

ON SOME LARGE COLLECTIONS OF SHALLOW PITS  
IN NORFOLK AND ELSEWHERE.<sup>1</sup>

By F. C. J. SPURRELL.

For a distance of eight miles along the hills which overlook the sea on the North Coast of Norfolk, from Roughton heath, near Cromer, westward, exists a multitude of shallow pits. The area occupied by them now and formerly cannot have covered less than a thousand acres of ground.

Taken generally they appear much alike, there are however slight differences. The diameters of these pits vary from six to twenty feet, with an average of ten feet, and the depth three feet. At the present time they have various outlines, but the ordinary shape is round, as it was originally; some are oval, but these are in situations where a peculiarity of soil or the proximity to the edge of a valley or a another pit sufficiently accounts for the variation. The site is a narrow table land which is drained by the sea on the north, and the tributaries of the Bure on the south, and the elevation, between 200 and 300 feet above the sea makes it very bleak. No tree would grow on the hills naturally, though careful planting has now produced some fine woods, in the rearing of which advantage has been largely taken of the pits to plant the young trees in, partly for the shelter they afford against the wind, and partly for the sake of the peat soil in their bottoms. This and agricultural clearing has destroyed or obscured many of these remains; many have been filled in, and are visible now only in certain seasons. I have been shewn considerable stretches of land which old woodmen remember as covered with them, and this is corroborated by the appearance of the soil and vegetation over and around them in spring and autumn.

<sup>1</sup> Read at the Monthly Meeting of the Institute, February 2nd, 1882.

The pits closely gathered together and crowded at the extreme edges of the hills spread irregularly landwards, without obvious boundaries, except where they meet with valleys which are avoided; the crowding of the pits to the seaward edge of the hill has, so to speak, forced a few over the lip a few feet, and down some of the valleys a few paces, but pits are rarely found in the deep valleys, and the latter suggest from their position a peculiar purpose. They are collected more thickly here and there, and walking between them is sometimes difficult, so slight is the space between them.

They lie in batches, sometimes the cause of separation is clearly a valley, and sometimes there is no obvious cause; some of the batches are smaller than others, and there are many single pits; a solitary pit is generally found at the head of the little valleys, and in this situation is often deeper than the others. Mr. Bolding told me of one nearly seven feet deep, which contained a quantity of wood ashes; perhaps these solitary pits and those in the valleys were sentry holes, and the ashes may have represented the fire thrown down to warm the watcher and prevent his sleeping from cold.

In examining the outline of the ground occupied by the pits, it is easy to detect, by the abruptness of the borders of some clumps, that many have been levelled. There is no difficulty, however, in perceiving that an almost continuous belt runs from near Roughton heath to Sherringham, where there is a slight interval;<sup>1</sup> and they are found in plenty on Weybourne heath and Kelling heath, though they are not so numerous on the latter spot.

Many exist, or existed, on Holt and Edgefield heaths, and a few at Baconsthorpe and Bessingham, a few miles inland.

The sandy soil in which they are dug yields no hard and useful rock, but limited layers of ferruginous conglomerate now and then occur. The upper stratum is gravel, with sand and layers of large stones, consisting of many kinds of hard northern rocks and flint (it is the middle glacial of Mr. S. V. Wood). These stones con-

<sup>1</sup> Their absence at Sherringham is perhaps explained by their having been placed forward toward the sea on hills

now washed away, but of which Skelding and the Beeston hills are some remains.

# SHALLOW PITS AT BEESTON REGIS, NORFOLK.

Fig. II.



Fig. III.

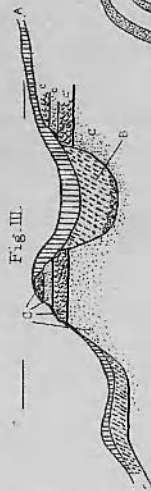
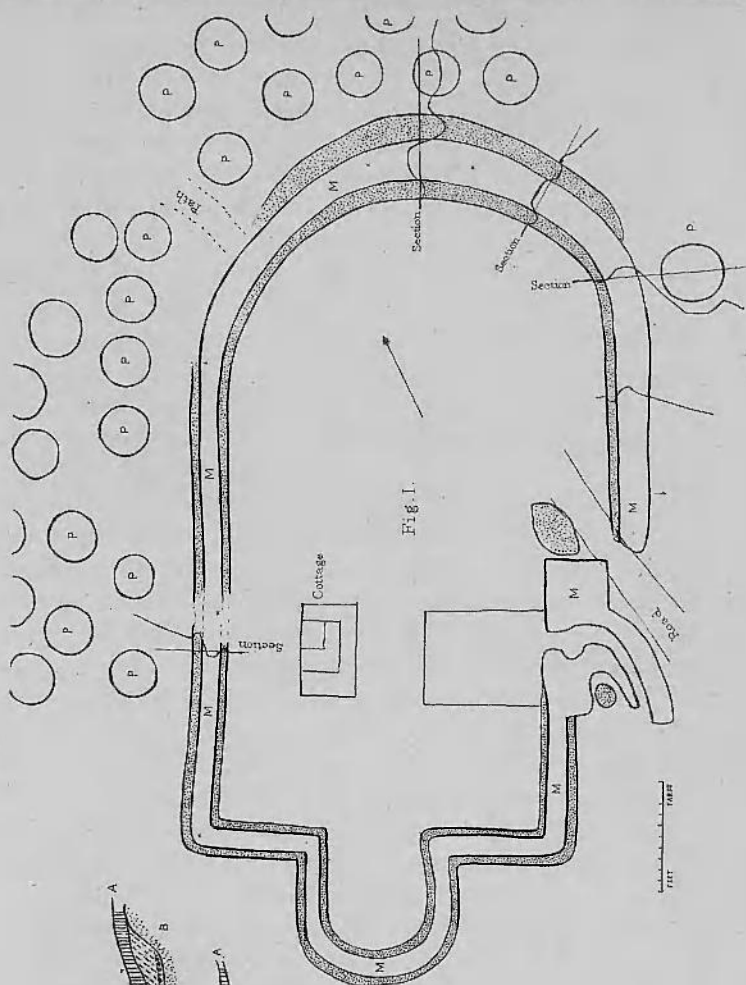
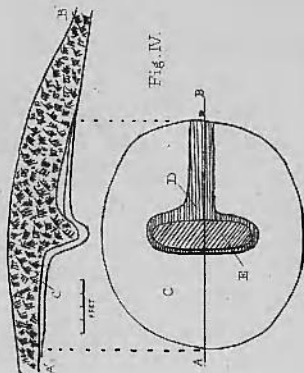


Fig. IV.



stitute a large proportion of the pebbles on the beach near by. The soil is very uncertain; a single pace will frequently separate an area of stony gravel from one of shifting sand. (Plate, figs. II and III).

Some years ago, Mr. Harrod described some of these holes at Weybourne, and made some remarks which were very interesting. He treated, however, of a limited number of pits, and left much to be said about them. During many years I have gone about among them, trying to discover order or regularity in their disposition, but neither I nor Mr. Bolding have done so. They are arranged higgledy-piggledy. Paths are not traceable amongst them, though here and there small patches of unoccupied ground lie amongst them.

In excavating at Beeston I cleared out twelve pits, and made sections through others—in all, I dug through 37. I saw none which shewed any signs of stones used as walling, nor in the bottom of any of them what resembled an intentional pavement or accidental falling in of picked stones. In two pits at Weybourn heath, which I opened, I found no stones at all. I also used a pointed steel rod, and probed many a hundred as I walked for signs of this feature, but found none.

Mr. H. Harrod says of them :<sup>1</sup>—"They all appear to have been excavated on one uniform plan, a ridge of stones having been firmly placed on the outer side of a circular excavation, the soil from the interior was thrown out, the circle of stones preventing it from again falling into the pit. At the bottom of each pit is a large quantity of stones, many of them from the beach nearly two miles distant, and of considerable size. Some of these stones may have served to line the sides and have subsequently fallen to the bottom." He also says:—"In many instances two of these pits were joined together by a narrow trench, which, in those I examined, was carefully lined with stones." Again, "Aylmerton Heath is about five miles south of Weybourne on the same range of hills as Weybourne, and about a like distance from the sea, the pits were precisely similar in form and arranged in the same manner."

<sup>1</sup> Norfolk Archaeological papers, III., 232, with map by Mr. Bolding of Weybourne.

Mr. Harrod gives a section in illustration of one. Without disputing the case of the pit as seen in section, for such arrangements may occur and, indeed, do occur elsewhere, I have no support to give the observation, nor was Mr. Bolding able to assist me. Nor have I seen along the whole line any pits which were joined together by a narrow trench; where it has occasionally happened that two pits appear to join, I have always found it to be a breakdown in the partition, and the result of weathering.

The map published by Mr. Harrod, from a survey made with great care by Mr. Bolding, whose faithfulness I have proved by actual comparison, also contains no sign of a double pit with a connecting trench. Such inaccuracies on Mr. Harrod's part fully excuse my re-examination of the subject, and while rejecting the stone wall theory, I would suggest a possible explanation, viz:—that the layers of boulder stones occasionally met with, and cut through in digging the pits, deceived Mr. Harrod, closely resembling as they do those on the beach, which last indeed have been derived from the hills washed by the sea.

The earth from each pit was thrown around the edge and part fell back; in this is found an occasional flint chip or a scraper, but they are rare. On Skelding Hill, at Sherringham, Mr. Clement Reid, F.G.S., found several good arrow heads lying on the surface.

There are to be seen in the collections of a few persons and frequently worked up in garden rockeries in the neighbourhood, stone querns of various types and sizes, mostly of Roman form. But, besides these, there is no lack along the stretch of country of querns or hand rubbers of a rude type, being merely the flatter sand stones obtained from the local gravels, and rounder stones, both having the marks of rubbing and pounding upon them. I have frequently found small pieces of very rough pottery of imperfect manufacture amongst the pits; Mr. Clement Reid has done the same.

Fires were indicated by charcoal in the pits, but it appeared to be mixed with the fallen in rubbish; and in these pits none appear large enough to have contained a fire place, and yet have been habitable.

A few ditches appear to be connected with the pits; one

starting from the edge of the hill, about one mile due south of Runton church, runs SSW. for a short distance (it is lost in the fields) having (sentinel?) pits at regular intervals outside on the west.

Several tumuli are situated in the rear, or landward, in the immediate locality of the pits; still further inland are many more. Those on Weybourne heath are called by Mr. Bolding in his map, "Sand hills." One has been opened; the other, about four feet high and forty paces long, has not.

There is a curious camp (see Plate, fig. 1) or fort on the Beacon Bell. Perhaps the older or north part of the camp may belong to the age of some of the pits, from their apparent conformity to its outline. On the other hand, there is a greater probability that this feeble earthwork was placed on this little spur of the hill where it stands, because just there fewer pits had been dug and level ground lay behind it, permitting easy access. Whatever its original form, it is partly round and partly rectangular in plan. On either side of the rounded end the slopes of the hill are steep. The rectangular parts are on the south and are clearly of different dates, but the banks and ditches run continuously all round; the slight inner ditch is evidently the latest addition—there is a complicated entrance to the east. Iron slag is found as a component of all the walls. Unless surmounted by a strong palisade, the walls could scarcely have served a military purpose at their best. The name Black (bleak) Beacon Hill and Beacon Bell points to an early use of the situation as a look-out. There are foundations of two buildings in the square part; these belonged, I believe, to the telegraph station established there at the time of Napoleon's expected invasion. Mr. Bolding has preserved the memory of the site of a circular camp about 200 yards north-west of Beeston Regis Church. There are now no other important works in the near neighbourhood, but numerous Roman and Teutonic remains around Weybourne attest the importance of that point as a landing place.

The whole coast is wearing away very fast, and at its present rate of doing so, we may safely estimate the sea to have been a mile further off now than in the Roman time, and many works to have perished.



Perhaps the age of these pits might not have interested me so much, but that about and amongst them are broad patches strewn with cinders and slag, the refuse of iron working. I have examined these, and, by the kind permission of Mr. Cremer, I have excavated in the area of the Beeston-Aylmerton pits, in every heap of cinder I could find, and Mr. Bolding has done this at Weybourne.

The largest patch of cinder, that due south of Beeston Church on the hill top, is spread out for many yards, but its width is much narrower. The cinder is sprinkled in and about the neighbouring pits, and some of them are filled with this refuse. At one part, where the land slopes somewhat sharply, I trenched through a thick mound of cinder more than five feet in depth. It was hard work, for some of the fan-like slags were three feet in length. They had a very elegant appearance; for the slag had trickled in very thin streams through the small apertures of the furnace, which were the size of a man's finger, as shown by casts of them. From portions of the clay and residuum of one furnace I made out that the bottom inside was somewhat less than two feet, and possibly it was from two to three feet high; one at Weybourne was three feet wide. (Plate, fig. iv).

The ore was obtained from the neighbouring shore, and consisted of nodules and clay ironstone of the forest bed there exposed. Plenty of this was obtained, both raw and roasted; no other ore was perceptible.

Mixed with the slag were coarse bits of pottery, some much burnt; other pieces were Roman, and looked like the ware of Durobrivæ. The scorix are very heavy, and rich in iron. After clearing away the cinder, I found a layer of much burned sand of an oval shape. It had a shallow trench in the middle, with a shallower outlet on one side. The area of this was about eighteen feet in diameter. Mr. J. A. Phillips, F.R.S., has suggested to me that it was the floor of the kiln for roasting the ore, and doubtless he is right, though the trench is a curious feature. Other patches occur in several places some way down the valley slopes, and a large one is near the Cromer Lodge gate of Felbrigg park. The collections of pits show, therefore, that some are certainly older than the local iron manufacture.

I cannot entertain the idea that these pits were mines; for there is nothing to mine; and none that I examined contained soil containing nodules of iron ore.

They could not be pitfalls for protecting a fortress, as they are thickest where no such purpose could be served by them. As a matter of fact, the only camp among them is placed on a blank spot, with a stretch of clear level ground stretching far behind it.

For my own part, there appears to be no doubt that they have served as dwellings; every gradation between well-ascertained hut foundations and those under consideration having been found.

For a long time the great collection of circular hollows, called the Pen pits, was considered unique, which, however, is now open to doubt. But they have been computed as 20,000 in number covering an area of 700 acres. The Pen pits are wholly inland. They are situated on the spurs of hills which constitute the south eastern step to the high chalk land of Salisbury plain, midway between the Bristol and English Channels at the sources of the river Stour, and at the junction of the counties, Dorset, Somerset, and Wilts. They are much alike in form, being more or less round—four to six feet in depth, and in width ten to twelve feet, sometimes to 25 ft. or even more. The larger ones differ chiefly in their length, being oval, and the depth is occasionally greater.

Their arrangement is irregular, and their proximity to one another mostly very close, sometimes there is barely room for a path between, though the pits are clearly defined. Where they are large there is greater space between them. They are placed commonly on hill tops. Some slopes, however, are thickly covered with them; in the intervening valleys they are few and scattered.

Geologically speaking, they lie on the lower Greensand, the rock being chert. Greensand rubble and gravel, containing angular flints with sand, covers the surface. In these sands and gravels the holes are dug, and to them they are confined, all observers being agreed that the hard rock was "unmoved" in shaping them.

In and near them have been found a few flint flakes and stone querns, or portions of querns, and a bronze torque, but the history of these things is not so clearly



ascertained as to be of much value at present in classifying the pits. Close to Penselwood I found a few pieces of iron slag among some pits.

Much information was left by Sir R. C. Hoare, concerning these pits, which is the more valuable from the early period at which he examined them, and which enabled him in the opinion of some to speak of their original number with greater precision than we do now. But his estimate must have been a rough one, for in his map he has only indicated those patches which were very marked, and he has omitted many areas where large numbers still perfect exist, and others where they may easily be seen to have existed by the signs which remain in fields, orchards, and even in the cottage gardens of the country side; while the isolated patches shewn in Hoare's map are indications of their wider spread.

They have been much quarried amongst, by which their symmetry is destroyed, and this affords a comparison between the quarrying, and the round, pits, and the difference is great.

Sir R. C. Hoare describes them in his "Ancient Wilts," i, 35; "Modern Wilts," p. 91, and in other works. Other writers as Gough, Collinson mention them, of which a good list is given by Mr. T. Kerslake in his pamphlets: "A Primæval British Metropolis" and "Caerpensauelcoit." Mr. Kerslake and Mr. Cunnington<sup>1</sup> and others have recently brought the subject forward again, and the Somerset Archæological Society (Proceedings, vii, 55, and xxv, (1879) Report of Excavations) has been lately stimulated to look into the matter and to excavate. The report of the Excavation Committee of this Society, which states that, "these pits were never intended for the purpose of dwellings," and that they were the work of people who had dug in search of a rock called Penstone<sup>2</sup>; is a curious document, which with an admirable assurance, while claiming "finally" to have settled the whole matter, betrays undue haste in drawing general conclusions from a very limited examination, and this is emphatically noticed

<sup>1</sup> Wilts Mag. vii, 242.

<sup>2</sup> Were the pits the scene of stone working as a trade, the numerous unbroken and used querns found by Hoare and

others would scarcely have been left, but carried away for barter, but they *are* left among the ruins.

by riders to the report from three members of the Committee—with whose caution most persons will concur.

It may be remarked that Sir R. C. Hoare and most writers speak of them as foundations for huts, and that with due consideration for the other purposes which they may have served, while those who think differently have not considered where the miners' huts were placed. They do not appear to me to be, except in some instances, stone quarries or iron mines, but where I have seen them well displayed, they are so much like the generality of hut-circles, and especially those found on the same formation elsewhere, that I have little doubt that *most* of them were foundations for cabins.

I would point out as a cause of difficulty in their examination, that complications, of varied types of excavations in the immediate neighbourhood of Prehistoric and Roman Camps, early Saxon occupation, a Norman Castle and Churches, and villages, are to be expected; and that the spot chosen to dig, Orchard Castle,<sup>1</sup> is just the place to meet with such complications. Supposing, however, that Orchard Castle has been satisfactorily explored, I see very little in the report to assist us in an enquiry on the Pen Pits proper, which certainly are worthy of the labour.

In several parts of the Blackdown hills, Mr. P. O. Hutchinson says,<sup>2</sup> and he has long paid attention to the subject, "there are groups of pits strikingly similar in form, fashion, and arrangement, as those at Penselwood," "from 10 to 50 feet in diameter, and from 5 to 10 feet at bottom, as Camden described the Pen pits. The smaller diameters are the most common over Kentisbear. On the flat top of the hill between Punchey down and Upcott Pen there is a labyrinth of such hollows. Near Church Stanton they have been described by Mr. Blackmore as being in thousands. About three miles north of Honiton and Wolford Lodge there is a grand group on the Wild Moor. About fifty yards to the west of the road are some pretty large, for at one of my visits we led both gig and horse down the sloping sides of one, and while working in the next were wholly invisible from the road." Besides numerous other detached groups in this neighbourhood,

<sup>1</sup> This tongue of land appears from Hoare's map to have been *in tillage* when surveyed by him!

<sup>2</sup> See paper "Iron Pits" in Devonshire Association Report, 1872.

they occur further south at the point of Ottery East hill, near Gittisham, and on the waste of Lincombe farm. About four miles north of Sidmouth there is another patch. They extend into Devonshire on the Great as well as Little Haldon. They are all placed in gravels and sands overlying the Greensand, or in close proximity to it. Mr. P. Hutchinson says that on the strata of the formation, which covers all these hills, Penselwood, Blackdown, Haldon, &c., considerable quantities of iron is found, whether as hæmatite, iron pan, or bog iron ore, pieces of this hæmatite frequently fall down from exposed cliffs, and it is met with in lumps and pockets and detached veins. The finding of masses of scoria, cinders, or clinkers scattered over the fields or lying in by-places is frequent, as at Northcott, Tadborough, Bowerhayes farm, and at Church Stanton, and finally Mr. Hutchinson gives his opinion that "the cluster of pits were the scenes of iron hunting."

The Blackdown pits, Lysons observes, are called "Iron pits, and by some supposed a British Village." To suppose them exclusively Iron pits, or mere quarries limited to the digging of stone, appear in either case too one-sided not to suggest of themselves that Mr. Hutchinson and the authors of the Pen Pits Report have over estimated their observations.

In Yorkshire these hut foundations are common, especially in the East; the valley of the Esk is covered with hut holes in great number; in general, as in those which are found on the summit of Rosebury Topping, they are circular hollows; at Egton Grange, where is a group of from 200 to 300, they range from eight to eighteen feet in diameter, and from three to six feet in depth, and have a raised border of earth and stones, with usually an opening on one side, while some have been built round within. The Killing pits on a hill one mile south of Godeland, and others at Ugthorpe and Danby Beacon are well known.

In the area of the Derwent, they are more abundant than in that of the Esk. There are some at Westerdale known as the Ref holes, and on Skipwith common<sup>1</sup> which

<sup>1</sup> See John Phillips, *Yorkshire*, p. 109.  
202., Dr. Geo. Young, *Hist. of Whitby*,

W. D. Saull, *Notitia Britannicæ*.

Phillips speaks of as turf or log houses, and as having marks of fire within them, chiefly at one end.

In the Berwickshire Naturalist Club Papers is an account of hut circles in considerable numbers, and the author says:—"Slag heaps seen in the wild moorlands have excited wonder, one such heap there is on the Eglington moors and another on the Harehope moors, and both are in the midst of ancient British camps and dwellings.

Hewitt,<sup>1</sup> who quotes Sir R. C. Hoare, mentions that not only in the area of Perborough Castle, but over the whole of Cowdown is covered with circular pits, and that ashes and clinkers are found in abundance all about. These ashes and clinkers were not understood, but they are the refuse of iron working. Cowdown is on the chalk close to the Greensand and Gault, whence it is likely that the ore was obtained and carried to the settlement on the down.

Two miles due north of Hythe church in Kent is Tolsford<sup>2</sup> Hill, presenting for three-quarters of a mile a sharp crest to the sea. It is of chalk covered with clay, with flints and surface gravel. The hill is almost isolated from the main mass of chalk on the north side by a valley, but no stream runs near the hill, the whole of the precipitous ridge overlooking the sea is lined with small depressions; these extend back about 300 yards. At the western end of the hill they can barely be detected, having been levelled for pasture; at the eastern end they have for the most part well marked circular outlines, but near the centre of the hill they have been much interfered with by flint diggers; flint digging is carried on now on the hill, the excavations for which however being straggling and irregular in no way resemble the pits, and the workmen know well when they come upon the "Soldiers' pits" as they are called. They roughly measure from 10 to 15 feet across, are individually separate, and having little or no passage room between them are really contiguous. Some of these shallow pits have been dug into, and one of the flint diggers described them as being from four to six feet deep. He described two or three as having what he termed fire places at the bottom, made with slabs of chalk (the tough

<sup>1</sup> History of Compton, Berks., p. 71. <sup>2</sup> Query, Tol, ppr, name, feord, or fyrd, an army.

lower chalk) which was burnt ; these were represented as somewhat square, and about two feet in diameter internally ; a layer of three or four inches thick of an unctuous black soil covered the bottom. The pits crowd up to the precipitous edge, their northern limit being irregular, some of them extend down the gentle slope a short way ; two deeper pits (of from ten to twenty feet) were shown me and conjectured to be wells ! On the southern edge of the hill among the pits stand three tumuli or "mounts ;" these consist of stones without clay for the core, the clay being placed above all. Another tumulus separated from the pits stands three or four hundred yards back to the north of the others, a depression in the soil adjacent, commensurate with its cubic measurement, still shows whence the mound was derived.

Other collections of pits and tumuli occur close by above Postling, and in Westwood in Lyminge, and early iron clinkers have been found near, notably at Stowting Roughs. I am informed that these pits are found in several places on the North downs Ridge, &c.

A very ancient road, here and there impassable, and disused, may be traced due north of Hythe, by Saltwood Castle ; it climbs up the steep edge of Tolsford hill, where it is very narrow and hollow, and paved with sandstone slabs, passing through the pit settlement it runs towards Broad Street, just before reaching which however, the paving stones (of Kentish rag) still mark clearly the extremely narrow way ; from thence it continues in the line of the Newer or Broad Street to Lyminge. I am indebted to Mr. H. B. Mackeson for assistance in the examination of these pits, and especially for drawing attention to the old road.<sup>1</sup> Mr. Mackeson first drew attention to these hut holes, and in calling them dwellings he appears to be right.

It is certain that iron in the earliest times was worked near this spot. Stukely<sup>2</sup> mentions the digging up of anchors near Saltwood castle, which he ascribed to the former presence of a Roman forge, while a charter of Oswin in 689, speaks of an iron mine in Lyminge.<sup>3</sup> I found no iron

<sup>1</sup> See paper by Mr. J. G. Waller, in *Journal of this Society*, vol. xxx, p. 281, in which they are incidentally spoken of.

<sup>2</sup> *Iter Curios.*, p. 124.

<sup>3</sup> Perhaps the mine alluded to was at Westwood in Lyminge, in the clay-with-flints, where are abundant traces of its manufacture.

ore here in the clay, but picked up some pieces on the old road over the hill.

The names associated with these collections are curious. The words *Rose*, *Rough*, *Row*, and *Rue*, with such differences as the spelling permits, are common, and suggestive to the field archæologist of excavations. It may be that the Celtic *Rhos*, a waste land, is a sufficient explanation in some instances, but in others it is not so.

Rosebury is the name of a collection of hut holes in Cleveland; and between Scarborough and Whitby, a clearly marked collection of hut holes is called the *Roses* (*Roases*)—*Saull, Not. Brit.*

Phillips says that the *ref-holes* at Westerdale mean *roof* holes; but it must not be forgotten that the Saxons, while using *Hrof* for the cover, had also the word *Hruss* for a hill. The name of Killing pits, near Whitby, and Shrieking pits at Beeston in Norfolk, are suggestive of settlements ravaged.

The following remarks by Dr. F. Keller<sup>1</sup> are of much interest. He describes a number of *Kessel-gruben*, situated on the Rhine, opposite Rheinfelden, near Carlsruhe, thus:—

“The host of these mysterious contrivances extends over a large piece of low land, a terrace of old river gravel, on the west side of an earthwork, and occupies the whole space between the slope, at the foot of which the work lies, and the immediate bank of the Rhine. They are found here, not as in many other places arranged in rows, but without any fixed order, as though scattered over the plain, so that one hole is sometimes five feet from the next, and sometimes their edges touch. Also with regard to their breadth and depth, the holes are quite different; for their diameter varies from seven to twelve feet, and their (present) depth from two to three feet. In these *Kesselgruben*, the remarkable circumstance is to be noticed, that the rubbish arising from the digging out of the ground has been carried away from the vicinity of the holes, and so strewn over the environs that no mound is anywhere observable. The number of *Kesselgruben*, from which the neighbourhood has acquired the name of

<sup>1</sup> “Keltische Vesten,” in *Mittelheilungen* vol. vii, p. 175, and plate iii of that paper der *Antiquarischen Gesellschaft in Zurich*,



*in gruben*, amounts to nearly 700; but it must have been much more considerable formerly, before a part of the wood was cut down and the land cultivated."

Dr. Keller did not neglect to notice in the *gruben*, charcoal, fragments of iron and bronze, potsherds, tiles and logs of wood. The earthwork consists of seven long mounds, more or less parallel to the river, surrounded on three sides by a horseshoe-shaped ditch, the ends abutting on the water. As this work stretches from the river to the hills, the remark of Dr. Keller, as to their not being pitfalls, and their situation in connexion with the earthwork as its protection, is borne out. Dr. Keller adds:—

"The shape and size of the *Kesselgruben* forbids their being taken for wolf holes, of which there are many existing in the country under the original name; [*Wolfsgruben* are round holes, which decrease conically into the earth, and lie in numerous rows like a chess board, and were used as a hindrance to the approach to the forts; in the sand they are an unimportant obstruction; in hard earth, however, difficult to pass]; and their regularity, besides their breadth and depth, forbids their being considered as holes caused by the uprooting of trees."<sup>1</sup>

It appears to me, from the above remarks, that the holes are hut foundations, and the earthwork a kind of *tête du pont*; the whole being a settlement for the protection of an important ferry or passage of the Rhine.

In considering these *larger collections of shallow pits* as a whole, it is observable that the soil in which they are dug is light and swiftly drained, excellent qualities in the matter of dwelling sites. There is always evidence that people have lived amongst them, and there is always tradition that they were habitations. And lastly, there is a great similarity between the larger collections and the smaller, and also between them and single pits; thus passing through a gradual series. The belief so freely expressed with respect to the small groups may equally be extended to the large, viz., that they were hut holes. I find, up to the present, that some of the largest collections of shallows pits are intimately connected with the early manufacture of iron throughout England; and it is likely that the existence of workable ore determined the

<sup>1</sup> *Ib.*, pp. 189 and 193.

congregation of some of them, though this is not common; for I entirely agree with Mr. L. C. Miall,<sup>1</sup> when he says that proximity to the source of the ore does not appear to have been so serious a consideration as we might suppose; and more, for as the day holes and workings were often flooded in winter, the permanent habitations of the community would necessarily be elsewhere, I think on high land. For such slight earthworks as they are, the numerous holes are very conspicuous still.

These reasons indicate a late date, and point to a great increase in the population as compared with the earlier stone age hut-holes. In many instances, the few remains of waste material found in them seem to point to their temporary occupation. Perhaps some of them, being in very bleak spots, were only used in summer, perhaps every summer. They may have been the mustering places of warlike tribes. It appears likely, too, in the case of those which are much out of the way, as in Norfolk, that they may have been the refuge of a crowded population driven from their homes by an invader, even to the sea.

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#### EXPLANATION OF PLATE.

All the figures are drawn to natural scales.

Fig. I. Plan of Camp or Enclosure on Black Beacon Bell at Beeston. The wall marked M is accompanied by shallow ditches, which are shaded by dots. The sections are taken along the straight lines, which latter serve also for true horizons. The pits in immediate proximity to the camp on the north, east and west (there are none southward) are shewn to the same scale as the camp. A road from Cromer enters the camp on the east side. The small enclosures within mark the site of a cottage and perhaps its garden.

Fig. II. A section of three pits about half a mile west of Fig. I. A, represents the covering of the general surface. B, the peat of the holes with pebbly rubble at the bottom. C, is the untouched gravel and sand. Figs. I and II are to the same scale.

Fig. III. Section taken on the hill edge a quarter of a mile west of the last. The lettering is the same, with the exception that some of the gravel is lightly cemented into a ferruginous conglomerate in horizontal layers.

Fig. IV. This represents part of the great mass of cinders on Beeston Hill. The large circle C, represents the outline of burnt surface soil. D, is a depression with a horizontal outlet. E, an inner depression without an outlet. A'-B' to the same scale is a section shewing the thickness of slag covering the whole.

<sup>1</sup> Ancient Bloomeries in Yorks., *Yorks. Arch. Journal*, i, 110.