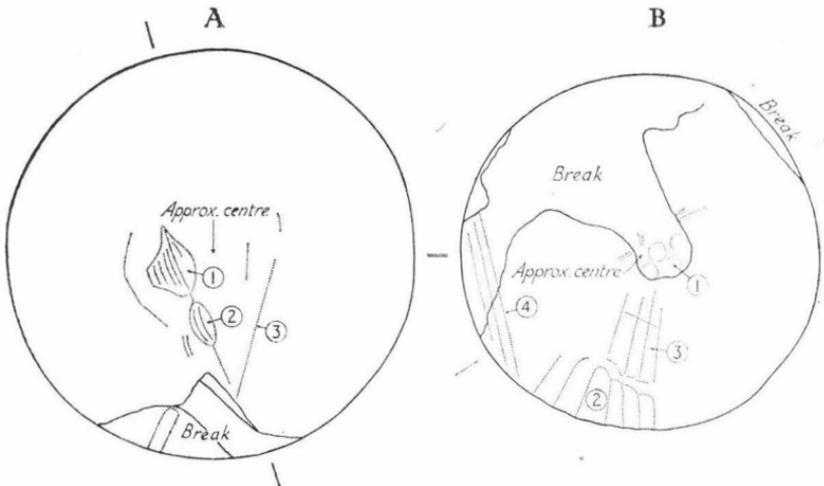
By Miss JUDITH T. PHILIPS

This cylindrical or truncated cone-shaped stone object came from the bottom of the ditch filling, in Period I silt, and must have been deposited there either during or soon after the building of the Period I defences. The raw material, identified by Dr. Cornwall, is the local High Rocks sandstone. The surfaces are roughly circular. The larger (A) measures c.15¾in.-16¼in.; the smaller (B) c.14in.-14½in. (Fig. 19). The maximum height of the object is 7½in. and the minimum height 6in. When first seen surface details

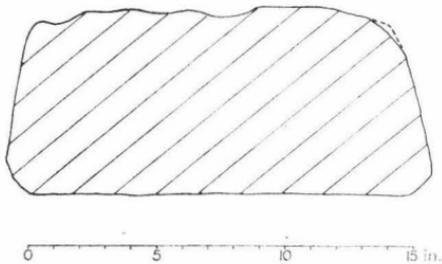
¹ J. B. Ward Perkins, 'Excavations on the Iron Age Hillfort of Oldbury, near Ightham, Kent,' *Archaeologia*, vol. 90 (1944), Plate 31 (opposite p. 176).

allowed to dry, remaining pockets of clay being gradually removed as the process progressed, so that further features became visible. The sides of the object are regularly pecked all over, and also show a few irregular chisel marks. Of the surfaces, the larger, except for a small area where it has broken away, is pecked all over. Between 2 and 2½ in. from the centre is a short line of chisel marks (A1), stepped down towards the centre to a depth of ½ in. Further chisel marks occur nearer the edge (A2) and continue as a scratch to a natural break in the surface. Another scratch line (A3) occurs between the same break and a point about 2½ in. the other side of

PLAN



SECTION



QUERNSTONE

FIG. 19

the centre. The smaller surface (B) shows hardly any pecking, apart from a central hollow (B1) extending into a natural break were still obscured by clay and the object had the appearance of an unfinished lower quernstone. The object was then washed and covering a large part of the surface. Clear chisel marks appear on either side of this hollow, which is c.2½ in. across. On the edge opposite the break is a series of chisel marks (B2) extending as clearly marked grooves about 2 in. towards the centre and rather faintly for a further 3 in. (B3). To the side of these, cutting across the break, is a series of shallow scratches, forming a chord (B4).

The object is clearly unfinished, but certain features suggest that it may have been intended for use as a quern. The working at the centre of both surfaces could be taken as the beginning, or marking out of the position, of the central rynd and spindle hole. The working of both surfaces indicates that the intention was to pierce the object right through. It would, therefore, be an upper stone. The depressions marked out would in any case be too large for the usual small spindle-hole of a lower stone. The pecked larger surface was presumably to be the grinding surface. The stone is larger than other Iron Age quernstones known from the south-east, and also varies from the general type (in this area but not farther north) in apparently having a flat grinding surface.¹

The raw material is not very suitable for use as a quern, being much too friable and easily abraded. On the other hand, the alternative suggestion, that the object was intended as a pivot for a gate post, is equally unlikely. The raw material is unsuitable since it would either (or both) wear down the wooden gate post or itself become worn, soon causing the gate to drop and jam. Also since the stone would have been sunk into the ground the careful preparation of the sides would appear unnecessary—as would the apparent beginning of a central hollow on *both* surfaces. The most reasonable interpretation on the evidence, therefore, is that it was originally intended to be the upper stone of a quern, but was abandoned owing to the accidental flaking off of the surface during manufacture. Even had this been successful, it would have made a very poor quern, owing to the softness of the rock. This may have been a factor in its abandonment.

¹ E. C. Curwen, 'Querns,' *Antiquity* 11 (1937), pp. 133-51, and 'More about Querns,' *Antiquity*, vol. 15 (1941), pp. 15-32.

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TWO RECENTLY DISCOVERED LOWER PALAEOLITHIC HANDAXES FROM NORTHEASE FARM, RODMELL, AND A NOTE ON SUSSEX PALAEOLITHS

By D. A. ROE AND E. W. HOLDEN

The two implements illustrated in Fig. 1 were found separately in 1967 on Northease Farm, near Rodmell, by Mr. P. Inglis Hall. Both were found a short distance above the 50ft. contour, and the two find-spots were only about fifty yards apart.

Description of the finds

No. 1. *Length*: 140mm.; *breadth*: 101mm.; *thickness*: 41.5mm. (these being maximum readings, parallel or at right angles to the implement's long axis, as appropriate); *weight*: 19½ ounces. Found at TQ.41090642, during mechanical excavation in connection with the erection of a new farm building. The implement lay in a clayey soil with flints and some marcasite nodules, between two and three feet from the surface.

An Acheulian handaxe of flint, stained and patinated to an ochreous yellow-orange; recent chips and thermal scars show dull white flint under the surface colouring. There is a small, circular, cherty inclusion on one face. The implement is very heavily rolled and abraded, and also cracked on both faces, apart from the recent damage, both mechanical and thermal, which it has suffered at several points on its edges.

The handaxe is of ovoid shape, with little suggestion of a point, fully worked on both faces by shallow flaking. It has a fairly regular cutting edge extending all the way round it, except at the extreme butt, where the working is only rough. There is a fine large tranchet scar running from the tip for some two-thirds of the way down the left hand edge, on the face illustrated and the face not shown has the remains of a smaller tranchet scar, intersecting with the other one to form part of the implement's cutting edge. The handaxe is fairly flat at the tip end, when seen in section, but becomes rather thick towards the butt end.

No. 2. *Length*: 102mm.; *breadth*: 61mm.; *thickness*: 32.5mm.; *weight*: 7 ounces. Found at TQ.41130639, on the surface, near the entrance to a field; likely to have been uncovered in ploughing.

An Acheulian handaxe of flint, now partly patinated white, and further discoloured by reddish and greyish patches. The surface is much weathered, and bears some thermal scars, but the implement does not appear to be rolled. While most of the surface alteration is a feature of the weathering, some of it may possibly be attributable