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# The Glastonbury Lake Village: A Reconsideration

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ABSTRACT. At the Glastonbury Lake Village site there were two quite distinct occupations by two groups of people with different ideas on house construction and with differences in their cultures as defined by the objects found. The first people on the site built, mainly in oak, timber framed houses of square or rectangular form. The second people destroyed the earlier houses and made artificial mounds of timber, brushwood and clay and on these set up round huts. The occupation ended with a quiet abandonment of the site: there was no terminal massacre and no destruction by fire.

## SOURCES

There are two main sources of information for this paper: the two volumes of *The Glastonbury Lake Village*, published in 1911 and 1917, and here referred to as *GLV 1 and 2*, and *The Lake Villages of Somerset*, 3rd edition published in 1938 and here referred to as *LVS*.

The key to this reconsideration lies in the plans drawn by Bullied of *GLV* and in his detailed description of the individual clay mounds (CMs). These plans are a mine of information and for most practical purposes comprise the sole source for the stratigraphical relationship of the structures and associated finds. More detail would have been preferred and there are some unfortunate omissions.

The plans of *GLV* are set out on 10 large folding plates but no overall plan is provided. The plans further contain so much detail that they are difficult to decipher not only for the stratigraphical relationships of the structural features but also for those of the objects found.

Each of the plans was photographed. Prints were made to a standard scale of one-third of the original and the prints were put together as a mosaic. From this plate 16 was evolved. It is largely self-explanatory. An element of empiricism enters into the division of the CMs into four classes. The early group is quite well defined by the data available but could contain a few that belong to the early-middle period and *vice-versa*. Similarly a few of the late-middle group may really belong to the late group. Further the outlines of the CMs are based on the lowest and therefore earliest floors. Panels 1–3 in plate 16 are enlargements of certain structures of the main plan. All have the same orientation as the main plan.

In *GLV* every letter of the alphabet is pre-empted to designate the various groups of objects found. In each case the object number *succeeds* the code letter. In this account letters have had to be used and in each case the object number *precedes* the code letter.

| *GLV* | *This paper* |
|---|---|
| H1 *etc.* = objects of horn and antler. | 1H *etc.* = square or rectangular houses. |
| X1 *etc.* = objects of wood. | 1X *etc.* = objects of wood not numbered in *GLV*. |
| | 1Pl *etc.* = groups of planks |

## THE EARLIER OCCUPATION

*A. Structural Features*

All the components here described were found below the level of the CMs, which in places directly overlay them, and so must be older than the CMs. The components are oak piles, oak beams, other pieces of oak from buildings and hurdles with oak uprights. The buildings are here referred to as square houses (S Hs).

Bullied depicted all the *large oak piles* (the italics are mine), with a special symbol. Over 400 such piles were recorded. Most of them are shown on plate 16. Of these only about 30 bear any possible relationship to the CMs. Most of the piles are quite clear of the CMs. A few were found lying horizontally and some with "knobbed tops" are marked, *e.g.* X61, the two near CM 70 and X86 near the Causeway. Others are mentioned in the text as having been pulled out and left lying under the CMs.

Other groupings such as 6H and 7H form squares with one or more outlying piles. At 12H they form a rectangle. Some of the oak piles have tenons on their tops and these were fitted into mortise holes in horizontal oak beams as at 8H, 16H, 17H and 19H. The unit of measurement is 10 ft. for some of these but not for all.

The oak planks are in scattered groups. Some are placed haphazardly under the CMs as part of their foundations. Others are scattered where there are no CMs. The longest planks are 14 ft. but there are only a few of these. The average length runs to about 6 ft., the majority being between 5 – 7 ft. Some are as short as 4 ft. and others 8 ft. and 10 ft.

There is a variety of oak pieces, some only the thickness of planks and some that can be counted as beams. They bear a variety of mortise holes—*e.g.* at 19H, and X39, 33 and 96 (fig. 21). A number of these pieces do not have catalogue numbers in *GLV*. They are listed in table 1, together with a brief description.

TABLE 1

Items of worked wood not numbered in GLV
(All belong to Square Houses).

| No. | Close to CM | Plans *GLV* Pl. No. | Description |
|---|---|---|---|
| 1X | CM3/SW | 7 | Mortised wood. Prob. wall plate; 2nd piece with end mortise hole. Oak? NP. ND. |
| 2X | CM5/SW | 7 | Crossed beams with pile (oak) through mortise holes. Part of 1H. P. ND. |
| 3X<br>4X | CM6/– | 12 | 2 planks mortised. Oak? NP. D/75. |
| 5X | CM11/– | 12 | Part of mortised beam. Oak. NP. D/82. |
| 6X | CM18/– | 15 | Mortised timber. Oak? NP. ND. |
| 7X<br>8X | CM19/20 | 15 | 2 mortised beams. Oak. NP. D/93. |
| 9X | CM25/SW | 15 | Mortised beam. Oak. NP. ND. |
| 10X | CM48/SE | 20/25 | Long beam with mortise hole at N. end. Oak? NP. ND. |
| 11X | CM48/NW | 25 | 2 pieces of board. Oak. NP. ND. |
| 12X | CM9/– | 12 | Mortised beam. Oak? Runs under doorstep of CM9. NP. ND. |
| 13X | CM57/– | 29 | Piece of wood with mortise hole. Oak? NP. ND. |
| 14X | CM57/– | 29 | Squared timber with mortise holes. Prob. wall plate. Prob. oak. NP. D/138. |
| 15X | CM60/SW | 29 | Mortised beam. Oak? NP. ND. |
| 16X | CM61/SE | 29/33 | Worked beam. Oak? See also 16H and 17H Pl. 1. NP. ND. |
| 17X | CM83/– | 33 | Large horizontal beam. Oak. 3 square mortise holes. NP. D/172. |
| 18X | CM46/S | 20 | Beam with square mortise hole. Oak? West of Causeway. NP. ND. |
| 20X | CM38/– | 15 | Beam or plank with one large and several small mortise holes. Oak. NP. D/112. |
| 20aX | CM38/– | 20 | Beam, part of, with mortise hole and pile. Oak pile. Beam oak? P. ND. |
| 21X | CM65/W | 25/35 | Beam with mortise holes. Oak? NP. ND. |
| 22X<br>23X | CM63/65 | 35 | Parts of mortised beams with piles present. Piles oak. Beams prob. oak. P. ND. |

P. in original position. NP. not in original position.
D. Described in *GLV* and page number. ND. Not described in *GLV*.

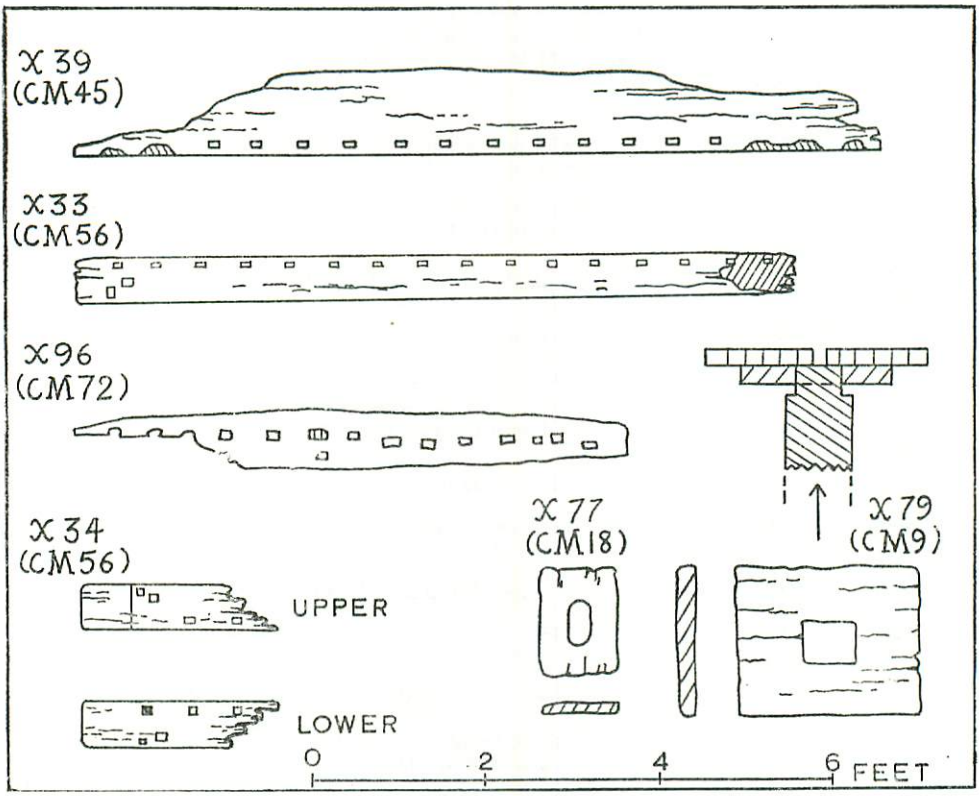



*Fig.* 21. Mortised oak timbers. The diagram above X79 shows how this may have been used.

The boat, X57, lay below but in connection with oak piles and mortised oak beams fixed to the tenons at the top of oak piles. The south end is just covered by the edge of CM41

There are two groups of hurdles near CM22, but clear of it, and partly under CM56. They are described in detail as being in a secondary position and they measured about 10 ft. in length. The wattles were about 6 ft. high and the uprights projected top and bottom by a few inches. The uprights were spaced at 4·5 – 6·0 in. apart and were made of oak and had their upper and lower ends trimmed to a roughtly square to rectangular form. They were about 2 in. wide. The free ends of the wattles projected 8 in. from the last of the uprights. No method of securing the free ends of the wattles was observed.

A door made out of a solid piece of oak 3·5 × 2·0 ft. was found lying deep in the peat clear of CM5. Close to it was a ladder made of ash. It was about 7 ft. long with originally five rungs and it was transfixed by a pile of the palisade.

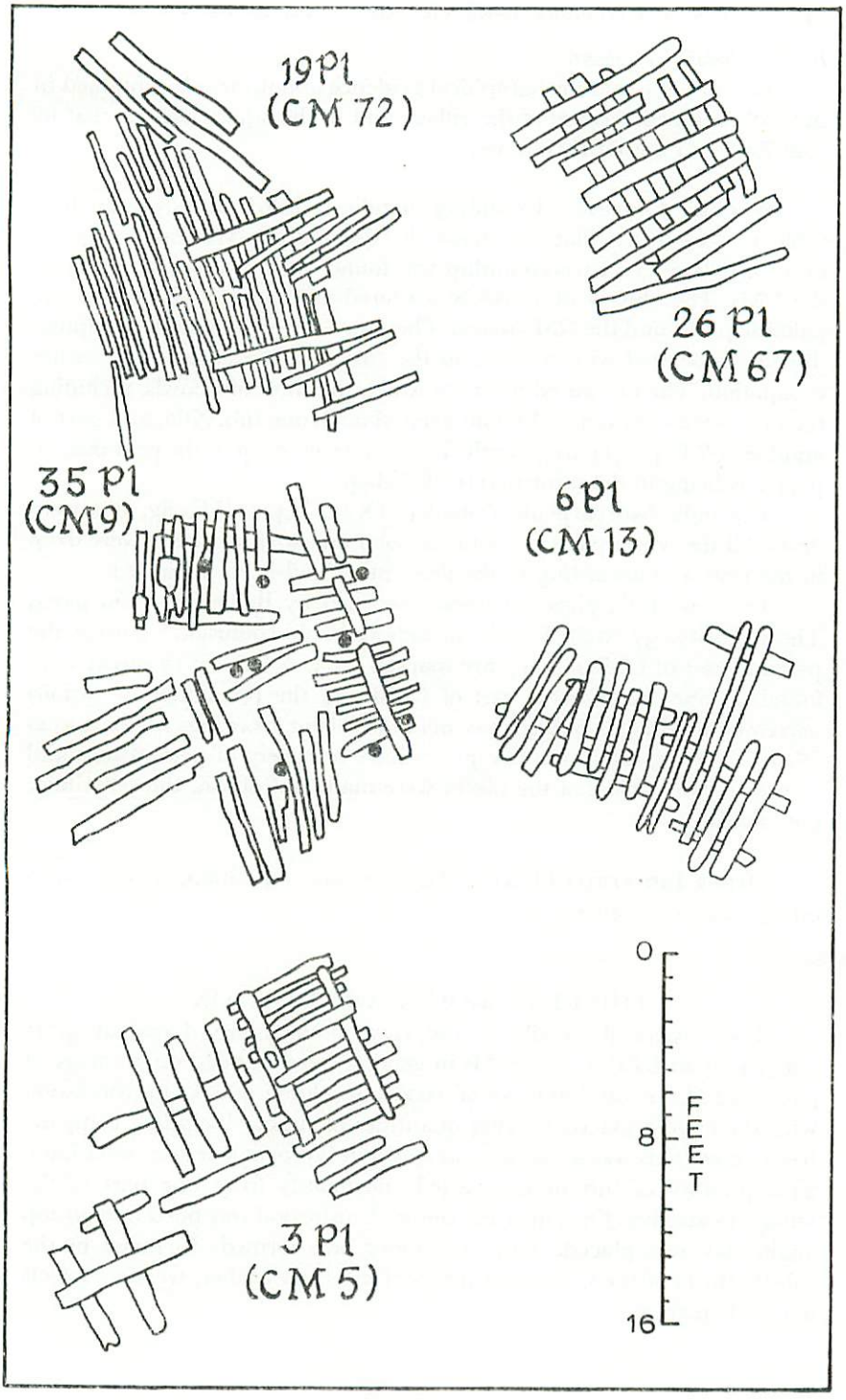



*Fig.* 22. Groups of oak planks.

*B. The Industrial Objects*

The only reliable stratigraphical evidence about these is contained in Bullied's detailed account of the village and in the other chapters that he contributes to the *GLV* volumes.

Wooden Objects. (Excluding handles). (*GLV* X1–97 and here table 1, 1X – 23X). Plate 16 shows the distribution. Without exception every article of good workmanship was found deep in the peat or under the CMs. The objects were widely scattered and many were beyond the palisade put round the CM village. There are however notable groupings directly associated with or close to the structural remains of the earlier occupation. The decorated pieces of wood, the tubs and bowls, including the decorated ones were all found deep, though one tub, X60, and part of another (*GLV*, p.131) are described as only 15 in. deep in the peat but, on p.537, as being in the substructure of CM54.

The only two carpenters' mallets (X27, X42, *GLV*, fig. 88) were deep. All the wheel parts for both the solid and spoked wheels were deep in the peat and according to the description had been discarded.

There were 63 pieces of wood described by Bullied as loom parts. The majority, 37, were found "in indescribable confusion" outside the palisade east of CM46. They are marked X65. A further 17 pieces were found outside the palisade east of CM8 and the remainder in various parts of the village. Bullied has made excellent drawings of the pieces (*GLV*, l. 52–57, fig. 115). The pieces have a variety of perforations and sectional forms. Most of the pieces were made out of ash, the remainder out of oak.

Other Industrial Objects. These, to save repetition, are dealt with on pp. 150–153 below.

## THE CLAY MOUND OCCUPATION

The structural details of the clay mounds are described quite adequately in *GLV*, *1*. The CMs in general were founded on an array of piles made from varying types of wood but seldom of oak. In association with these were placed varying quantities of timber including complete tree trunks. This was sometimes arranged in layers in a criss-cross fashion. The quantity of this timber varied enormously from one part of the village to another. On top of the timber brushwood was piled and on top again clay was placed. Thus a crannog was formed. Included in the substructures of the CMs were pieces of mortised timber, wooden objects and oak planks.

On the clay platforms round houses of rather flimsy construction were put up. Sufficient material was found to indicate that the poles for the walls were fairly slender and that there was a central pole. The walls themselves were of wattle work and were covered with daub applied to the outside. The position of doorways was varied and in a few cases quite elaborate doorsteps were set up.

The floors tended to settle and fresh floors at a higher level were made again of clay and a new hut built. This might happen several times and as many as ten floors had been made for one hut. On the floors were hearths of varying forms, which in many cases were repaired more often than the main hut floors.

In a few of the huts wooden flooring was used, laid on the lowest or lowest but one, layers of clay. No wooden flooring is recorded for the higher floors. Sometimes only traces of the flooring survived and the nature of the wood used was not determined. In others the flooring is sometimes mentioned as planks and also as split tree trunks of alder. The nature of the wood used, even when it could have been identified, is not always stated. Where the flooring was truly planks it seems that some were made out of oak. The CMs with traces of wood flooring are all of the early group save CM64 grouped here as probably early-middle period.

There were also areas of clay that seemed to have served no function on the evidence available.

Patches of stones and longer pathways of stone are stratigraphically related to the CMs.

The palisade is very obviously related to the CMs. Traces of earlier palisading also related to the CMs suggest that the village was extended. This is likely to be true for the eastern bulge and if so CM44 and CM46 would have to be placed in the early-middle period.

## THE EMBANKMENT AND CAUSEWAY

The Embankment is the earlier structure as it is overlain by the Causeway. The details of the structure of the two items are given at length in *GLV* p.119–125. The former is essentially a stone built affair chiefly "made of blocks of Lias with some clay and timber." The western face was in quite good condition, in parts. The west-east section was wedge shaped with the butt of the wedge to the west. Though at the north the lias blocks behind the face formed a pavement further south they seemed to have been just thrown in. Towards the south end on the west side was a mass of clay on the top. It was oval in plan. Opposite this on the east side was "a strong line of wattle work." There was also some wattle work on the west side with the lower border of the wattles driven in behind the timber support for the Embankment.

The main timber support, where this could be determined, on the west or face side, was a series of oak piles driven in vertically at "intervals of 9 ft. 6 in. The interspaces being occupied by two horizontal and parallel rails, the ends being lodged in two mortise holes cut side by side in the upper end of a plank. Both mortise holes received the wedge shaped ends of two rails——. The plank and the four inserted rails were pierced transversely by an oak peg——. The interval between the oak rails was occupied by oak boards driven vertically into the peat—— to form a supporting barrier to the west face of the stone wall." Each board was fixed by two pegs to the rail. The wall was 4 ft. deep and 3 – 4 ft. wide at the top narrowing to 12 – 15 in. at the bottom. This was the structure in the area of the clay patch.

At the north and south ends there were the remains, not in their original position, of elaborate constructions of oak including pieces that had been pegged together.

The two continuous arms of the Causeway were composed of clay covered with gravel. At the north end was a great block of oak dubbed the Landing Stage. The outer face of both arms was retained by a series of horizontal oak planks or boards fitting into grooves down the sides of thicker oak planks, which had been driven vertically into the ground. Additional support between the driven planks was provided by piles, only some of which were of oak, driven in vertically.

## INDUSTRIAL OBJECTS, OTHER THAN WOOD, OF *GLV*, AND THEIR STRATIFICATION

It must be said that the stratigraphical evidence is often meagre. Phrases such as "deep in the peat," "in the peat" "under mound——" occur with distressing frequency. The better data are all provided by Bullied. The following paragraphs provide a summary of the principal objects and their allocation on stratigraphical grounds to one or other of the occupations.

Bronze Objects. (*GLV* code letter E). CM5 (*GLV*, p. 71) produced evidence that bronze was smelted there and some objects were manufactured.

There were 45 bow brooches or fibulæ found in the village. All are La Tène II or III. Typologically early in the series is E173, "found in the peat" and E57 found on the second of the four floors of CM75. Both are La Tène II. The 10 penannular brooches are not well documented. Four of these were found on the upper floors of CMs.

The finger rings numbered 35. Of these 26 are related to the floors of CMs. Four, E123, 160, 165 and 169 were "in peat." E38 was in the

brushwood foundations of CM7, E111 amongst the piles under CM10, and E40 was outside the palisade at a depth of 4·25 ft. E18 was outside the palisade at a depth of 4·0 ft. and was close to the bronze bowl (E19).

Four out of the five bracelets were related to floors of the CMs and one was found "in the peat."

Parts of two mirrors were found. E100 was the more complete. It was plain and lacked its handle. It lay at a depth of 4·5 ft. in the brushwood amongst the palisading. This is beyond CM30 which had several wooden objects lying deep beyond or under it. Close to E100 was a pair of tweezers, E101. Only the handle of the second mirror was found on floor 2 of CM22 (E1).

Chapes. Only two were found. E47 was in the peat and brushwood under CM72. The other chape has no good stratigraphical data. (The chape of iron, I66, was in the peat).

The bronze bowl (E19). It was found at a depth of 5 ft. in the peat well beyond the palisade south of CM21 and S.E. of X90. It was old and had been crudely repaired. A punch, E109, was found close to the palisade beyond CM5 at an unstated depth. Gray states "it was with an instrument of this kind that punching of the ornamentation on the bowl — was effected."

There are six horse harness pieces. Only one came from the peat under the clay of CM73, which is one of the latest CMs. The other five were all related to the clay floors of CMs.

Iron Objects (*GLV*, code letter I). 109 varied objects are listed. Of these 60 are related to the floors of CMs, eight are unplaced and nine were in the foundations of CMs and 22 in the peat. 10 are minor items that have no significance.

The weapon pieces total only seven. The two daggers differ from each other. I2 has a long slim form and was 4·5 ft. deep in the peat. The other, I32, was found in the peat. Its site is recorded as clear of CM17. The possible dagger guard, I90, was under CM70. There were three javelin heads. One is from a CM, one from the peat and one undetermined for depth. The one fragment of a sword, I13, belongs to CM62. The one chape was in the timberwork under CM4.

The proportion of other objects allocated to SHs and CMs is: knives 13:4, saws 3:1, bill-hooks 2:6, files 2:4 and horse harness pieces 0:4, adzes 3:2 and probably the other one to the SHs. Gouges are 1:3 and the reaping hooks 3 or 4 : 2 or 1.

The one key I56, was found in the peat, well outside the palisade south of CM5. The massive hook, I28, which, it is stated, may have been a coulter, was found in the peat well outside the palisade east of CM48.

The currency bar, Z2, was 4 ft. deep in the peat well outside the palisade N.E. of CM 48. The other bar, now identified as a plough share, (Allen, 1967, p.332) was in the peat well outside the palisade south of CM5.

Lead and Tin Objects (*GLV*, code letter L). 50 items are listed. The majority were associated with floors of CMs. The minority includes 13 net sinkers all on the surface of the Causeway and none certainly associated with the Embankment.

By far the most interesting object is "The Sceptre" (*GLV*, L50, p.253). It was found in the decayed brushwood under CM7 and just beyond the edge of its two thick clay floors. This pure tin rod had bronze attachments at the ends and parts may have been gilded (p.245). The rod seems to have suffered severe damage before it reached the position in which it was found.

Bone and Antler Objects. These have been described and catalogued by Gray. The stratigraphical data given is often woefully inadequate. It is frequently stated that an object was found "in a mound" or so many feet from the central picket of a mound. But if these statements are checked against Bullied's detailed accounts of the mounds and plans it will be found that "in the mound" is often a misnomer for the area of the floors *and* the surrounding ground included under the title of the mound number. Therefore "in the mound" does not necessarily mean that the object was found on an actual clay floor. Table 2 summarises the allocation to the SHs and CMs. It is based on the stratigraphical information published.

TABLE 2
Bone and Antler Objects

| Item | No. | Comment |
|---|---|---|
| Hammers | 17 | 3 possibly belong to SHs. |
| Cheek pieces | 45 | 3 possibly belong to SHs. |
| Needles | 41 | All seem to belong to CMs. |
| Worked tibiæ (sheep or goat) | 65 | All seem to belong to CMs. |
| Perforated meta-carpi and -tarsi | 132 | All seem to belong to CMs. |
| Weaving combs | 89 | 18 probably belong to SHs.<br>19 certainly belong to CMs.<br>52 probably belong to CMs. |
| Dice | 5 | All belong to CMs. |
| Dice box | 1 | In peat outside palisade. No dice with it. Allocation? |

Weaving. The loom has been dealt with (p. 148) and also the bone and antler objects, including the weaving combs, so that only the spindle whorls and loom weights remain to be discussed.

The spindle whorls have been classified by Gray but the stratigraphical data given is insufficient to allocate them to the SHs or CMs. Bullied however does mention whorls, W13, 14 and 17, as being in the peat under CM46.

The loom weights were of two forms, rolls and triangular. Gray (*GLV*, p.572) states "it was not found possible to count the number of baked clay loom-weights actually discovered for comparatively few of them were complete, many - - - - - broke into dozens of fragments. - - - - - - - - fragments in large numbers were found." The table (*GLV*, p.570–1), gives only two as being "in peat below floors" and one other as "in peat between mounds."

QUERNS. The stratigraphical information about these is insufficient. All that can be said is that the distribution of types, as far as this is given, hints that the presumptively earlier saddle type belong to the SHs.

KIMMERIDGE SHALE (*GLV*, code letter K). Gray (p.262), states that "the objects of Kimmeridge Shale were found pretty evenly distributed over the area of the village, not only on the upper floors of the dwellings, but also among the substructure and under the clay ——" The detailed descriptions bear this out. 29 items are listed. Of these at least four (K7, 17, 22, 28) can be reasonably attributed to the SHs. Eight pieces occurred on the floors of CMs. Another four were found according to the plans, beyond the clay floors of the CMs but are not otherwise located.

POTTERY (*GLV*, code letter P). This presents the most awkward problem. Most of the pottery described and illustrated is the decorated ware. Very little of the predominant plain ware is illustrated or described. This is true to the present day.

The pottery that is illustrated has some stratigraphical data for each item. This allows all the pottery found within the CMs to be disregarded for the purpose of this investigation into the earlier occupation. There remains a small residue of vessels with a bewildering variety of imprecise stratigraphical appellations.

Of all the pottery one vessel, P53/Pl. 77, is adequately described as "6 ft. 3 in. below the surface near pieces of loom framework." This is near CM46 but well beyond the palisade. P53 is a plain vessel. (Pl. 15, 1). P135/Pl.72 is another plain vessel described as being "deep in the peat" outside the palisade near CM70 (Pl. 15, 2). P263/Pl.80 was " 5 ft. 4 in. deep in the peat outside the palisade." More doubtful items are P47/Pl.71 "in peat" [CM46], P202/Pl.80 "in peat outside palisade" [CM30], P98/Pl.71 "amongst the palisade posts" [CM2] and P149/Pl.73, P.142/Pl.73, and P100/Pl.77 all "in peat outside palisade."

The above comprise all that can be reasonably considered as being early in date and more likely to belong to the SHs than the CMs. But only P53, P263 and P135, in order of acceptance, can be regarded as belonging to the SHs. They are shown in Pl. 15.

## THE END OF THE OCCUPATION AND THE HUMAN BONES

The whole site was covered by a layer of alluvium which was thinner over the tops of the mounds than at their sides and in the intervening areas. The thickness of this alluvium varied from 4—20 in.

There was no evidence at the top level of any mound of deliberate destruction nor of destruction by fire. There were remarkably few objects found on the topmost layer of each mound. Only on the first floor of CM55 was found one human cranial fragment. All the other human remains were found scattered through the village and also outside the palisade and occurred at varying depths. The minute total is 44 for a large village with a long history of occupation behind it. Table 3 summarises the occurrence of human bones. It is based directly on the same data used by Boyd Dawkins in his description and discussion of the human remains from the village (*GLV*, 673–8). It is quite clear that these very scanty and scrappy human remains were derived gradually over a considerable part of the span of the occupation of the site. Yet Boyd Dawkins, who was a geologist too, chose to ignore the stratigraphical evidence of his data and set down his conclusion that "the distribution of the human remains—— can only be accounted for on the hypothesis that there was a massacre of the inhabitants." I know from conversations with Boyd Dawkins that even as an old man he still adhered to this truly nonsensical conclusion. Indeed a terminal massacre is about the only impossible conclusion that can be made on the data of the distribution of the human remains.

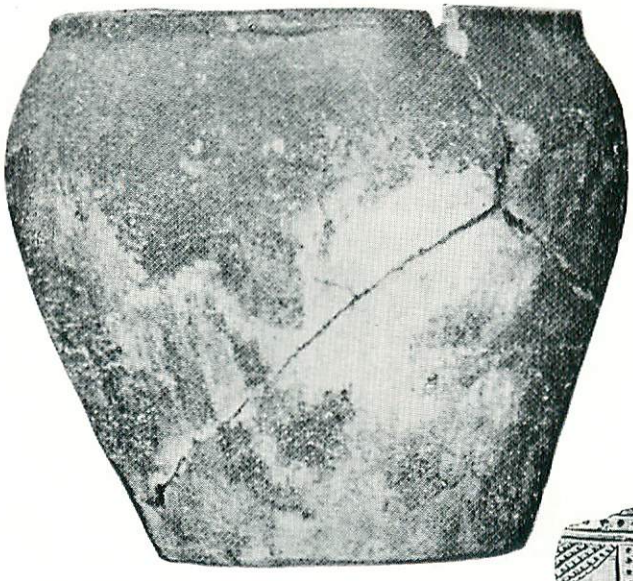
The stratigraphical evidence thus supports Bulleid's conclusion that the village was quietly abandoned.

## DISCUSSION

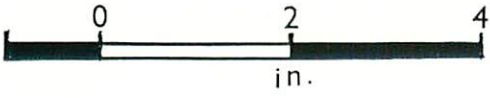
(1) *Structures*

From the data already listed it is clear that the earlier houses were deliberately destroyed. Most of the timber work, like most of the objects, was just discarded or at times put to purely secondary uses as part of the supporting timber sub-structure for the CMs. It is also clear that the earlier people worked almost exclusively in oak for the timber work of their houses.

P 53



P 135




P 263

PLATE 15

TABLE 3

| Number of specimens | Data | Comment |
|---|---|---|
| 1 | Roundel of skull | Used as ornament. Well worn. |
| 5 | Individual teeth | |
| 8 | Between or on floors of huts below top floor | All must antedate end of occupation. |
| 6 | In brushwood covered by all floors | All must antedate end of occupation. |
| 7 | Between huts but in brushwood | All must antedate end of occupation. |
| 5 | Numbers duplicated for same individual. All in peat. | All must antedate end of occupation. |
| 1 | Cremation remains in peat. | Must antedate end of occupation. |
| 3 | Isolated bones in peat. Outside palisade. | All must antedate end of occupation. |
| 36 | | |
| 1 | On floor 1 of a hut. A skull bone. | Could co-incide with end of occupation. |
| 1 | Child's skeleton in peat outside palisade. | All must antedate end of occupation. |
| 1 | Skull 2·5 ft. deep in peat outside palisade. | |
| 1 | Skull and mandible 2·5 ft. deep in peat outside palisade. | |
| 1 | Three pieces of skull bones 5·0 ft. deep in peat outside palisade. | |
| 1 | Skull 1·5 ft. deep in peat outside palisade. | |
| 1 | Skull 2·5 ft. deep in peat outside palisade. | |
| 1 | Skull (M14) 1·5 ft. deep in peat outside palisade. | |
| 44 | | |

It is possible to essay a reconstruction of the houses. A common unit of measurement for the piles used for the initial support was 10 ft. square. The minimum support was a pile at each of the four corners but six and even nine piles were also used. Typical examples are shown in the panels of plate 16. Sometimes there would seem to have been some sort of annexe (6H, 7H, 12H). The function of this is not obvious. It could have served

for a little landing stage, if the houses stood in water, for the individual houses with a gang plank to the doorway. Some of the houses were rectangular e.g. 12H and 16/17H could either be two square houses or one large rectangular one.

The form of other houses is not always clear but they were certainly not round. Here allowance must be made for piles of wood other than oak, piles pulled out, piles not recorded and others added as repair items or for extra support. Distortion may also have affected the record (see *GLV*, p.50 and fig. 6) and the record itself may have been inaccurate in some cases.

The walls would have been of hurdles held top and bottom by the upright members being fixed into mortise holes in floor and roof plates. Examples of all survive in the hurdles under CM56 and the plates in *GLV*, X33, 34, 39 and 96 (fig. 21). The hurdles would thus need only a minimum of further retention to hold them in place against the corner posts and witheys would suffice (*GLV*, p. 136 and fig. 115). No corner posts have yet been identified but it may be presumed that they held the floor and roof plates by mortise and tenon joints and were themselves fixed to the main framework. Perhaps the offset mortise hole at the left end of X33 (fig. 21) represents the site of one such joint (see also *GLV*, fig. 9, p. 57). The walls would be 10 ft. long × 6 ft. high. No evidence survives as to whether the hurdle work of these square houses was covered with daub or with grass, moss or even skins. Bulleid (1894, p. 145) has recorded "a large number of fragments of burnt clay show impressions of square cut timbers."

Very considerable quantities of oak planks found discarded and sometimes more or less in position (*e.g.* fig. 22, 3Pl and 35Pl.) can be taken as evidence of the nature of the floors of the houses. The one surviving door is rather on the small size but not impossibly so. Its stubby pivots could fit into mortise holes in the floor and roof plates. Such possible mortise holes are represented in fig. 21 (X33,96).

The structure of the roof is unknown. It can be presumed to have been fairly steep to a ridge pole, as in continental houses, and covered with a thatch of reeds, straw, grass or even turf. That there was a roof loft is possible but proof is lacking. The fire for cooking could have been on clay set on the floor, a device used by primitive communities to the present day—I have myself lived as one of a party of six with such a small fire on clay on a bamboo floor. (After all cooking was presumably simple enough in those days). A reconstruction drawing of a square house is shown in fig. 23. One wall is drawn as being covered with daub. The other is just the hurdle.

It may be argued that a house 10 × 10 ft. is far too small for a

dwelling and that an alternative purpose for these buildings must be sought, as for example grain stores on the analogy of somewhat similar square buildings described by Pitt-Rivers (1888, pp. 55, 57), Cunnington (1923, p. 57) and Bersu (1940, G1–G6). But all these examples are considerably smaller, having less than half the floor area of the smallest SHs at *GLV*.

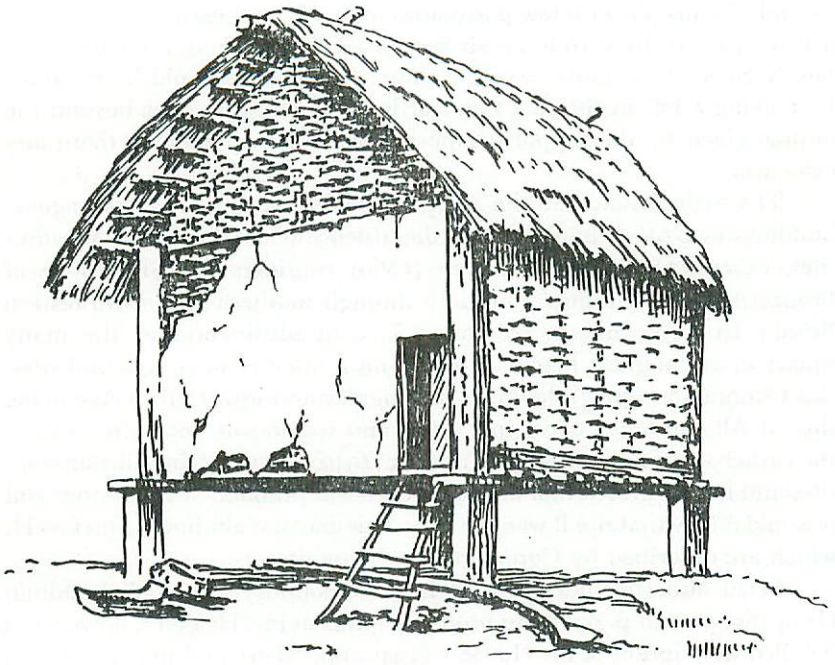


*Fig.* 23. Reconstruction drawing of a square house.

Grain stores at *GLV* might have been expected to have been set up on piles away from the CMs to protect the grain from rats and mice and to keep it dry. This is a standard practice still in use in many peasant communites of the present day. But there is nothing in *GLV* to link these buildings with grain storage. No grain was found associated with them though grain and other foodstuffs have been recorded from various parts of the village. Stratigraphically, too, these square buildings are in a number of cases partly overlain by CMs, even by the earliest floors. And grain stores would not be destroyed deliberately by the people who have been supposed, till now, to have used them. It is thus hardly conceivable in the light of the foregoing that these SHs could have been grain stores for the CMs and the obvious explanation is they were small square dwellings.

Now there are families in Britain at the present day and there were far more in the not too distant past who live and had to live in a space no larger than these houses. After all a gypsy caravan of the old style would have had still less total floor space but whole families were brought up in them. I have myself seen houses of newly wedded peasant farmers no larger than this set up as the first house for the family amongst poor agriculturalists. My own wartime experience taught me that it was possible for people with few possessions to live in reasonable comfort with a floor space of 10 × 10 ft. for six persons. The size, then, is enough for a family given the conditions of the times. Extra space could be obtained by making a loft in the roof space or by extending the floor beyond the outline given by the supporting piles. For neither of these is there any evidence.

The main obstacle to the acceptance of these square or rectangular buildings at *GLV* as houses lay in the absence of similar houses at other sites, except Meare where Avery (1969) considers the SHs to be of Bronze Age date. Almost uniformly through southern and southwestern Britain Iron Age houses are round in contradistinction to the many square or rectangular houses known from a number of continental sites. But Cunnington (1923) describes rectangular and square Iron Age living sites at All Cannings Cross (pp. 57-8) and specifically connects them to the earlier square houses at *GLV*. Bersu (1940) discusses the All Cannings sites and has suggested that at site A there was probably a grain store and it would follow that site B was one also. This does not eliminate sites C—H, which are described by Cunnington as house sites.

Bersu also concludes that at Little Woodbury the small buildings G1–4 (fig. 30 and p. 97) were probably grain stores. He gives, however, a detailed description of his House 1 (1940, pp. 78–91 and figs. 21 and 25 (top)). The description includes the central square structure (posts A–D). These form an inner structure with sides of 10 ft. But if consideration is given to posts L, M, E, F, G, H, I and K and the detailed description of them it is possible to arrive, on the same data, at quite a different explanation of their arrangement than that given by Bersu. The whole group might well represent a rectangular earliest dwelling there comparable to continental examples and measuring about 30 × 10 ft. (Fig. 24). This rectangular building had been occupied for a long time before the first round house was put up.

Stone (1941, pl. *iv*) shows the arrangement of post holes at a Deverel-Rimbury Bronze Age site on Thorny Down. House forms are not actually delineated but the central building is rectangular. Thomas (1958) at Gwithian, Cornwall, has found rectangular houses attributable to the Late Bronze Age.

Wheeler (1943) at Maiden Castle found parts of plans of rectangular houses dateable to the closing phases of Iron Age 'A' in southern Britain. One of the main objects of the minor excavations at Little Solsbury Hill camp, Bath (Dowden, 1957, 1962 and ApSimon 1969) was to determine if possible the form and structure of the houses at this Iron Age 'A' site.

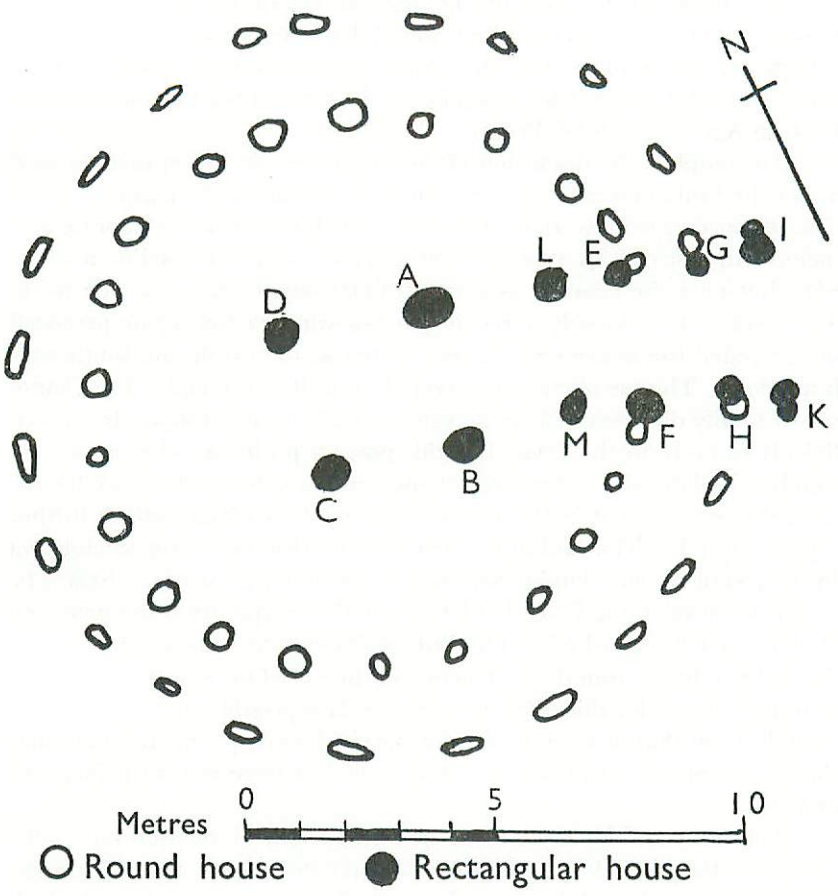



*Fig.* 24. Little Woodbury. House 1. Adapted from Bersu.

Though much information was gained it could only be concluded that the first settlers built houses of wood supported on stout posts set deep in the Oolitic Limestone of the hill. The shape of the houses was not determined though the juxtaposition of some of the postholes could be interpreted as evidence for the existence of square or rectangular houses. On the opposite

side of the valley on Bathampton Down Wainwright (1968) found post-holes belonging to the pre-rampart Iron Age 'A' occupation. The post-holes had served a building that certainly was not round and was too large for a grain store.

Barton (1969) found, in all probability, square or rectangular houses at the open Iron Age site at Pickwick Farm, Dundry, but complete proof was not obtained because of the limited extent of the excavations. Stanford (1967) at Croft Ambrey found Iron Age square houses inside a Welsh border hill fort. Thus the square and rectangular houses at *GLV* no longer stand alone as an exception to the general rule of round houses for Iron Age sites in S.W. Britain.

To complete the discussion of the structures something must be said about the Embankment and Causeway. The former is the earlier in date. The supporting woodwork on the west or wall face side is elaborate and includes the use of pegs, mortise holes and piles of oak. These link it to the SHs. But near the centre was a mass of clay supported by wattle work. The whole was obviously a repair job but whether the repair preceded or succeeded the massive destruction noted at the north and south ends is unknown. The use of clay in the repair links it to the CMs. The Causeway is totally different in form and structure. The clay, topped by gravel, links it securely to the CMs. But this poses a problem. The supporting woodwork along the outer faces of the arms is composed of oak boards fixed into grooves cut in the narrow sides of thick planks with a further support by piles. The skill in carpentry here exhibited is appreciable yet in the rest of the site skill in carpentry is the prerequisite of the SHs. The only woodwork in the CMs that betrays skill in carpentry is the provision of floor boards, of which some, but probably not all, may have been derived as salvage from the destruction of the SHs. One can only speculate as to the reasons for this seeming anomaly. It is possible that here there is an indication that at the take over of the site by one people from another the earlier people were still in occupation but were not all driven out or killed.

The boat (*GLV*, X57) from its stratigraphical relationships must belong to the SHs. The boat seems to have been sunk at its moorings. Its depth below the oak beam work, to which it was presumably attached, was 3 ft. This would be the maximum depth of water here.

(2) *Cultural Objects*

The cultural objects attributable on stratigraphical data to the SHs are remarkable. They one and all lie deep in relation to the CMs and all appear to have been discarded. A considerable number were found outside the palisade of the CM village.

All the fine woodwork belongs to the SHs. This includes the array of tubs, though some are so small as to rank as mugs or cups rather than tubs. Some are stave made and some have been lathe turned out of the solid. All exhibit a high degree of woodworking skill. Some of them bear finely inscribed decorative patterns and other pieces of wood have simpler designs.

The weaving industry is represented by a variety of objects. The combs belong predominantly to the CMs and less than 1/4 probably relate to the SHs. The type of loom usually drawn and described for British Iron Age sites is a simple triangular upright structure. A very brief study of the loom parts, all attributable to the SHs, from *GLV* make it clear that these parts were from a loom of totally different form. No one yet has attempted a reconstruction though this would be a well-worthwhile exercise.

The *GLV* loom was almost certainly a horizontal one with a vertical member at one end. The horizontal member would probably have been an open-topped, long, shallow box with the side members slotted near their lower borders to take the tenons of cross slats, continuous or spaced, with pegs through holes of the projecting tenons to hold the slats in place. I have seen such a loom type in use in a peasant home-handicrafts workshop in Malaya. It is possible that looms of this general type survived in cottage industries in Britain till quite a late date. Perhaps an industrial archæologist will start an investigation on this.

A major advantage of a horizontal loom of the type suggested is that it allows a longer piece of cloth with a more intricate pattern to be woven than would be possible with a simple vertical loom. A secondary factor is that the operator could work sitting down.

None of the bronze bow brooches nor the penannular ones can be allocated to the SHs. The bronze spiral finger rings are common to both occupations. The fairly complete plain bronze mirror is on stratigraphy allocated to the SHs yet highly decorated, not plain mirrors, have usually been found in Britain in a very late Iron Age context or even in a Romano-British one. The bronze bowl was found lying very deep and well outside the palisade. It must belong to the SHs. It was also an article that had seen long usage.

The elaborate 'sceptre' is linked stratigraphically to the SHs. It was a discarded object.

The iron articles have been listed above. There are really very few of them. The two daggers, the majority of the knives, saws and reaping hooks are linked stratigraphically to the SHs. The two most important iron articles are the two bars (*GLV*, Z2, Z3). The latter has been mentioned above. It was originally classed as a 'currency bar' but Allen

(1967, p. 332, B6 and p. 314,D) has placed it in the category of plough shares. Like the ploughshare, the currency bar was a discarded object well outside the palisade. Allen (1967, fig. 1) shows that their area of distribution stems from Dorset and the close dating is, it seems, likely to be before Iron Age 'C' and in Iron Age S.W. 'B2.'

The bone and antler industry is predominantly linked to the CMs.

The pottery that can be assigned with any certainty to the SHs is extremely limited and uninformative. The two plain pots are rather squat in form but then so too are quite a number of the decorated pots of which the vast majority belong to the CMs. No argument can be satisfactorily based on this lack of pottery because of the almost total neglect of the plain wares found in such quantity at *GLV*. The most that can be said is that the SH people had little decorated ware and it is just conceivable that they made extensive use of wood and had but little pottery at all. On the other hand the decoration on some of the woodwork is very similar to but not identical with patterns that appear on the decorated pottery. The decoration on tub *GLV* X2 is very similar to *GLV* P253 which falls into Peacock's (1969) group 2.

The human remains have been listed. The total is minute. There is not any evidence whatsoever for the Boyd Dawkins' terminal massacre. The casual scatter of odd bones and pieces of skeletons is just what is found at other Iron Age sites in the area. This pattern opens up a wide field for investigation, which cannot be done here. The bones found in and below the foundations of the CMs are so few that they cannot be cited as evidence for any slaughter of the SHP when the village was taken over. Indeed they rather argue in the opposite direction.

There remain five skulls not found in the CMs. Four were in the peat outside the palisade and one just inside. They are thus linked to the SHs but not to a single episode because of the difference in depth at which they were found. Four at least of the individuals had been beheaded and two, if not three, of the heads had been hoisted on spears or slender poles. The possible customs involved cannot be discussed here.

Parts for vehicles with both solid and spoked wheels were found. They include unfinished items. Now though it is possible to consider the finished items as imported articles it is extremely improbable that unfinished articles were imported. It must therefore follow that the SH people (SHP) had a form of lathe for turning wood. Whether this type of lathe was used for turning the objects of Kimmeridge Shale is a moot point.

The paucity of weapons, horse remains and items of horse harness that can be attributed to the SHP may be an indication that the vehicles were carts or waggons and not chariots, and that oxen were the draught animals

The vehicles indicate farming activities. This is confirmed for the SHP by the three finds connected with ploughing. All were deep and discarded. They comprise the wooden piece (*GLV* X92), the iron item, suggested to have been part of a coulter, (I 28), and the ploughshare (Z3). There were no plough parts associated with the CMs.

(3). *Situation.*

The preceding paragraphs provide a problem that is difficult to solve. The distribution of the SHs taken in conjunction with the variations recorded in the nature of the peat suggests that they were distributed along the edge of a main watercourse, which had side channels. They stood beside rather than totally in the water. This cannot be proved. Godwin (1955) has shown that the area of *GLV* was included in the natural Meare Pool, which was much larger than the historical one. Further he states (p.178) that the area had been more or less open water since late Boreal times with some fluctuations of water level. It remained open water into zone VIIa times. He draws attention to some aspects of the tree-pollen count as an indication of a fair stand of trees close to if not on the actual site of the village. Thus there is a contradiction between the botanical evidence for an area of open water and the archæological evidence for ploughing and the use of wheeled vehicles. It would indeed be foolish on the slender archæological evidence to argue that Godwin is wrong and it is necessary to try to find some reasonable explanation for the apparent contradiction.

Bullied (*GLV*, p. 48) gives the depths of the underlying blue Lias clay from the surface as varying between 14 and 15 ft. On p. 49 a series of measurements from the surface to the lowest objects found is given. The depths vary from 7·25 – 4·5 ft. These depths must presumable represent the surface level, whether or not covered with water, at the foundation of the SHs. All the measurements are for sites outside the palisade. A section is given in *GLV* fig. 1 taken 200 yds. north of the village where the Lias clay is about 16 ft. below the surface. In several places statements are made on the uneven nature of the surface of the clay and this is again demonstrated by Godwin's *MLV* 1 – 8 borings (1955, fig. 5).

Both Bullied and Godwin agree that the course of the old river Brue passed close to the eastern boundary of *GLV* so that any land connection is hardly likely to have been in that direction. Godwin (1955, fig. 2) gives the position of transects and boreholes used in his work. There is a notable absence of boreholes to the southwest of *GLV* where there would have been the nearest approach to the higher land of Glastonbury. The answer to the problem may, perhaps, lie under this area. There is a possibility of an irregular shelving extension of the clay of the higher

ground towards *GLV* so that there would be a dry land connection to at least part of the area furthest away from the line of the old river Brue. On this peat could have grown with its surface reasonably firm, till the water level rose too quickly, and so provided the land connection implicit in the use of ploughs and wheeled vehicles. The alternative is to suppose a trackway raised and strong enough to take vehicles into the village, but one cannot really visualise such a trackway being built to end blindly amongst a settlement of houses standing on piles in water. It is emphasised that the explanation offered is only an idea as to how the problem could perhaps be solved by a series of further borings.

(4) *Dating*

The dating of the SH settlement is also difficult, for there is so little to go on. Avery (1968) suggests a Late Bronze Age date for the similar houses at Meare below the main settlement of the people who built round houses. This village was, of course, not a lake village but one built on a raised bog. At *GLV* an Iron Age date is provisionally attributed to the SHs on the basis of the few iron implements that can be allocated to them. This group includes the Glastonbury Bronze Bowl because of an iron core in its collar. Neither of the two La Tène II brooches can be allocated to the SHs and there are no earlier types. On this basis the SHs are Iron Age and possibly precede the introduction of La Tène II brooches. This is of course an unsatisfactory state of affairs.

On this reckoning the earlier occupation began about 200–250 B.C. in Iron Age 'A2' of Hawkes (1959). But if the currency bar, Z2, is considered as a discarded object of the SHs and Allen's (1967) dating for these is accepted this would put the date, which would be an end date, in Ist. C. B.C. and perhaps in the earliest part. Godwin (1955) puts the foundation of the *GLV* [of the CMs] at *ca.* 50–60 B.C. This again would be a terminal date for the SHs. If a century is allowed for the duration of the SH village the dates arrived at are *ca.* 150 – 60 B.C. Both these dates cannot be considered as anything more than approximations based on the all too slender evidence so far available.

(5). *The End of the Village*

When the SH village was taken over it was almost totally destroyed, but with no evidence of burning or slaughter. There is also no evidence whether the village was still occupied or had been abandoned shortly before the take over. The slender evidence of a fair standard of carpentry on the Causeway vaguely points to the SH village being still occupied at the time and that some at least of the carpenters were taken into the new community.

The evidence for a quiet abandonment of the CM village has been given but no reason adduced. Godwin (1955, p. 180) gives a valid cause, namely the rapid rise in the water level of the area. This would make the CM site untenable for only by adding, repeatedly, fresh layers of clay to the mounds could their tops be kept above water. This procedure would be self-defeating for the extra weight would cause the mounds to sink deeper into the soggy ground.

Now malaria was endemic in the Somerset levels till quite recently. Indeed when troops infected with malaria returned to the area after World War I the number of new cases of malaria in the Somerset levels went up. The rise in water level at the time of the end of *GLV* would have produced just the right conditions for a vast increase in breeding grounds for malaria-carrying mosquitos and the subsequent increase in malaria (see also *GLV*, p. 40 on 'Agues and Fevers'). I have myself seen villages like *GLV* abandoned, allegedly because of evil spirits, but really because of acute outbreaks of malaria produced by local changes in the water conditions favouring the breeding of malaria-carrying mosquitos. If this was so at *GLV* then, with modern techniques, it might be possible to prove it by an examination of the marrow of the human bones.

## CONCLUSIONS

1. The site of *GLV* was occupied in succession by two groups of people who had very different cultural affinities.

2. The earlier and first inhabitants were very good carpenters and built strong, square and/or rectangular timber-framed houses in oak, supported on oak piles. The houses stood several feet above the ground or water.

3. The earlier inhabitants made extensive use of wood for everyday articles and all the good woodwork at *GLV* belongs to them. They had lathes, wheeled vehicles and ploughs. The site was sufficiently dry for local tillage. The site seems to have been undefended.

4. To the earlier inabitants must be assigned 'The Sceptre,' the Glastonbury Bowl, the currency bar, the iron key and the iron ploughshare.

5. The earlier inhabitants had intricate horizontal looms.

6. The dating bracket for the earlier settlement is *ca.* 150–60 B.C.

7. The later occupation may have taken place after the earlier village had been abandoned but not long after. The newcomers destroyed the earlier village.

8. In place of timber framed houses they built crannogs and on the clay floors put up round huts. The contrast with the earlier houses is total.

9. The newcomers did not use wooden utensils but did use pottery extensively. They did have looms, presumably vertical ones of the usual Iron Age type. They smelted bronze. The bone industry belongs to them.

10. The newcomers had no use locally for wheeled vehicles or ploughs. Perhaps inundation had already begun.

11. The new village was quietly abandoned because of a rise in the local water level. There was no terminal massacre and no destruction by fire. The end date was *ca.* 50 A.D.

12. The duality of the occupation at *GLV* involves an extensive re-assessment of the Iron Age sequence in the area and even the origins of the local S.W. 'B.' This aspect of the problem is outside the scope of this paper.

## ACKNOWLEDGMENTS

The map, pl. 16, and figs. 21–24 have, in the main, been drawn out by Mr. R. A. Phillips. Unfortunately he was taken ill and was unable to complete the work and this has been done by Mr. Simon Godden. To both of them I am very grateful for the skilful way in which the work has been done. The photographic work combined into plate 2 has been done by Mr. A. Philpot and for this I thank him. To Professor R. F. Peel, Department of Geography, University of Bristol, I am grateful for permission to use the facilities of his department for certain aspects of the work involved in the preparation of this paper.

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Panel Two

17H

12H

16H

Hurdles

0 8 16 24 32 FEET

19H

Causeway

Embankment

Hurdle

Panel One

5H 10H

7H 6H 2H

0 8 16 24 FEET

Panel Three

BOAT

13H 9H

0 8 16 24 Feet

N

0 16 32 48 Feet

?Houses

Boat

## TIMBER HOUSES

- Oak piles Primary
- Oak piles probably Primary
- Wood objects
- Timbers/Planks (Pl)

## CLAY MOUNDS

- Earliest ▲Oak piles secondary?
- Early middle period
- Late middle period
Number only... Late period

**PLATE 16**
Glastonbury Lake Village