

### III.

#### NOTE OF EXCAVATIONS AT "GRIMES' GRAVES," NORFOLK.

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Had this not been the last meeting of the Society for this season, I should have offered a longer paper on this subject than I am at present able to do. But the Rev. Canon Greenwell (who not only first discovered the archæological importance of the spot I wish to describe, but also has

borne almost the entire expenses of a lengthy series of excavations), has not yet read his own paper on the subject to the Ethnological Society.

However, by his permission, and with the aid of his notes taken at the time, as well as my own, I will endeavour to give a short account of a discovery peculiarly interesting to those interested in prehistoric archaeology.

These "Grimes' Graves," which will be described further on, have been frequently inspected by local archaeological and other societies, and described, in all sorts of fantastic ideas, as an early British village, the site of a battle-field, the remains of round hut-circles, and everything else possible or impossible.

It remained for Mr Greenwell to hit the right nail on the head, and to undertake a systematic clearing out of one of the pits to the bottom,—former explorers having only scratched the surface to the depth of a few feet, and drawn conclusions from that unsatisfactory data.

The undertaking, however, was greater than even Mr Greenwell imagined. A pit, 40 feet deep and 28 feet diameter at the top, is not cleared out in a short time, with no more scientific aids than a ladder, and men carrying up the stuff in small baskets on their heads; but for three successive years Mr Greenwell returned perseveringly to the work, until this last time—when I had the pleasure of accompanying him—the bottom of the pit was reached, the galleries running in every direction were discovered, and the problem solved as to the object, use, and comparative age of these most interesting remains of prehistoric labour.

With this introduction I may pass on to gather a few passages from the notes, which are too lengthy to read in full to-day.

I may remark that I have brought up a few specimens of the implements and worked flakes found in and about the pits in question; but the best of them, together with all the objects of real interest found in the pit, are now in London.

The small town of Brandon, in the county of Suffolk, is, with one exception, the only place in England where the manufacture of gun-flints is still maintained. This is due to the abundance of flint of a superior quality which the upper chalk of the district supplies.

Over the whole neighbourhood implements of flint belonging to the Neolithic age are found on the surface. There are some sites, however,

where such articles, together with large numbers of chippings and cores of flint, broken implements, and the tools with which they were fabricated, are discovered in such profusion, that it seems evident they are the spots where the manufacture of implements was carried on. One of them is situated about three miles north-east of Brandon and one mile north of the river Ouse, at a place called "Grimes' Graves," in the parish of Weeting.

The "graves" consist of a large collection of pits, situated in a wood, the ground sloping slightly towards the north. They are about 254 in number, and cover a space of from 20 to 21 acres in extent, being scattered in an irregular fashion.

The pits are circular, and vary in diameter from 20 to 65 feet. They have all been filled in to within about 4 feet of the surface, and present the appearance of a number of bowl-shaped depressions, with generally a mound round their edge, due to some of the excavated material not having been thrown back into the pit when it was filled in. As a rule the pits are about 25 feet apart; but, in some cases, they have run together, and form irregularly-shaped hollows, probably owing to the falling in of the roof of the galleries beneath,—and the present bowl-shaped appearance of the top of the pits may be due to the same cause, and to the settling down of the loose stuff thrown in, during the many centuries which must have elapsed since that was done.

The pit which was opened is situated on the east side of the series. It is rather under the medium size, being 28 feet in diameter at the mouth, and eventually proved to be 40 feet deep, gradually narrowing to a width of about 12 feet at the bottom.

Not expecting the undertaking to be so arduous as afterwards turned out, Mr Greenwell made no mechanical arrangements for bringing up and disposing of the loose stuff dug out of the pit, and this was throughout performed by men who carried up the earth on their heads in baskets. Unfortunately, after getting down a few feet, it was determined not to clear the pit out all round, but to leave a part of one side standing, so as to economise time and labour. Accordingly, about one-third of the filled in stuff was left *in situ*; and eventually this not only probably prevented us from finding another series of galleries leading from the bottom of the pit, opposite the one we entered, but also caused some uneasiness

lest the mass should fall in on us and close our only egress from the galleries.

The filling-in was composed at the top of chalk rubble, in which many bones and flint chippings were found ; then sand, with flints and pieces of chalk, and, towards the bottom, almost pure chalk.<sup>1</sup> The section, as shown by the undisturbed earth at the side of the pit, first cuts through a layer of yellow sand about 12 feet thick. Under this comes the chalk, 20 feet below the surface of which lies a stratum of flint, called by the modern gun-flint workers the "*wall-stone*" flints. Above this, in the chalk, and even in the sand, occasional thin layers of small and thick-skinned flints occur, which are useless for manufacture ; and even the "*wall-stones*" are now principally used for building purposes, though our ancient pit-diggers seem to have made considerable use of that stratum for the smaller and coarser kind of implements.

Somewhat more than 7 feet below the "*wall-stone*" flints comes a second bed, now called the "*Floor-stone*," which are large sized and clear flints of the very best possible quality. This bed has an average thickness of from 7 to 8 inches, and is very regular, and it was just below this stratum that the original bottom of the pit was reached, 40 feet below the surface.

Here also the door-way (*a*) was discovered, leading to a labyrinth of passages and galleries, which probably connect the whole workings in the neighbourhood together ; and here, too, was the problem solved as to the object and character of the pits, and the fact established that these stupendous undertakings—considering the working tools of the age—were mere flint mines, and were carried out by a people to whom metals were unknown, and probably before the finer and more scientific arts even in flint-chipping had become understood.

The doorway (*a*) was 4 feet high by  $4\frac{1}{2}$  broad, cut out of the chalk, and irregular in shape, owing to some of the roof having fallen in. We found afterwards (from the inside) traces of a corresponding doorway about the spot marked (*b*) on the plan ; but as this was behind a portion of the loose stuff which had been left standing, we dared not investigate it.

<sup>1</sup> Cores of flint, pebbles for flaking, tools of deer's horn, bones, charcoal, and wood ashes, &c., were found throughout the whole.

Possibly a third entrance may exist on the third side of the pit also, behind the unmoved filled-in material, somewhere about the spot (c).

The "Floor-stone" flints had been removed to the limits of the shaft itself, and the galleries had then been excavated in all directions slightly below the level of the bed of flints, which had been also picked out at each side as far as was safe without endangering the roof.

The galleries were originally about 3 feet high, and from 4 to 7 feet

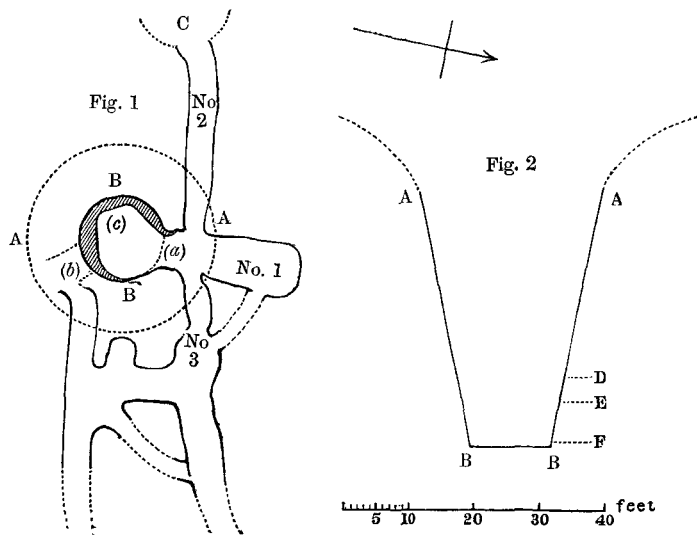


Fig. 1. Ground-plan of Pits A, A, and C, and of Galleries No. 1, 2, and 3.  
Fig. 2. Vertical section of Pit A, A.

wide, according to the state of the chalk ; but in many places we found a height of 5 feet, and sometimes even standing room, owing to the falling-in of bits of the roof.

Unfortunately we only reached the bottom of the pit a few days before we were obliged to leave Norfolk, consequently it was impossible to

explore the galleries as far as we should have wished ; but the plan of those we did clear out will give an idea of their ramifications and the way in which they run into each other, and there can be little doubt but that the whole of the pits are united by a complete net-work of passages.

The galleries were half, and many of them almost entirely, filled up with loose chalk, seeming to show that, as one gallery was worked out, it was more or less filled in with the loose stuff from other ones. One side gallery (No. 2), leading at right angles out of the main one near the entrance, was very low and narrow, but had not been much refilled with rubbish, so that, on the discovery of its entrance—a hole with barely room to squeeze through—we were able to crawl its whole length, a distance of 28 feet, where it ended in the bottom of one of the neighbouring pits, C, which still remains filled in.<sup>1</sup> It was near the end of this passage that I found a very perfect horn-pick, a well used hammer-stone, and on a ledge in the wall one of the chalk cups—perhaps lamps—all of which are described below.

A most interesting discovery was made at the end of No. 1 gallery, and about 21 feet from the doorway, the description of which I will quote in full from Mr Greenwell's notes. "The roof had give way about the middle of the gallery, and blocked up the whole width of it to the roof. On removing this, and when the end came in view, it was seen that the flint had been worked out in three places at the end. In front of two of these hollows was laid a pick, the handle of each towards the mouth of the gallery, the tines pointing towards each other, showing, in all probability, that they had been used respectively by a right and left handed man. The day's work over, the men had laid down each his tool, ready for the next day's work ; meanwhile the roof had fallen in, and the picks had never been recovered. It was a most impressive sight, and one never to be forgotten, to look, after a lapse of, it may well be, 3000 years, upon a piece of work unfinished, with the tools of the workmen still lying where they had been placed so many centuries ago."

The galleries to the right of No. 1 were the most complicated, as may be seen by the plan, but want of time prevented us from following them to any great distance, as they were almost quite filled up with rubble.

<sup>1</sup> The loose stuff in this pit had not settled down to the bottom, so that we could see some feet up the shaft from below.

The manufactured articles found in the shaft and galleries may now be described. The most numerous as well as the most important were the already-mentioned "picks" of deer's horn. No less than seventy-nine of these tools were found in the course of excavation, as they seem to have been used both as picks and hammers. In shape they much resemble a modern pick, being made of the antler of a red-deer, the points on all the tines, except the brow tine, being cut or broken off.<sup>1</sup> They average about 18 inches of handle, and the brow tine would naturally serve as a pick for excavating the galleries, and loosening the chalk round the flints; whilst, if reversed, the heavy end or burr would be well suited for dislodging the flints, or even splitting them, if necessary. That they have been more or less used for both these purposes is evident in the whole of these tools, and the corresponding marks both of pick and hammer are distinct on the roof and walls of the galleries, appearing as fresh in the chalk as if made but yesterday. The animals to which these antlers belonged—most of which were shed ones, only eleven out of the seventy-nine being from deer which had been killed—seem to have been of large size, and much beyond the average of the present Scottish red-deer.

One hatchet of basalt was found in No. 1 gallery, and the marks of its edge were plentiful on the sides, showing that other implements besides the horn-picks were used in excavation, but probably rarely, as no other specimen of the kind was discovered.

Two implements of bone were found in the shaft—a pin or awl,  $4\frac{1}{2}$  inches long, and a piece of bone,  $4\frac{1}{4}$  inches long, rubbed smooth, and showing signs of use at both ends.

Fourteen small water-rolled pebbles had been used for flaking flints, or some such purpose; and seven large rounded cones of flint showed signs of much use as hammer-stones.

Four rudely shaped circular cups of solid chalk were found—one, as before mentioned, on a ledge in No. 2 gallery. They have evidently been hollowed with flint flakes, and are about  $2\frac{1}{2}$  inches in diameter and 2 inches high. As some light must have been necessary in the galleries, it may be suggested that they were used as lamps of some kind, though the absence of any signs of grease or burning about them makes this a matter of doubt.

<sup>1</sup> In several instances they had been partly burnt through, before breaking.

Several other curious objects of chalk were found, of which the use or object is more than doubtful. One is a flat thin piece, with a hole in the middle, which has been drilled from both sides; two others, though very rough, resemble parts of a human arm and finger; whilst a fourth, though hardly to be described here, is astonishing in the accuracy of its anatomical features, and may have formed part of a whole figure, unless some religious significance can be attached to so extraordinary a work of art.

With one exception—that of a small bird—no bones were found in the galleries, but a number were mixed in the material which filled the pit, most of which had been split to obtain the marrow. Mr Greenwell has had them examined, and they seem chiefly to belong to a small species of ox—*Bos longifrons*. Several dogs of a small size were represented; but altogether the remains in bone were poor.

Having thus given a short description of the pit and galleries opened, and of the remains found in them, a few words on the general character of “Grimes’ Graves” may not be out of place.

Canon Greenwell, in his paper for the Ethnological Society, goes at length into the subject, and offers several suggestions of great ethnological interest. For me, here, it will be sufficient to point out a few of the most obvious facts, and the plain deductions arising from such.

That these pits and galleries are nothing more nor less than “flint mines” is too clear to need discussion. That they, although belonging only to the neolithic age, are of vast antiquity, is proved by the remains discovered in and around them and by the manner of their construction. The absence, not only of the faintest sign of the knowledge of metals, but of any trace of those more highly finished flint tools, whether polished or chipped, which mark the later stone period, and also the absence of all pottery, seems to carry us back at once, not merely to anti-metallic days, but to a time indefinitely more remote, the very object of these huge workings implying the universal use of flint up to, at any rate, the time of their ceasing to be worked.

Moreover, the pits themselves seem to represent a considerable space of time. As before mentioned, there are upwards of 250 of them at “Grimes’ Graves” alone, and it is certain that very few were being worked together, probably only one at a time—otherwise, how do they



come to be filled up? or rather, what has become of the immense mass of material taken from so many pits and galleries? Obviously each pit has been filled in, after the galleries leading from its bottom had been worked to a certain distance, by the stuff thrown up in sinking the next pit to it. This is almost proved by there still being at one end of the series, and near what we may consider to be the first pit, a large mound, which was opened under the idea of its being a tumulus. It was found, however, to consist merely of chalk, sand, and flints, obviously the material taken from the first pit, when there was no other into which to throw it; and at the opposite side of the group are some pits only partly filled in, seemingly the last of the series. Why so many shafts were sunk, instead of carrying the galleries to greater distances, it is hard to say; but for some reason it must have been found either easier or safer, and the immense labour in sinking so large a shaft in those days carries with it the idea of a considerable lapse of time. Besides which, it must be remembered that a single pit with its galleries would afford flint sufficient for the manufacture of many thousands of implements, even allowing for lavish waste. The 254 pits already counted give some idea of the enormous quantity supplied by the "Grimes' Graves" alone; but these are probably only one of a series of like workings in that district, and, as Mr Greenwell says, "imagination fails to conceive the vastness of the supply of material for the people of the second stone age, and the extended time required for the neolithic age alone."

After opening a good many barrows in the neighbourhood, I occupied the last day or two of our stay in working at a second pit, at the opposite side of the group from the one Mr Greenwell had so long toiled at. Like all those on the west of the series, this pit was much smaller than No. 1, and probably not so deep, as the slope of the ground on that side brings the layer of "floor-stone" flints nearer the surface. However, I only had time to get down some 8 or 10 feet, and found, besides quantities of split bones, two very rude adze-shaped tools of flint, of a very ancient type, almost resembling the flints of the Drift, and some hammer-stones; but, as in No. 1, no trace of pottery.

That the large flints were broken up on the spot, and there and then converted into implements and tools, is evident from the huge quantity of broken implements, chips, flakes, &c., on the neighbouring fields,

becoming more frequent the nearer the pits are approached. These may be gathered by thousands wherever the plough has been used. The most are, of course, chippings and flakes, refuse pieces struck from the cores. The rest consist chiefly of roundish cores of flint, used for hammers or flakers, and generally showing much wear; drills, or tools for boring; knives and saws; scrapers, round and oval, as big as  $3\frac{1}{4}$  inches in diameter; some rude spear-heads; and hammer-stones of every size and shape.

The typical implement of "Grimes' Graves" somewhat resembles an adze. It has a cutting edge, flat on one side, and more or less convex on the other. It varies from 4 to 8 inches in length, and differs from any other type of tool I have met with, but is seldom found whole. Besides there are many articles to which it would be impossible to assign either use or name, but one and all are chipped into shape, and show no signs of grinding, with the one exception of the axe found at the bottom of the shaft, which is obviously from some other locality, being of partly ground whinstone, and of a type commonly found in East Anglia.

I hope before long to visit this most interesting spot again, and to obtain permission to open out some more of the pits both in "Grimes' Graves" and some of the other groups of ancient flint mines in that neighbourhood.