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Mr W. AMBROSE HARDING and Professor HUGHES gave an account of the researches which they had carried out at Arbury Camp, near Cambridge, in continuation of the work begun there in 1902.

ARBURY.

Second Report.

BY PROF. T. MCKENNY HUGHES, M.A., F.R.S.

ON a former occasion¹ I gave a description of the remains found at various times or still to be seen at Arbury, and offered some speculations as to the object with which the earthworks may have been constructed, and suggestions for the guidance of those who might be induced hereafter to undertake the systematic exploration of the site. Fortunately the work has been taken up in a very spirited way by Mr Ambrose Harding, and I am now able to offer an *ad interim* report of the results.

I can also add a few facts respecting the objects found within the circular enclosure and over the adjoining ground. Most of the Roman coins and fragments of pottery were found in the next field but one on the north, to the east of Cawcutts Farm. (See Plan of Site, fig. 1.) There are traces of banks and ditches and disturbed ground over a considerable area to the north of Arbury, and, although some of this may be due to gravel-digging, it may well be that the principal settlement of Roman or Romano-British times was here, rather than within the ring at Arbury.

Mr Burkett, of Arbury Camp Farm, informed me that a small gold coin was found about fourteen years ago in the surface soil in or near the enclosure, and sold to Mr Sadd in Cambridge.

I learned also from Mr Unwin that when a drain was being cut across the field south of the railway, and north-east of Arbury, a thick wall built of bricks and large stones was

¹ *Camb. Ant. Soc. Comm.* No. XLIII. Vol. x. No. 3 (Vol. IV. N. S.), p. 277. May 15, 1902.

crossed. The stones shown to me by Mr Unwin, as similar to those of which the wall was constructed, were fragments of oolite, chalk rock, etc., out of the drift. The mortar was so strong that the workmen had much difficulty in cutting through it. The wall was about six feet in thickness and ran from

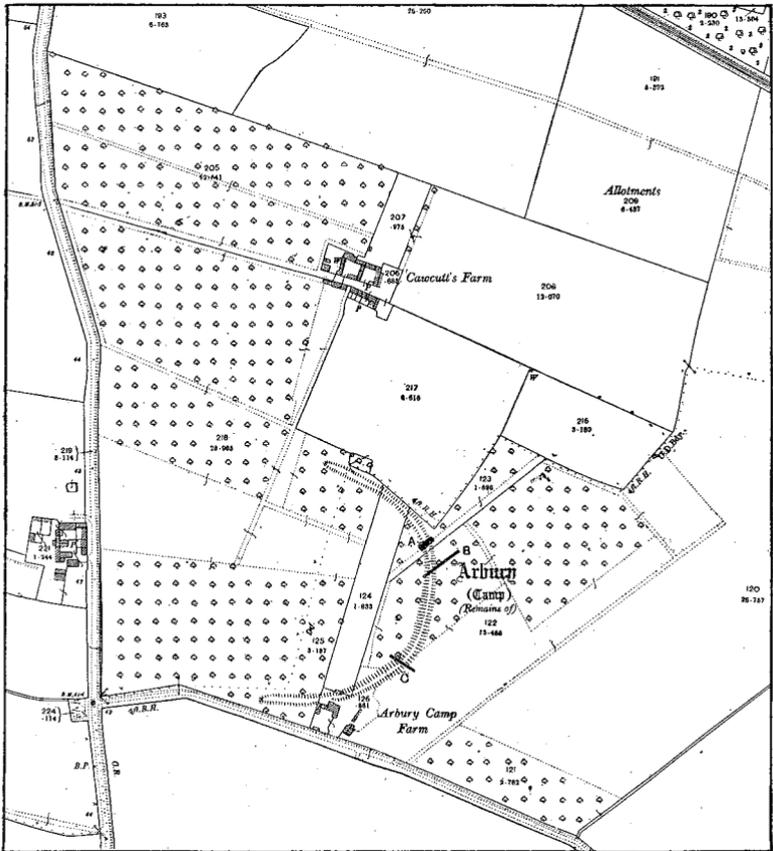


Fig. 1. Plan of Arbury Camp: reduced from the Ordnance Survey.

south-east to north-west, crossing the drain obliquely. It was seen only where the drain passed through it, and as it does not appear anywhere near the surface, there are no indications from which we can infer how far it ran either way.

In the endeavour to trace ancient earthworks or settlements from an examination of the ground, one of the first steps to be taken is to ascertain whether there is any natural product in the district which might have caused excavations to be made, and then to observe the manner in which those excavations are carried out in each case, so that, when we come to disturbed ground, we may recognise the origin of the various irregularities of surface, and not waste our time in seeking for hut circles, etc., where the pits are due, for instance, to gravel-digging. Now in the case of Arbury, we might be inclined to explain the destruction of the western half of the enclosure to the manner of digging out phosphate nodules or coprolites as they are commonly called. But the Camp is entirely outside the area over which the phosphate bed occurs.

On the north side of the camp there is much reason for thinking that there was a settlement in late Roman times, and the ground is dug over and trenched often in a somewhat regular manner. Here we must be careful. The site is upon an extensive bed of gravel, but gravel of a very variable composition, so that pits were sunk here and there in the attempt to procure fine sand or coarse gravel as might be required. This does not, however, throw doubt upon there being earlier excavations for a different purpose. In fact the very existence of material thrown up during the trenching for an ancient settlement may well have indicated where the gravel or sand lay, and have given rise to later and less regular excavations.

A very useful line of research in such a case is an enquiry into the relative dates of fences, ditches, drains, roads, etc. It is not long since the country north of Cambridge was enclosed, but that does not mean that it was not cultivated, or that there were no ditches or fences on any part of it.

Arbury Road, or Arbury Camp Road as it is locally called, runs obliquely W.N.W. from the Cambridge-Milton Road to join the road from Cambridge to Histon (see Plan, fig. 1), but when the Arbury Road gets to the Camp it is deflected and runs south of the camp into the Histon Road. Evidently the Camp was either enclosed when the Arbury Road was

made, or presented such an obstacle that it was thought better to avoid it.

The parish boundary runs along the Arbury Road from the Histon Road to Arbury Farm, and then is taken in a straight line across the middle of the Camp from where it first becomes conspicuous on the south side to the corresponding point at the end of the existing bank on the north. From this it follows the outline of the Camp for some distance, and then seems to have been determined by an old deep ditch which runs into the fens to the east, and zigzags in a manner which indicates that it was dug along the fences between ancient enclosures. Of course these distributions belong not to the time of the original division of the counties into parishes, but to the exact delimitation which was necessitated by carrying out the Commons Enclosures Act.

A curious story is told in the district which throws some light upon this question, and the social conditions of the time. A dead body was found in the Camp, or at any rate in the enclosure in which it occurs. The parish of Impington said it was none of theirs, and refused to bury it. The parish of Chesterton took charge of it and buried it. When the parish boundaries were afterwards being fixed, Chesterton claimed and obtained a considerable portion of the area, on the ground that they had accepted the obligation of burying the corpse found upon it, and the other parishes acquiesced in this decision.

In digging a post-hole near the railway N.E. of the Camp, a small bronze image of a man was found by Mr Unwin. This gave rise to great hopes, as every now and again bronze figures of Roman age have been turned up along the borders of the Fenland. Upon enquiry I learned that it had been handed over to the Rev. Peter Mason, M.A., Fellow and President of St John's College, on whose property it was found. He very kindly gave it to me, and I have placed it with the other objects from that district in the collection of Mr Ambrose Harding, at Histon Manor. It did not, however, prove to be of such interest as the first accounts seemed to justify: it is probably, as suggested by my wife, a figure of Aladdin, and most likely formed part of a small lamp of recent date.

One of the first things to aim at in carrying on excavations on such a site is to ascertain what was the original surface soil through which the fosse was dug, and on which the vallum was heaped up. But that which at first sight appears so simple, is not in this case as easy as might be supposed. The Camp is constructed upon the edge of a terrace of gravel, sand, and loam of very variable character, and the marginal fen deposits which abut against it are largely made up of the *remanié* material which in fine weather crumbled, and in wet weather was washed down the slopes, while intermittently plants grew on it, or flood waters carried mud and wrack, and heaped it up along the shore. It is obvious therefore that it must be difficult to discriminate, in small and often water-logged sections, between the re-sorting due respectively to natural and to artificial operations.

It is useful therefore to place on record another section seen at a little distance from the Camp.

Mr Burkett, of Arbury Camp Farm, informed me that when he was digging a hole for a gate-post, about 100 yards east of his house, by the "Arbury Road" he found the following section (fig. 2).

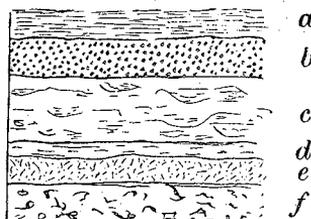


Fig. 2. Section: scale 8 feet to 1 inch.

- | | |
|---|--------------------------|
| a. Surface soil. | b. Yellow sand. |
| c. Sand, loam, and clay, irregular in arrangement and variable in colour. | |
| d. White clay. | e. Grey silt. |
| | f. Gravel full of water. |

This section is in natural soil, and therefore useful for comparison with what we found in the trenches cut across the fosse and vallum.

The next section to be described (A), fig. 3, though not the first we opened, is one across the bank in the N.E. quadrant close to the fence in the green roadway west of the orchard. In this section (*a*) is the surface soil, which is probably due to agricultural operations and the action of the weather, and is banked up against the remains of the original vallum on either side. The material of which the vallum was constructed is represented by *b*, *c*, and *d*. Where this was procured is not clear. What fills the fosse is the wash-down from the bank, *d'* being made up of *b*, *c*, and *d*, and *e'* much resembling the natural bed *e* which is seen below the material thrown up to form the vallum. The black sandy silt with white chips of flint (*f*), from the condition of the flints appears to be derived

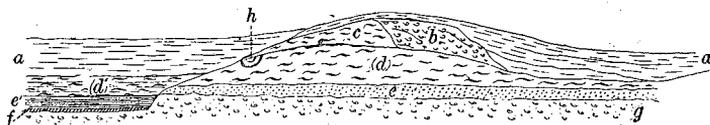


Fig. 3. Section (A). Trench in N.E. quadrant close to fence in green roadway west of orchard. Scale 8 feet to 1 inch.

- | | |
|---|--|
| <i>a</i> . Brown soil. | <i>b</i> . Gravel thrown up to form bank. |
| <i>c</i> . Mottled sandy clay thrown up on bank. | |
| <i>d'</i> . Re-sorted clayey loam filling fosse or (<i>d</i>) thrown on bank. | |
| <i>e</i> . Grey silt. | <i>e'</i> . Re-sorted grey silt. |
| <i>f</i> . Black sandy silt with white chips of flint. | |
| <i>g</i> . Gravel. | <i>h</i> . Pit with burnt soil and charcoal. |

from a surface soil. On the outside of the vallum, about half-way down, but covered by between two and three feet of surface soil, there was a small pit about 18 inches across and 18 inches deep, filled with charcoal and burnt soil. Similar pits occurred in the section next to be described, both inside and outside the vallum. These fireplaces may be compared with those found in the War Ditches¹, and their occurrence sometimes on the inside and sometimes on the outside of the vallum may be explained by their being lighted on the side sheltered from the wind.

We found no objects that gave the slightest clue to the age of the work.

¹ *Camb. Ant. Soc. Proc.* No. XLIV. p. 452.

The next trench to the south (B) was cut across the vallum and a little way on either side of it.

The ground was, when we were digging, full of water, sometimes rising after rain to within three feet of the surface, and, as I pointed out in my former note on the site, the water level must have determined the depth to which the fosse was excavated. Even allowing for the exceptionally wet season we have had, we cannot speculate upon the probability of a deep fosse here. The section across the bank also shows that the amount of material thrown up was not great, and we must reduce the estimated height of the rampart also. But this was the side next to the fen, and as the Camp probably belongs to an age before the reclamation of the fenland, it is quite possible

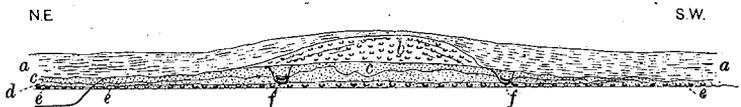


Fig. 4. Section (B). Trench in N.E. quadrant S. of (A).
Scale 8 feet to 1 inch.

- a. Soil : brown loamy soil with plenty of humus.
- b. Gravel thrown up to form bank.
- c. Light grey sandy loam lying in a patchy irregular manner.
- d. Red sandy loam evidently belonging to gravel.
- e. Gravel full of water.
- f. Shallow pits with charcoal and burnt soil.

that strong defensive works were not considered so necessary here. This must be looked into carefully if we ever have an opportunity of examining a section across the fosse on the inland side of the Camp.

There are two small ditches, one outside and one inside, close to the bank, but they do not seem to have been sunk into the gravel sufficiently to account for the gravel thrown up on the bank, and we have not found where the gravel of the bank was procured. The occurrence of fireplaces, *i.e.* holes with charred wood and burnt clay, shows that the water did not always rise to the high level at which it now stands, and possibly some of the gravel which has been taken as the

undisturbed bed may have been moved, and got consolidated by the wet and the load of soil above it.

When we dug through the clay in the fosse and touched the red gravel, the water rose at once to within 4' 8" of the surface, and bubbles of air or gas rose through it for some time.

The explanation of this may be that the water in this exceptionally wet season had risen through beds of gravel, the interstitial spaces in which had in the previous dry seasons been filled with air or gas which was now held up under the irregular capping of clay until released by our excavations.

The third trench (C) was cut across the steeper part of the bank immediately north of Mr Burkett's farm. In this section there was more distinct evidence of the mottled white, clayey

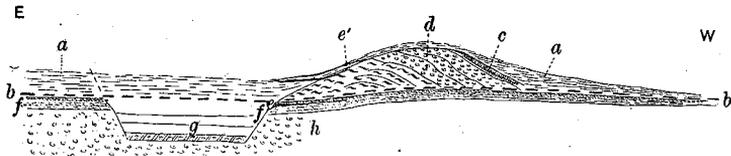


Fig. 5. Section (C). Trench in S.E. quadrant North of Burkett's farm.
Scale 8 feet to 1 inch.

- a. Modern surface soil.
- b. Ancient surface with ancient soil resting on it.
- c. Black carbonaceous earth at base of a.
- d. Gravel thrown up on bank.
- e. Mottled clayey loam, sometimes white.
- e'. Mottled loam thrown up on bank.
- f. Grey silt between mottled loam and gravel.
- g. Silt filling lower part of fosse (1'6" black at base with chips of white flint and some black flints).
- h. Gravel full of water.

loam which is above the gravel having been dug out first and thrown on the bank, and the gravel which was deeper down having been thrown up afterwards.

There was here a much heavier surface soil on the inside, and the gentle slope of the ancient surface soil, with the vegetation which grew there before the vallum was made, could be clearly traced. It would be very interesting if the character of that vegetation could be determined, but where we exposed it, it was a mere band of carbonaceous matter.



FIG. 1.



FIG. 2.

There was a layer of black carbonaceous earth at the base of the surface soil (see "Section C") and resting on the gravelly material of the vallum, and therefore of course much newer than the ancient surface soil above described. There was also at the bottom of the fosse the bed of black silt seen in Section (A), with white flint chips and some larger black flints.

In the surface soil here we found a fragment of a small bronze vessel, but we could not trace any connection between it and the earthworks.

Monday, 14 November, 1904.

A. C. HADDON, Sc.D., F.R.S., President, in the Chair.

Mr W. B. REDFERN, of Inveruglas House, Cambridge, made the following communication on

AN ELIZABETHAN BUSHEL MEASURE.

By the courtesy of the Mayor and Corporation of Cambridge permission has been obtained to photograph the very interesting bronze bushel measure which was recently brought to light in the old office of the Weights and Measures in the Guildhall, after having been hidden away among a quantity of lumber, and entirely forgotten, for some generations.

The vessel is of solid bronze, is tub-shaped, and stands on three ornamental feet. Its dimensions are as follow:—Diameter, 1 ft. $7\frac{1}{4}$ ins.; height, $10\frac{1}{2}$ ins.; depth, 8 ins. It is $\frac{3}{8}$ in. thick, and its weight is $69\frac{1}{2}$ lbs. On a ribbon running about midway round the measure is this inscription, in bold, well-formed letters, as will be seen from the photographs (figs. 1, 2) which illustrate the measure from different points of view:

ELIZABETH, then a crowned Tudor rose; DEI . GRACIA ANGLIÆ, then a portcullis crowned; FRANCIÆ . ET, then a crowned fleur-de-lis; HIBERNIÆ . REGINA; and then a crowned *E . R.*, joined together by a love-knot; then comes the date: 1601. Between the ribbon and the lip of the vessel occur the letters *E . R* crowned, thrice repeated. On the edge of the

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