

HAY WOOD CAVE BURIALS, MENDIP HILLS, SOMERSET

N.G.R. ST 341583 Height 250 ft. O.D.

By

A. AND R. EVERTON

ABSTRACT

The excavations at this cave have shown that the deposits had been greatly disturbed. The entrance rift was used in Mesolithic times as a temporary shelter. Later Pre-Roman Iron Age burials were put in causing a major disturbance. The burials seem to be those of a small local community. For the first time in Britain ritual mutilation of the teeth in some young male adults has been demonstrated.

INTRODUCTION AND ACKNOWLEDGMENTS

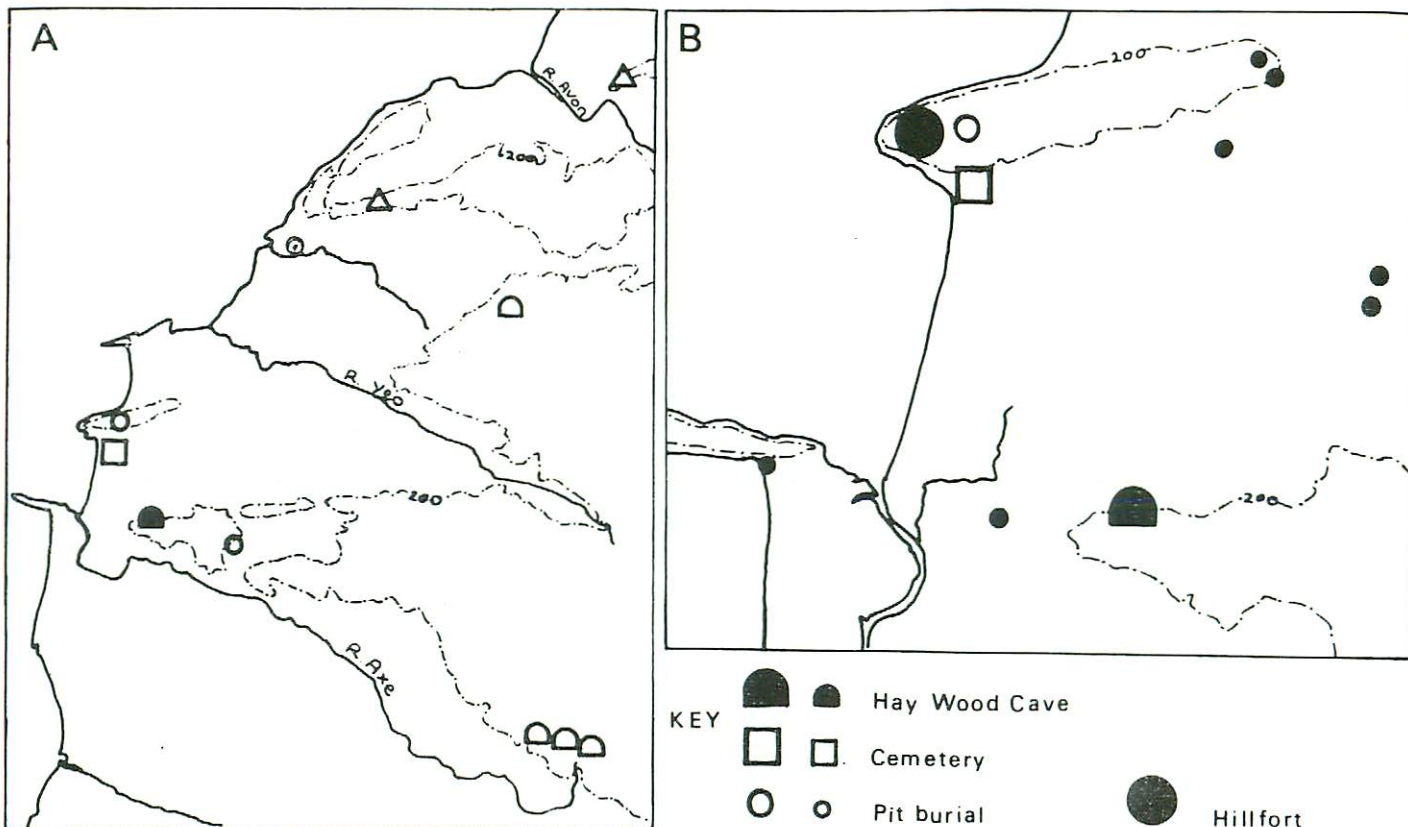
The cave is situated on the north-facing slope of the Western Mendips (Fig. 1), in the parish of Hutton. It is a small cave in a steep hillside with an entrance tunnel, almost completely filled with earth, leading off to the southeast. It was investigated by members of the Axbridge Caving Group and Archaeological Society in May, 1957 as a cave dig. On removing part of the tunnel fill, a human skull (Skull I), and other human bones were uncovered about six feet inside the tunnel, and about eighteen inches below the roof. Cave digging was stopped. Late in 1957 a shelter was built over the dig for protection, and to enable excavation to be carried out irrespective of weather conditions.

Under the direction of E. J. Chapman, a trial trench (Fig 2) was excavated, and three more human skulls were uncovered at about five feet below the surface. Further archaeological aid was sought, and the late Professor L. S. Palmer agreed to direct the excavation, and continued to do so until his death in 1962. The excavation then continued under the direction of E. T. Davies of the Axbridge Caving Group and Archaeological Society, until its completion in 1971.

Unfortunately, all Professor Palmer's notes and plans were lost after his death, and this excavation report has been based upon his interim reports, and his unpublished final report written in 1962, which, in the light of subsequent work, has had to be modified.

There were some plans and sections drawn by E. T. Davies after 1962, also photographs, information on finds labels, but no site books.

We would like to acknowledge the help given to the Axbridge Caving Group and Archaeological Society by the Council for British Archaeology, and the financial aid given by the United Kingdom Carnegie Trust.



LOCATION MAPS.

A PRIA burial sites in NW Somerset.

B The immediate environs in a PRIA setting.

Fig. 1

We would also like to thank the previous owner of the land, Mr. T. Woodley, for his permission to dig, and the present owner for allowing us to continue.

Further acknowledgments are due to:— Dr. E. K. Tratman for his examination and report on the human teeth, Mr. R. Bailey, L.D.S., for his examination and report on further teeth, Mr. R. Jefferies for his examination and report on the pollen samples, Mr. C. P. Castell for his report on the Molusca, Mr. M. A. ApSimon, Mr. P. J. Fowler, Mr. P. A. Rahtz, for their comments on, and identification of the pottery, Mr. C. B. M. McBurney for the loan of the sieves, Mrs. S. Palmer for her report on the microliths, and Mr. C. Richards of the A.C.G. & A.S. for his report on the geology and development of the cave. Mrs. M. Chapman for her reconstruction of the skulls.

Thanks are due to all those members of the A.C.G. & A.S., especially E. T. Davies, Mrs. M. Chapman, E. J. Chapman, and Mrs. J. Smith, who willingly gave their time over the past years, to enable the excavation to be completed.

The finds, interim reports, and detailed specialist reports will be lodged in the Axbridge Museum.

SITE AND GEOLOGY

C. RICHARDS

The cave is situated in the Carboniferous limestone on the northern flank of the Bleadon anticline. The rock is a dense crystalline sandy, current bedded limestone of the Tournaisian stage of the Carboniferous Limestone series. It appears to be the lower fraction of a formerly subterranean chamber, whose general character indicates a solutional origin and development, likely to have taken place during an interglacial phase beneath a Pleistocene water table. The chamber was breached by cavern breakdown and hillside retreat, which occurred before its use by man.

THE EXCAVATION

The excavation was confined to the north-facing entrance and overhang to the cave, and the first 7 ft. of the tunnel, Fig. 2. Only 15 ft. of this entrance rift was completely excavated, the remaining 5 ft. to Level 12 only. The scree slope was not excavated.

About 10 ft. from the back of the overhang was the apex of a mound situated just to the north of the overhang. This mound (Fig. 2 profile) sloped back into the cave entrance and more steeply northwards to the scree slope.

HAY WOOD CAVE. HUTTON. N.G.R. ST 341 583
 PLAN AND SECTIONS OF EXCAVATED AREA.

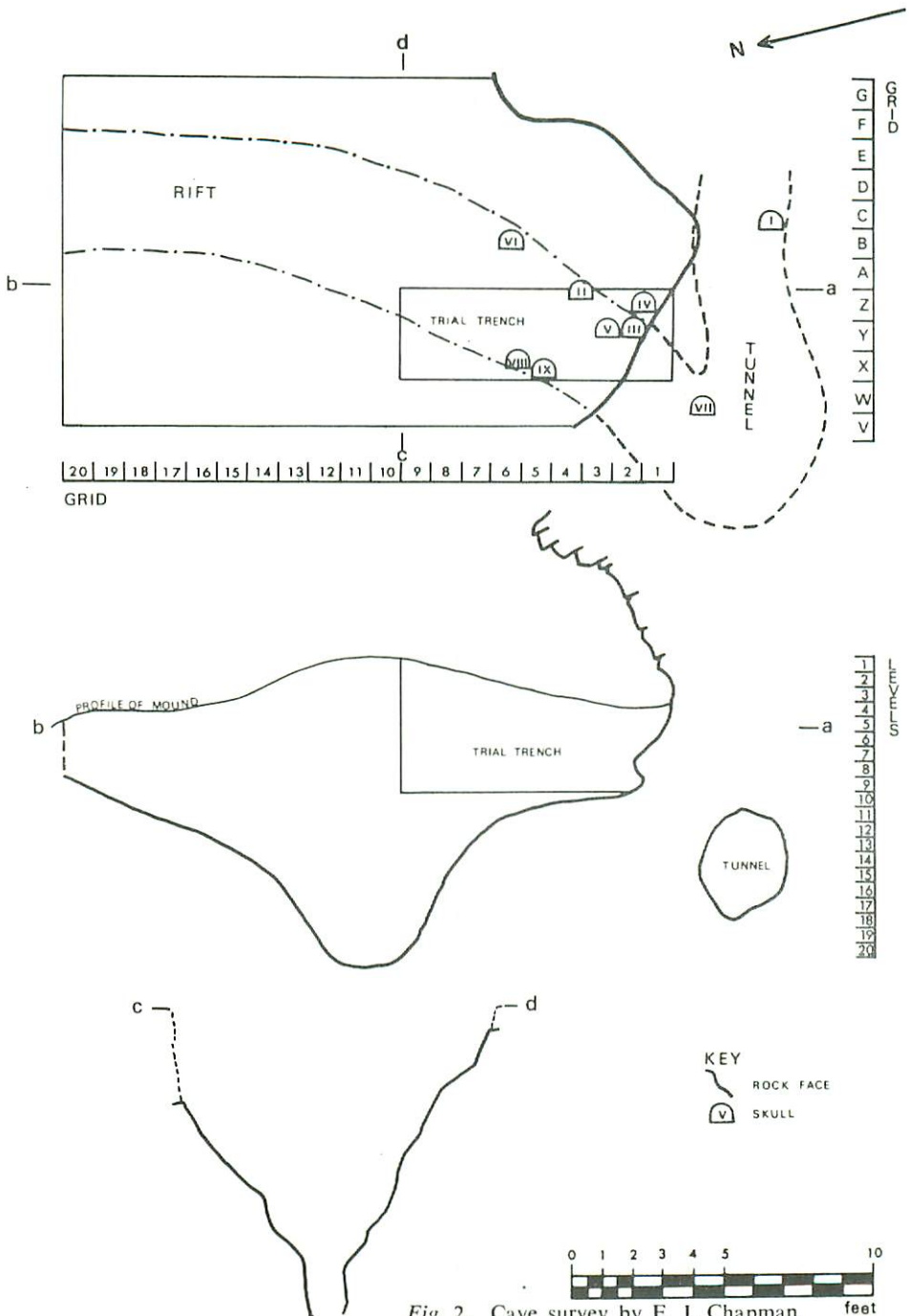


Fig. 2. Cave survey by E. J. Chapman.

METHOD OF EXCAVATION

A three dimensional grid system was adopted based on an arbitrary datum line extending approximately south to north from a fixed point on the back wall of the overhang, passing northwards horizontally through the apex of the mound. The area of the excavation was divided into one foot squares based on this datum line and designated as shown in plan Fig. 2. Depths below this datum plane were measured in levels at 6-in. intervals and numbered 1, 2, etc. This method was adopted by Professor Palmer, mainly because of the poorly differentiated layers, and due to the fact that the excavation was almost entirely carried out under artificial light.

Excavated material from each "box" was passed through a set of three sieves of 1, $\frac{1}{2}$ and $\frac{1}{4}$ in. meshes. All finds, including those from the sieves were labelled with the grid square number and letter, and the depth level.

An important shortcoming of this recording system, more especially for the smaller finds i.e., flints etc., is that the spatial relationship is not sufficiently precise. In effect, the position of each find is recorded as being in the centre of the "box", whereas it might be anywhere within the volume represented by that box.

Description of Layers: (Fig. 3).

The ground surface was covered with a thin layer of recent humus lying directly upon Layer 1, which was a dark brown, clayey loam 10-12 in. thick containing small angular stones.

Layer 2 consisted of a lighter brown clayey loam, with fewer but larger angular stones extending from the apex of the mound, sloping southwards into the cave entrance where it reached a maximum thickness of 3.5 ft. over bed rock. It contained a few worked flints, flecks of charcoal, nearly all the Romano-British pot, and some of the Iron Age potsherds but no human bones. In the Section (Fig. 3). Layer 2 does not extend beyond the apex of the mound, in contrast to the description by Professor Palmer, who noted that north of the apex this layer became merged with both the overlying and lower layers.

Layer 3 was a pile of large angular and rounded stones, intermixed with a lighter brown, clayey loam. The base of the pile extended from the mouth of the tunnel northwards along the rift for about 15 ft., completely filling it. Professor Palmer noted that the character of these stones was such as to suggest that the pile had not been formed by natural means.

The stone pile contained most of the human bones, flints, animal bones, and some pottery sherds.

A few pieces of Iron Age pottery were found at the base of the pile (Professor Palmer), at Y-Z 12, Level 10, and B 9 Level 11, and in a badger run beneath the pile.

HAY WOOD CAVE HUTTON.

SECTION ALONG LINE CD.

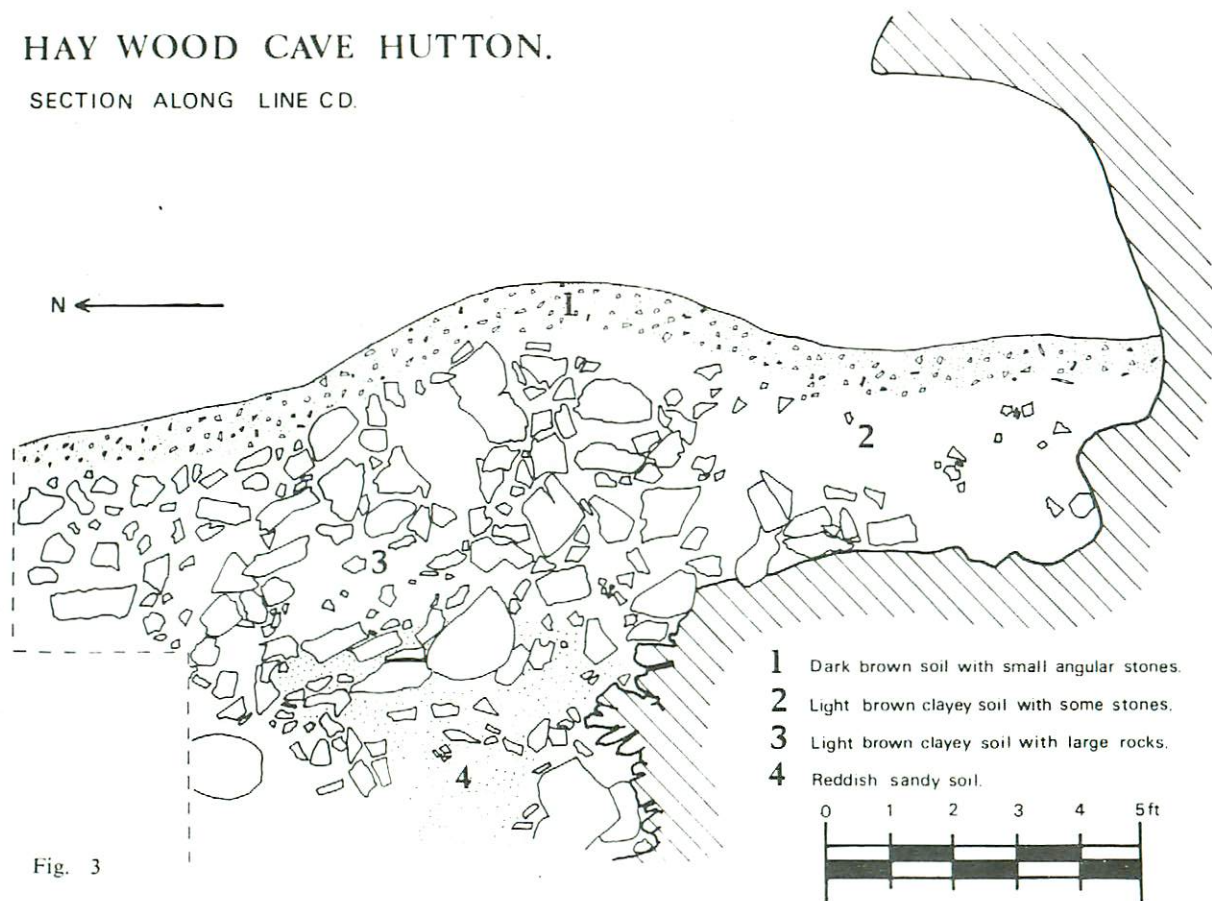


Fig. 3

In 1963, E. T. Davies noted that there were three concentrations of human and animal bones within the stone pile, north of the apex, which he described as "burials". These "burials" occupied the area 12-18 by C to F in plan. "Burial" 1 was at Level 6, "Burial" 2 at Level 9, and "Burial" 3 at Levels 10 to 12.

At the same time he noted three pits, filled with loose brown earth, on the east side of the rift between Levels 8 and 13, and also hoards of hazel nuts in small pockets, scattered throughout Layers 2 and 3 above Level 4.

Layer 4 was a reddish sandy cave earth containing a few angular stones. The junction of this layer with Layer 3 was not clearly defined, and from the section drawing it appears that in two areas between grid lines 8 to 9, and 13 to 15, there had been some disturbance as these areas contained material from Layer 3.

A large badger run was found which followed the east wall of the rift from line 16 southwards towards the tunnel between Levels 12 to 16. This run could account for the disturbance in Layer 4 noted above.

The Tunnel

The tunnel was excavated completely as far in as the seventh foot. The upperlayer consisted of a few inches of slimy black clay rich in humus. Below this was a dark clay containing stones and lumps of yellow ochre. This layer contained the bones and skull I, and extended to the floor (which consisted of yellow ochre) of the tunnel, rising step-wise as it led eastwards towards the small chamber.

As the rift became archaeologically sterile after the fifth foot, only a further two feet were excavated to confirm this.

Human and animal bones were scattered throughout the second layer, and no evidence of stratification was found. Two sherds of PRIA (Pre-Roman Iron Age) pottery were found in the clay, and two small sherds of RB (Romano-British) pottery were found near the surface. Recent badger and rabbit bones were also found in the second layer.

THE FINDS

(Figs. 4 and 5 show the vertical distribution)

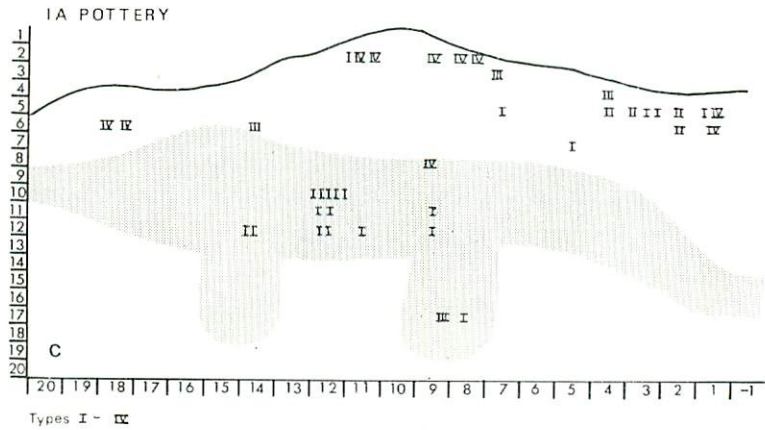
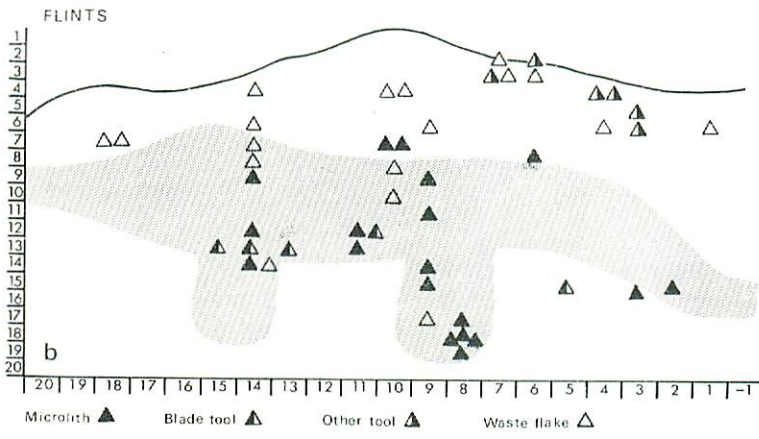
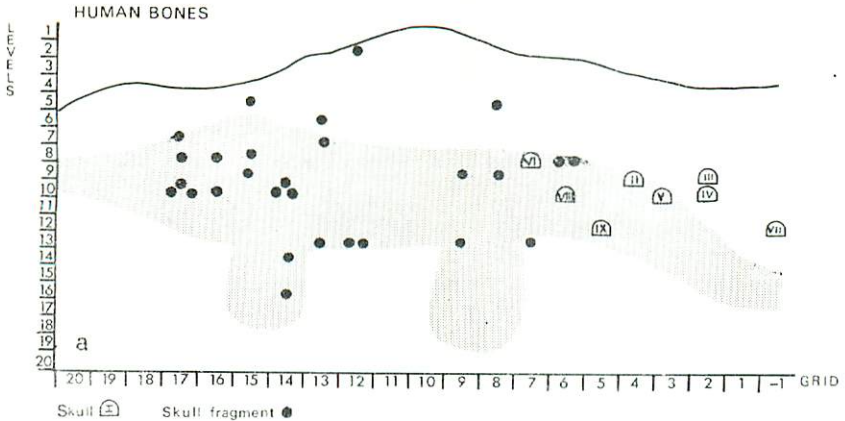
(1) *Flints*: (Appendix I Microliths)

Out of a total of 58 flints, 20 are microliths of forms typical of a mesolithic coastal industry (Fig. 7) and the remainder of the assemblage, which includes 6 convex and 1 hollow scraper, 1 borer, and 5 blade tools, would not be out of place in a Mesolithic industry, but, with the exception of the blade tools, could be of a later date.

(2) *Pottery*: (Appendix II)

(a) There are 58 sherds of early Iron Age Pottery of five fabric types (Fig. 8).

(b) There are 98 sherds of Romano-British Pottery late C3rd-C4th, the majority of which are small fragments of black burnished ware.



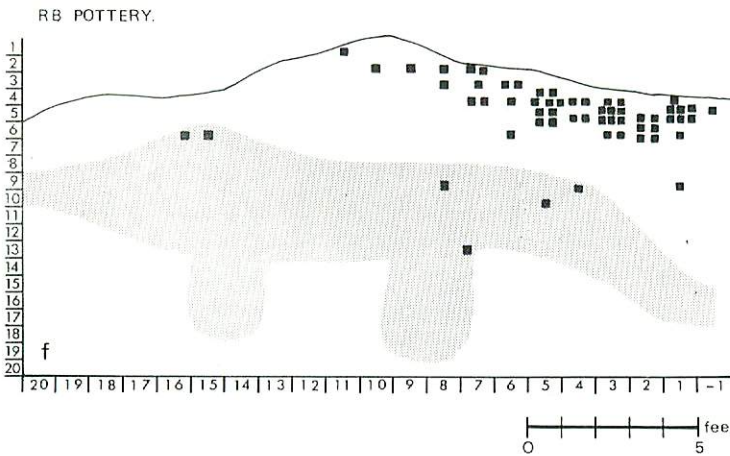
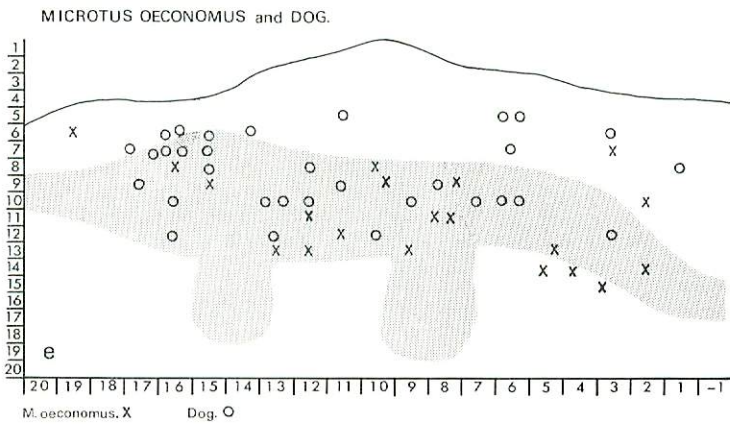
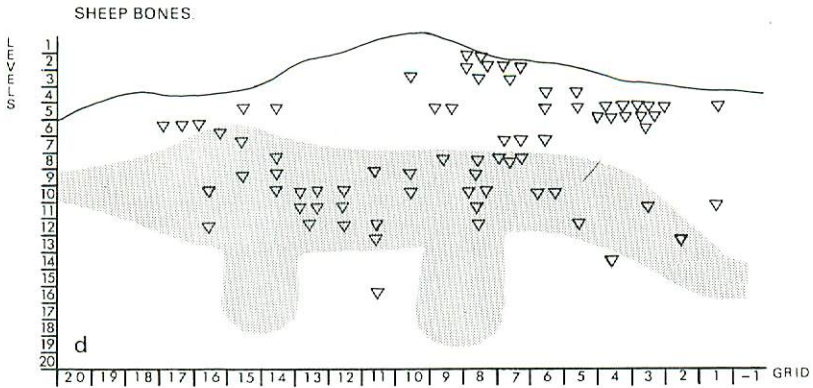
Human Bones: (Fig. 4a)

For clarity, only the skulls and skull fragments have been plotted as these represent the distribution pattern of the bones as a whole.

Distribution

The stippled area in each diagram where badger bones and/or runs were otherwise stated, except those from the a grid and level reference.

Fig 4



diagrams
 indicates the area of badger activity, i.e.,
 found. All finds have been plotted unless
 trial trench, which had not been allocated

Fig. 5

(3) *Bone*(a) *Human Bones*: (Appendix III)

There were about 560 identifiable fragments of human bone including seven reconstructed skulls. (The skulls are numbered I-IX.) Palmer noted that Skull IV was found in the most complete condition, the facial bones having been preserved by being pressed into the clay. He further noted that Skull V was found inverted between two parallel vertical slabs of rock "as if in a crude cist". Skull VI was found lying on its left side on a sloping ledge of rock on the eastern wall of the rift, put to one side similar to those in Dowel Cave, (Bramwell 1968 p. 104). Skull VII has a depressed fracture in the right parietal bone indicating that the skull was still "green" on burial, if the injury occurred after death. Skull IX was found crushed beneath a large rock; the fragments were not widely displaced, indicating that this skull too was "green" when crushed.

(b) *Human Teeth*: (Appendix IV)

E. K. Tratman notes in his report on the human teeth that they show no major morphological differences from modern teeth. He also notes three cases of mutilation of the upper anterior teeth.

(c) *Animal Bones*: (Appendix V)

Several hundred fragments of animal bones were identified.

The majority of the larger animal bones were those of sheep/goat. There were a few bones of ox, some of domestic pig and dog, with some evidence of wolf. Of the smaller mammals, badger predominated. There were many rodent bones including those of *Microtus oeconomus*.

(4) *Pollen*: (Appendix VI)

Samples of soil were submitted for pollen analysis. Pollen from Level 12 showed presence of Hazel and Alder, suggesting a period between early Atlantic to recent.

(5) *Mollusca*: (Appendix VII)

Samples of earth throughout the centre of the excavation from the base upwards were submitted for examination for mollusca. Many species were identified. They do not aid dating, but confirm a woodland environment.

Distribution of Finds

To obtain the maximum information from the excavated material, the major finds were plotted spatially, firstly as plans—one for each level, then as longitudinal sections, South to North one for each line . . . Y, Z, A, B . . . Finally as a simplification, all the major finds for each group were compressed on to hypothetical longitudinal sections South to North through the centre of the rift (Fig. 4 a, b, c, and Fig. 5 d, e, f). This method reflects the shortcomings of the excavation recording system, inasmuch as the spatial relationships of each individual plot could be anything from 2 in. to 23 in. incorrect horizontally, and up to 11 in. vertically. This inaccuracy is much more important for the smaller finds than for the larger pieces of bone which might almost completely fill the box.

Interpretation of Section C.D. (Fig. 6)

The following is the interpretation by the Authors of a carefully measured, but not interpreted, section drawing by E. T. Davies in 1962.

(A) Topsoil of recent origin. Layer 1.

(B) Soil with a few stones which could have been derived from the hillside above by erosion. These have collected in the hollow behind the apex of the rock pile, described by Professor Palmer in 1958.

HAY WOOD CAVE.

INTERPRETATION OF SECTION CD.

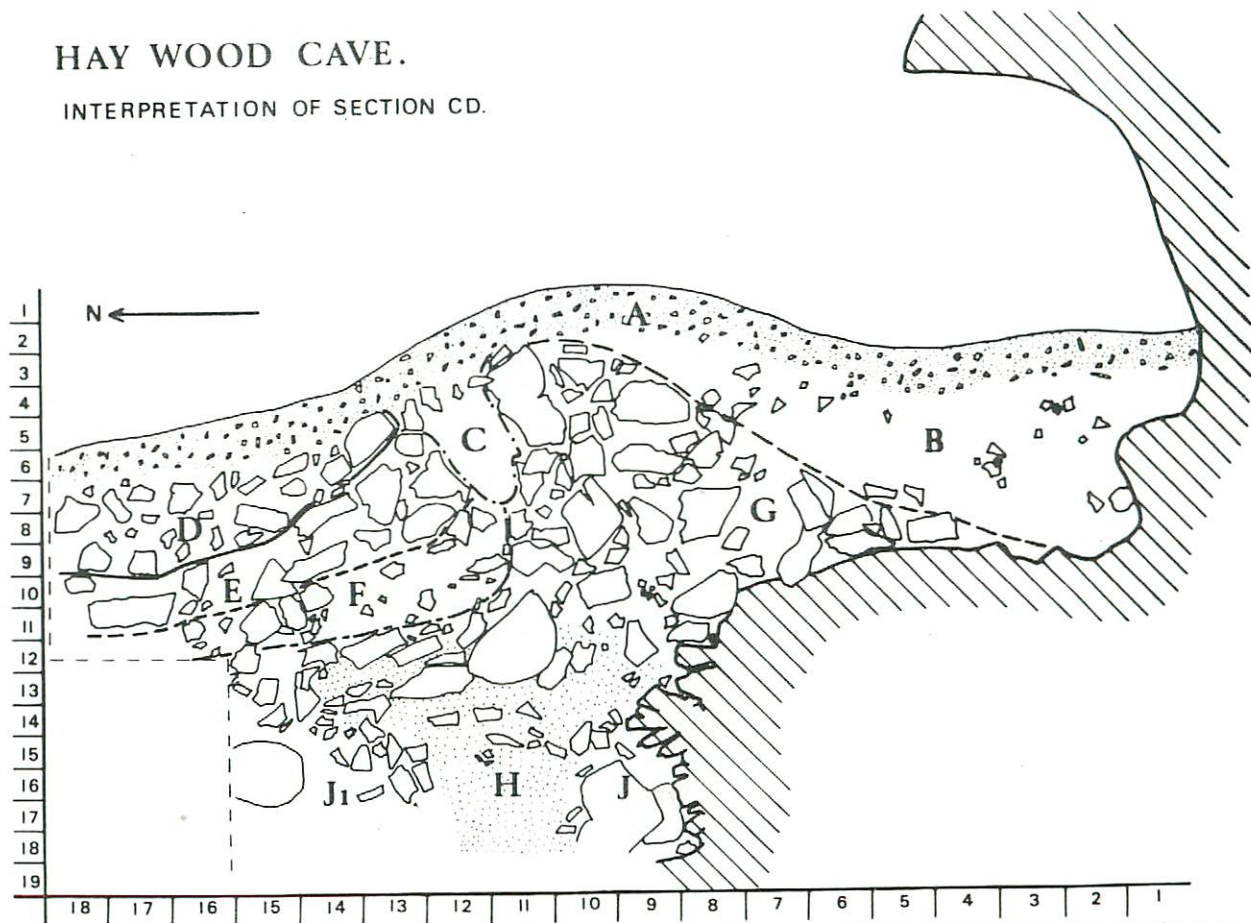


Fig. 6 Vertical grid at intervals of six inches, and horizontal at one foot. Letters on section correspond to those in the text.

- (C) A small stoneless pocket in the main stone pile G of unknown significance.
- (D) (E), and (F) are three areas of disturbance in the northern end of the rock pile (G), which correspond to the burials of E. T. Davies 1962.
- (D) A Layer of stones, the long axes of which are directed, in the main, horizontally.
- (E) This area contains larger stones whose long axes are directed at 20° to the horizontal. The upper surface appears to complete the contour of the rock pile.
- (F) This lowest area of disturbance has fewer and smaller stones in than (D) and (E) overleaf. Some of them appear to have tipped into the deeper disturbance (J).
- (H) A layer of red cave earth which contains few stones. Layer 4.
- (J) and (J1) are two areas of disturbance which correspond to the positions of badger runs. (J) is the badger run in the distribution diagrams. It contained both microcliths and PRIA pottery at the same level.

DISCUSSION

It is obvious from the state of the finds, the distribution diagrams and the section drawings, that the contents of the rift had been grossly disturbed by man and animals. It could be argued therefore, that with such disturbance, it would be impossible to reach any conclusions regarding the age of, and the mode of the burials. However, the authors consider that in spite of this drawback and the loss of the excavation records, enough evidence exists for some conclusions to be drawn regarding both of these, and the use of the rift before the burials.

Both the distribution diagrams and the section drawings indicate that there was a change in the nature of the rift deposits and the finds at Level 12, where both microliths and *M. oeconomicus* and PRIA pottery were found in association (Fig. 5e). At this level and above, the human remains were intermixed with those of animals, flints, and PRIA pottery, all within a pile of rock and light brown soil (Layer 3, Fig. 3, and Fig. 4 and 5). Beneath this layer was the red, sandy cave earth containing only *M. oeconomicus* and mesolithic flints, between Level 13 and 15. As the latest record of *M. oeconomicus* in a post-Pleistocene context on the English mainland is in association with Mesolithic flints (Bramwell 1958 p.104), it seems reasonable to assume that these deposits were of Mesolithic date. The small number of flint tools from this layer would indicate that the rift had been used only as a temporary shelter, sometime in the mesolithic period. As sherds of PRIA pottery were found, at the most only 12 in. above this Mesolithic deposit (Fig. 4c), it seems inconceivable that such a thin layer of soil could have accumulated in this open rift over a period of more than three thousand years, unless some had been removed before the PRIA pottery had been deposited there. There is evidence that this had indeed occurred. The finding of microcliths and *M. oeconomicus* together with fragmentary, post-Mesolithic animal bones (Figs. 4 and 5), all within the rock pile, might indicate that a post-Mesolithic layer had been removed to make room for the burials in the rift, and some of the excavated material used to cover them.

The lack of material from the period between the mesolithic and the PRIA could be due to:—(1) There was none, (2) That it had been removed when the floor was lowered, and might have consisted only of animal bones which would have been indistinguishable from those of later periods. The only domesticated species of animal found outside Layer (3) was sheep (Fig. 5d). It is therefore possible that some of the bones from within this layer were not derived from redeposited rift fill, but were contemporary with some of the human bones.

That badger was active in the rift is obvious. The fact that microliths and PRIA pottery were found at Level 17 in one of the badger runs (Figs. 4 and 5), would indicate that the run could not have been dug until after the deposition of the pottery in the Early Iron Age.

The mixture of PRIA and late C4th pottery with flints and animal bones in the hollow south of the apex of the mound was most likely to have been derived from surface material washed down the hillside and over the overhang (the cave is too inaccessible for a rubbish tip). Some minute sherds of RB pottery found in the southern end of the rock pile are small enough to have been brought down by the animal activity noted in Layer 2.

There were two main groups of burials in the rift separated by the large stones in the centre of Layer 3 (Figs. 3 and 4). The first group, associated with skulls I to IX, were situated in the southern end of the rift and the tunnel. Some skulls in this group had features which might indicate familial traits, and also in this group were three male maxillae which showed mutilation of the upper incisor teeth. They might possibly be associated with Skulls III and VI. Such mutilation can only be of ritual significance or for cosmetic effect.

There were sufficient bones with Skull I to suggest that the body had been pushed head first into the tunnel, and as the entrance is low down in the rift, this burial must have been the earliest, before the rift was filled with further burials.

Skulls VII and IX were green when buried, and as some long bones were found in association at Level 12, it is probable that they too were interred as whole bodies. There were, however, insufficient bones with the remaining skulls to suggest that these represented the remains of six bodies and two of the skulls II and VIII were represented only by fragments. Perhaps some of the bones had been removed by predators, but this is unlikely as none of the remaining bones show any teeth marks. It is most likely that bones, rather than bodies were buried, the bodies having been left elsewhere to decompose. Two of the skulls V and IX, Palmer suggested were afforded some protection, possibly at burial or following disturbance after subsequent interments. Skull VI was found lying put to one side of the rift. All the bones in this group were intermixed with rock, and were stained black or grey in patches. There was

no distinct stratification noted which might be due to badger activity having destroyed it. The fact that the only human bones were found in that part of the rift might indicate that the bones from Level 10 upwards were put in at one time, or over a short period of time as recognisably human remains, and therefore nothing else was accidentally included. After the last burial a pile of rocks and earth was heaped over them filling most of the rift.

This group of burials is undoubtedly of a post-Mesolithic date being above the Mesolithic layer, and probably belongs to the early PRIA as sherds of PRIA pottery were found at Level 12 beneath the base of and within the rock pile. The only artifacts in the rock pile later than PRIA were the few minute sherds of RB pottery which were derived presumably from Layer 2 above.

The second group of burials consisted of small fragments of bleached human bone which were concentrated in the areas of E. T. Davies' "burials" 1 and 2, the disturbances D and E Fig. 4. The condition of these bones would suggest that they had been exposed for a longer period of time, before burial, than the bones of group I. Whether or not the animal bones found with these human bones were derived from the excavated rift fill or were mixed with them before interment, it is impossible to say. The very fragmentary nature of the human bones would make it very difficult to distinguish them from animal bones which could easily account for their presence in the bony material brought to the rift for burial. The fragmentation could also have occurred after burial in the relatively exposed position in the northern edge of the mound.

"Burial" 2 was put into a scooped-out hollow in the northern edge of the mound at Level 10, and back filled. Another, "burial", 1, followed at Level 8 on the side of the mound. This too was covered with rocks and earth filling the rift to the top. "Burial" 3, in area F. (Fig. 4) would appear to be a collapsed badger run into which had slumped material from "Burial" 2, and was not a burial at all as was thought on excavation.

This second group of burials could also belong to the PRIA or later, as three sherds of PRIA pottery and two sherds of RB pottery were found associated with them. For two such groups of burials to be made within the same rift at different periods is most unlikely.

CONCLUSIONS

Hay Wood Cave entrance rift was used sometime in the Mesolithic period as a temporary shelter by coastal people (see Appendix I, p. —). Any evidence for its use between the Mesolithic period and the PRIA had been removed when some of the deposits filling the rift were dug out to make room for the burials. The rift and tunnel were used during the

Early Iron Age as a burial site for a family, or small community, which practised a form of ritual mutilation of the incisor teeth of some young males on reaching maturity. About 28 or more persons were represented by the bones from foetal to aged and of both sexes. One group of about ten people was buried in the southern end of the rift and fragments representing the remainder in the northern end. The three initial burials of the first group were put in as whole bodies, one within the tunnel and two on the excavated floor of the rift. There was insufficient evidence to show the position of the bodies on burial. These burials were disturbed when a further six skulls and mixed bones from incomplete or partially decomposed bodies were put in on top of them. Two of the skulls seem to have been given some form of protection by having rocks placed over or around them.

The fragmentary bodies could not have been interred at one time as the bones are spread throughout the rift fill, intermixed with rocks and earth. However, these interments probably took place over a short period of time as there are no other inclusions with them. Finally, these burials were covered by a large pile of rock and earth including material originally excavated from the floor of the rift.

A further group of burials of very fragmentary human bones was put into the northern edge of the mound followed by more bones tipped onto the side of the mound and then covered over, filling the rift completely. Badger activity within the mound did not begin until after the second group of burials.

These "burials" must represent a community with a tradition of exposure of the bodies of their dead before finally burying them.

A comparable site was, perhaps, the small burial cave at Backwell (ST 49256798) at the coastal, north, end of Cheston Combe. It contained many human bones of PRIA-RB date (Tratman 1938). The site has since been quarried away. There are probably further similar burial sites to Hay Wood on the hillside awaiting discovery.

The presence of mixed PRIA and RB pottery in layer 2 would indicate that there is both an Early Iron Age and Romano-British settlement on the hill above the site.

APPENDIX I. THE FLINTS. (Fig. 7)

S. PALMER

Only some of the implements are shown in figure 7. The main interest in the assemblage from Hay Wood Cave lies in the microlithic element. This includes:— 14 form B1, blunted down the whole of one edge (1-9) and with reverse retouch on the other side (10-12). There are 4 of form B2 blunted down the whole of two edges (13-16). There are: 1 rhomboid form B4, blunted along three edges (17), an obliquely-blunted, broken point, A1, (18) and a crescent, D2a, (19). There are: 3 blades, (20) is truncated, (21) has a steep retouch down one side and (22) has been utilised. Scrapers: One has a hollow edge (23) and 3 are convex (25-27). There is one awl (24). (See Clark, 1934, for this classification.)

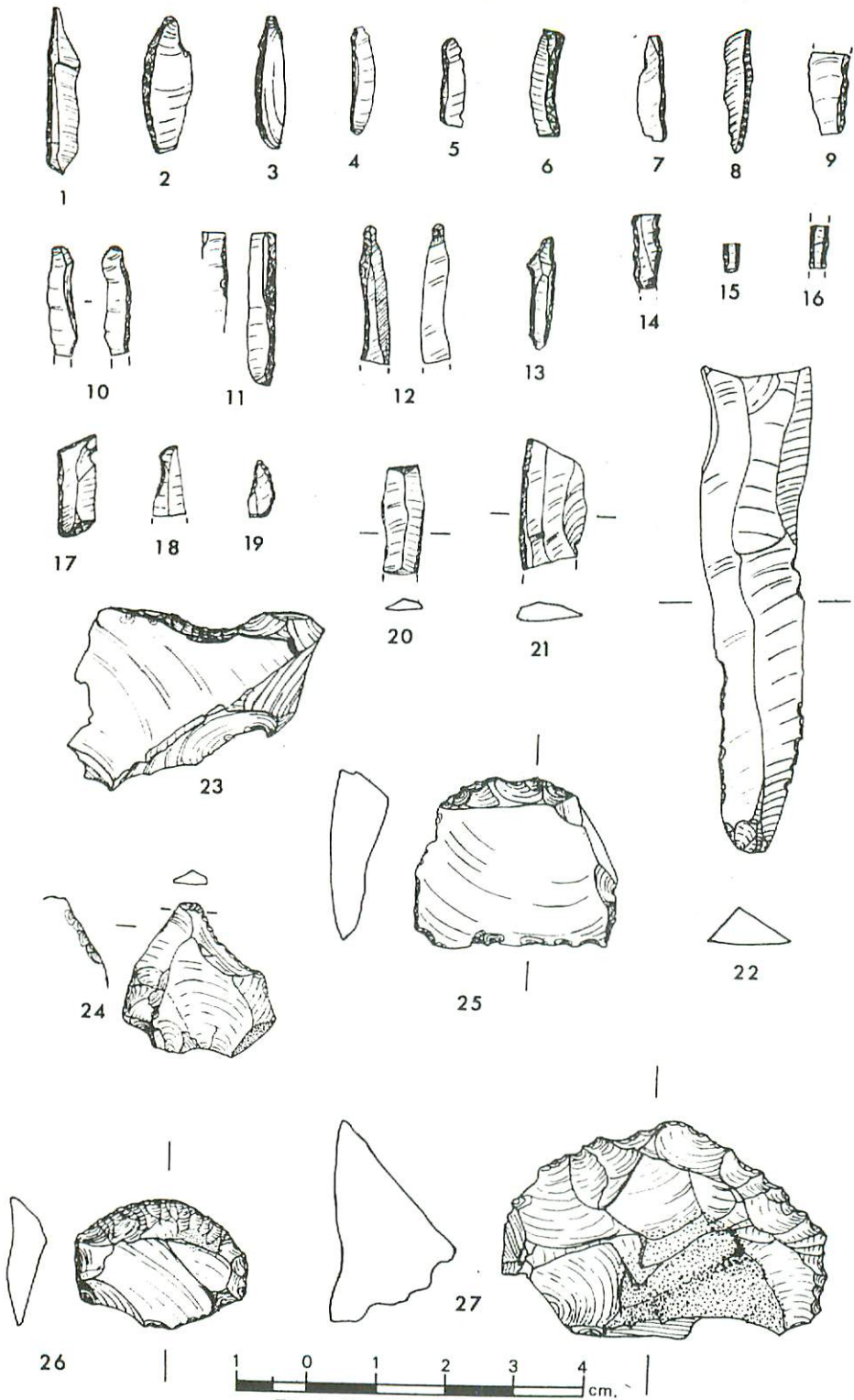


Fig. 7 Hay Wood Cave flints.

It is of some significance that out of 20 microliths, 18 are of forms B. Surveys in the southern counties of Sussex, Hampshire, Dorset, Devon and Cornwall suggest that form B1 occurs in larger numbers on sites within easy walking distance from the sea. As Hay Wood is approximately three miles from the present coast, it does appear as though this characteristic may also extend to coastal sites outside the southern zone. Microliths of this form are numerous on Hengistbury Head and Portland, both areas with an Upper Palaeolithic element (Palmer 1971 (a) and (b)). Bladelets blunted down one edge are also numerous in some of the continental Upper Palaeolithic assemblages, e.g., the Magdalenian (Brit. Mus. coll.). Hay Wood is near the rich Upper Palaeolithic sites of the Mendips. The possibility that indigenous Upper Palaeolithic elements may have contributed to the British Mesolithic industries can therefore not be dismissed, although substantiating evidence may still be lacking. The rhomboid from Hay Wood also suggest some affinities with some of the more northern industries, e.g., Nab Head, Wales, where form B 1 also predominates, but rare rhomboids occur (Wainwright, 1963). Nab Head is also a coastal site.

No conclusions about the cultural affinity of the Hay Wood site can be reached without studying the rest of the assemblage in detail. Also the microlithic element is not large enough to permit detailed comparisons, but it does appear as though the industry from here could possibly conform to a coastal industrial pattern such as is found in the south and also in Wales.

APPENDIX II. PRE-ROMAN IRON AGE POTTERY (Fig. 8)

A. EVERTON

The pottery has been examined macroscopically and divided into five groups, all of which are handmade, and could fit into a pre-Roman context. Bearing in mind the uncertainty of distinguishing prehistoric from post-Roman sherds on fabric alone, it is possible, but unlikely, that some of the undistinguished body sherds could belong to this later period.

This pottery has been examined by P. J. Fowler, P. A. Rahtz and A. M. ApSimon. Their comments follow. Where there is a difference of opinion this is noted.

(I) Hard black laminated fabric well filled with variable-sized angular white limestone grits. Surfaces mainly buff with numerous large grits visible in them. All the sherds probably came from one vessel with a plain rim form. (IA).

6 rim and 26 body sherds from one vessel.

(II) Hard black fabric with some sand, and a few large limestone grit inclusions. Surfaces black. (IA 'A', P.A.R., A.M.A., pre-Glastonbury P.J.F.).

1 rim and 4 body sherds from one vessel.

(III) Hard black fabric with finely crushed angular limestone grits and some small black clay pellets. Surfaces buff to brown, rough, leathery and pitted. (IA 'A').

1 base, 3 body sherds, 10 fragments (in badger run) from 1 vessel.

(IV) Hard black fabric with shelly limestone and some black/brown clay pellet inclusions. Surfaces brown to black, pitted, leathery with a soapy feel. Pitting probably due to loss of grits. (IA 'A', EIA 'A' P.J.F.).

3 rims, 3 bases, 14 body sherds from 2-4 vessels.

(V) Hard, black fabric with sand and some black/brown clay pellet inclusions. Exterior grey with dull pitted surface. (IA 'A', EIA 'A' P.J.F.).

1 base sherd, 1 body sherd from 1 vessel.

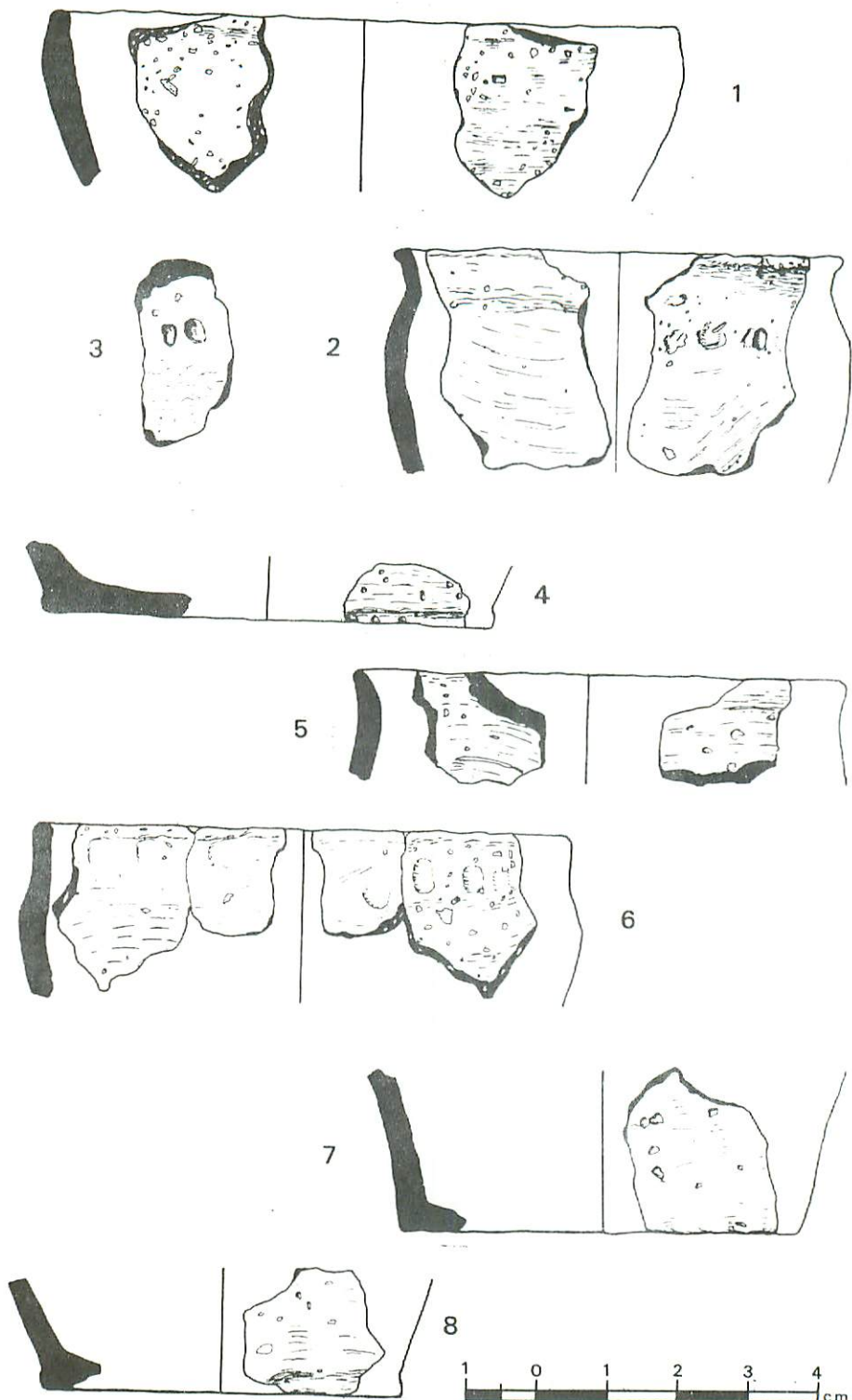


Fig. 8. 1 (I). Simple rounded rim with slight girth groove below. 2, (II). Everted rim with pinched fingernail decoration on shoulder. 3, (III). Body sherd with stamped decoration. 4, (III). Base. 5, (IV). Plain everted rim. 6, (IV). Simple rounded with shallow finger tip impressed decoration on neck. 7, (IV). Base. 8, (IV). Base.

ROMAN BRITISH POTTERY

(Not illustrated)

The majority of the RB sherds were of fabrics comparable with the Butcombe type series, (Fowler 1966-67) and those are described below. The group as a whole is probably of a late C3rd-C4th date.

<i>Butcombe T.F. Numbers</i>	<i>Number of Sherds</i>
VIII Hard, slightly gritty grey	11
IX Gritty grey	4
XII Very hard, speckled grey	1
VII Hard smooth grey ware	1
XVI Black burnished	46
XVII Coarser copy of XVI	6
<i>Wares other than Butcombe type series.</i>	
Very hard, thick coarse black, sandy (Degenerate RB, P.J.F.)	11
Thin, sandy, buff to grey with glittery surface	8
Thin, hard, buff fabric, with dark grey, slightly gritty surfaces	3
Hard, red fabric with metallic blue-grey surface	1
Colour coated and imitation Samian	6

APPENDIX III. THE HUMAN BONES FROM HAY WOOD CAVE.

R. F. EVERTON

All the human bones were in a fragmentary condition. Skulls I to VII and IX were reconstructed to a greater or lesser degree enabling certain measurements to be made. Some of the long bones were also sufficiently well preserved to enable reconstruction to be made, and measurements to be taken. (Ashly Montagu 1951, p. 480). Many smaller and more compact bones, i.e., those from the carpal and tarsal regions, and phalanges, were well preserved.

Wherever possible an attempt was made to determine the age and sex of the bones identified, and to take whatever measurements were possible. (Genoves 1963).

No bones were found in anatomical juxtaposition, but some were found close enough to suggest association.

The Skulls

There were eight skulls, reconstructed, and thirty-seven skull fragments varying in size from a whole parietal bone down to quite small fragments.

Skull IV was the most complete, having all the facial bones, and much of the basal part intact.

The reconstructed skulls were on the whole rather distorted due to pressure, but were found to be dolichocephalic to mesocephalic, robustly built into rather thick bones. The orbits of Skull IV were rectangular in shape, and directed downwards and laterally.

The thickness of the occipital bone varied from 10.5 mm. to 17 mm.

Sex:

On morphological grounds, the skulls I to IX were separated into:— four male (III, VI, VII, IX), three female (I, IV, V), one unsexed, (Paget's disease II) and one juvenile (VIII).

Familial Traits:

Two skulls, V and IX have a large, identical sutural bone at the apex of the lambda. Skulls I, VI, VII and IX have well marked external occipital protuberances.

Number of Individuals:

The minimum number of individuals calculated from skulls and skull fragments:—

Adult male	9
Adult female	10
Adult—sex indeterminate	4
Juvenile—sex indeterminate	3
Foetal	2
	<hr/>
Total	28
	<hr/>

*Post cranial skeleton:**Long Bones:*

Only four long bones were complete enough to allow estimates of total length. A male humerus Y 1 Level 10 is a very robust bone with a bifurcated deltoid tuberosity (c.f. Cameron 1934, p. 216)—? a slinger's arm.

One other humerus was much less robust, and the tibia W 2 Level 12 was one of a matching pair.

Of the remainder of the post cranial skeleton, the small bones of the hands and feet were well preserved as were many phalanges.

The fragments of femur were by far the most numerous bone excavated, enabling another estimate of the minimum number of individuals to be made:—

Adult male	7
Adult female	9
Juvenile	4
	<hr/>
Total	20
	<hr/>

The discrepancy between this number and that derived from the skull fragments may, in part, be explained by the deficiency of foetal femura.

Two small collections of foetal bones were found; one in association with fragments of lumbar vertebra, and the other with fragments of pelvis.

SOME MEASUREMENTS OF THE HAY WOOD SKULLS

	Maximum Length L mm	Maximum Breadth B mm	Cephalic Index	Minimum Temporal Width	Bizygo- matic width	S
Tunnel No. 1	191	134	70.4	95	—	F
III. Y 1 Level 10	196 est.	140 est.	72	102	—	M
IV. Z 2 Level 10	198	138	69.7	94	135	F
V. Y 2 Level 10	181 est.	137 est.	76	98	—	F
VI. B 6 Level 8	195	145	74.4	102	—	M
IX. X 5 Level 12	195	145	74.4	93	—	M

SOME MEASUREMENTS OF LONG BONES

		Max. Length	Sex	Height Estimated*
L. Humerus	Y 1 Level 10	340 mm est.	M	176 cm
L. Humerus	Z 5 Level 12	300 mm est.	M	165 cm
L. Femur	E 13 Level 7	400 mm est.	F	158 cm
R. Tibia	W 2 Level 11	350 mm est.	M	163 cm

* See T. and G. Brothwell, 1963, p.100.

Abnormalities and Pathological Conditions:

- 1) *Skull VII.* There is a depressed fracture in the right parietal region with no signs of healing—possibly an ante-mortem injury or early post mortem (Janssen 1970 p.28).

- 2) *Skull II*. X-ray demonstrates Paget's disease of bone (Janssen 1970 p.24).
- 3) Fragment of right frontal bone showing a perforating sinus with radiating suppurative osteitis, possibly due to sinusitis or an infected injury.
- 4) An upper lumbar vertebra showing areas of osteitis on each side on the lateral masses, indicating floating transverse processes or extra ribs.
- 5) Lipping and osteophytes on the bodies of lumbar vertebra.
- 6) A mid thoracic vertebra showed wedging of the body consistent with the result of a compression injury (Brothwell 1963 p.111).
- 7) Osteoarthritis was demonstrated on the anterior articular processes of a lumbar vertebra.
- 8) A large fragment of a female, femoral shaft showed transverse depressions, possibly due to injury.
- 9) X-ray demonstrated Harris' Lines on one femoral shaft (Wells 1963 p.406, 1964 p.155).
- 10) A fragment of mid shaft of tibia showing mild sub-periosteal osteitis.
- 11) Humeral shaft showing a small perforation in the upper part of the lateral supracondylar ridge.
- 12) Fused distal and intermediate phalanges of a toe, probably congenital.
- 13) Proximal phalanx with distal osteoarthritis.
- 14) Three-fifth metatarsals with lateral bowing of the upper third of the shaft (Cameron 1934 p.200).
- 15) Y 2 Level 10—a maxilla with mutilation of the anterior teeth.
- 16) A 5 Level 8 and B 6 Level 8—two associated fragments of maxilla, also showing mutilation.
- 17) C 10 Level 7—Mandibular fragment showing a healed fracture.
- 18) X 6 Level 10—Upper end of right tibia, female, showing the ligamentuous attachment 'pulled' up to sharp crests which would indicate an active knee.

Apart from the mandibular fracture and the compression of the thoracic vertebra, the above conditions are, in the main, relatively minor, and would indicate that the people represented by these bones were relatively healthy. The presence of mutilation of the upper anterior teeth, (Appendix IV), is of great interest as there appears to be no other reported instance.

Conclusions:

The fragmentary bones from the excavation at Hay Wood represented 28 or more people of both sexes, both adult and children, of stocky build. Estimates of stature, based from single bones only and therefore of limited value, showed the stature to be from 163 cm. to 173 cm. for males, and about 158 cm. (a single estimation) for females.

Measurements of the reconstructed skulls were compared with those of mesolithic skulls (Boule & Vallois 1937 p.133—Stopes *et al*), and found to differ widely. They were also compared with those of Iron Age skulls (Dymond 1902, Goodman & Morant, 1940, p.302, and Mason & Mason 1951), but these too, did not compare. Finally a comparison was made with those of RB skulls (Wenham 1968 p.164), and again the measurements did not compare.

On morphological grounds, the skulls would appear to be of an Iron Age type, but unfortunately, there is insufficient data for any statistical approach to this problem.

APPENDIX IV. THE HUMAN TEETH AND JAWS

E. K. Tratman

Note: in this appendix the standard clinical dental notation is used. The teeth are numbered outwards from the centre line and the chart is considered as being held up in front of the specimen.

	Upper jaw		
	87654321		12345678
Hence: Rt.	-----		Lt.
	87654321		12345678
	Lower jaw		

The material submitted consisted of 6 mandibular and 5 maxillary fragments and 66 individual teeth.

C 10 (7) was a portion of a right horizontal ramus of a mandible with 6543 present. In the mid line there is an old healed fracture showing evidence of considerable displacement leading to deformity of the jaw. There was an abscess in the third molar region and evidence of paradontal disease. Age 50 to 60 years.

A fragment of a right mandible associated with Skull I in the tunnel—Age 16 to 18 years.

Y 2 (10) A complete maxillary arch and palate of a male aged about 22 years. All the teeth except two are present. There is a discrepancy in the differential attrition of the teeth. Wear on 818 indicates an age of 22 years, but the anterior teeth show a degree of wear that one would scarcely find in a person of 60 years of age. The worn surface forms a curve with the greatest wear on 313 lessening to 515 and 616. It is impossible to assign this to natural wear. The most rational explanation of this condition is that the anterior teeth were filed down as a ritual procedure. There was a large chronic abscess at the root of 13 and an appreciable amount of calculus on the crowns of the teeth, and evidence of destruction of alveolar bone consistent with poor oral hygiene.

The filing down produced an anterior open bite.

A 5 (8) Portion of a left maxilla with 1345 with attrition similar to *Y 2 (10)*.

B 6 (8) A portion of a right maxilla, almost certainly from the same individual as *A 5 (8)* above.

Y 12 (10) is a small portion of a left mandible of a child aged eight to nine years. *E 17 (9)* is a small portion of a left maxilla with 1356 present. State of teeth indicates mutilation as in *Y 2 (10)* above.

Individual Teeth:

It is unnecessary to describe these each in detail here. The main facts to be noted are that many exhibit great attrition when they are teeth anterior to the first molars. Undoubtedly, some of them belong to the jaws already described. Many also show interstitial attrition facets produced by individual movements of the teeth during mastication. A number show destruction of tooth tissue commencing at the amelo-dentinal junction at the tooth neck.

The picture given by these teeth is of a deplorable state of oral hygiene with much calculus, chronic gingival inflammation involving subsequent bone destruction, and loss of teeth through this. The caries, if it is true caries, is what has been described as the senile type associated with food impaction round the necks of the teeth after the alveolar bone and overlying gum have receded. The age as determined by the degree of attrition can only be assessed in some cases as the factor of mutilation has destroyed the usual basis of assessment in others.

Discussion:

In the notes on specimens, attention has been drawn to peculiarities in the attrition of the teeth, particularly in specimens of the maxillae, and in some of the individual teeth. Unfortunately, there are no mandibular fragments to articulate with these maxillary ones so that it is not possible to examine the arrangement of the occlusion. However, with the grinding down of the anterior teeth in the maxilla, the mandibular teeth would become functionless. Amongst the individual teeth are several from the lower jaw which look as if they had been treated in the same way as the upper teeth in the maxillary fragments. Further, the curve of the ground down surfaces shows that the grinding down process was carried out by rubbing a somewhat rounded grinding instrument across the mouth from side to side, and not by passing it backwards and forwards.

The effect of this loss of function through grinding would be to produce an anterior open bite and there would be a failure of the ordinary mastication processes and the concomitant development of bad oral hygiene with deposits of calculus. The train of events that naturally follow from such an accumulation. There is ample evidence of this.

The complete maxillary arch *Y 2 (10)* and the two pieces *A 5 (8)* and *B 5 (8)* on which the finding of mutilation is based are both thought to belong to males.

The fourth piece E 17 (9) is attributed to Burial 1 of Davies (p.18). The fragment of maxilla attached to a female skull does not contain enough teeth to be certain one way or the other about mutilation. On the other hand, amongst the single teeth, which cannot be sexed, there are examples of normal attrition of the anterior teeth, so it is probable that this ritual mutilation was performed only on the males. It cannot be definitely asserted that it was so.

Amongst the individual teeth are a sufficient number of anterior teeth to show that the upper incisors had some degree of overjet over the mandibular teeth as is the normal arrangement amongst the present day population of Britain. One had expected to find an edge to edge occlusion of the anterior teeth in the jaws.

To sum up:

There is for the first time on record in Britain, evidence for the ritual mutilation of the teeth. It is probable that this act was performed at about the age of 18 to 20, and was possibly confined to the males. It was done by passing a grinding agent to and fro across the teeth from side to side of the mouth. There was gross lack of oral hygiene, considerable formation of calculus on the teeth and loss of alveolar bone from the chronic inflammo-septic processes present. The maxillary anterior teeth, when left unfiled, overlapped the mandibular ones.

Only one example of fissure caries of the type common today was noted. Quite extensive caries-like lesions at the necks of the teeth were present. It is possible, in the light of research now being carried out by Dr. Poole (Dental Hospital, Bristol), that these lesions may be the outcome of *post mortem* changes after burial and not true caries. Abscess formation occurred.

There is nothing peculiar about the forms of the teeth. All the variations are those encountered at the present day. Injury is represented by one specimen, which shows a healed compound fracture of the mandible.

APPENDIX V. ANIMAL BONES

R. F. Everton

The Animal bones from Hay Wood are, in the main, in a fragmentary condition with a relatively high proportion of immature animals represented.

Of the larger mammals, horse and ox, a small domestic type, are poorly represented whereas sheep/goat bones are most numerous.

The sheep/goat bones, of a small unimproved type are consistent with those of the sheep found on Mendip in an Iron Age or earlier context. Pig bones of a domestic type were less numerous than those of sheep, and roe deer was represented by one tooth, and two fragments of limb bone. The bones of sheep and pig were mainly of the skull and teeth, and the extremities, few of the limb bones being noted.

Bones of carnivores, including badger, were even more numerous. Wolf was represented by four large metapodials, and dog and fox were also present.

The bones of badger were the most numerous, and would have represented the greatest number of individual animals.

Other species represented are: cat of the domestic type, rabbit, hare and squirrel. There was a small number of bird bones. Three fragments of beaver molar teeth were identified. This animal is extinct in England. The last was recorded in the River Teify, in Cardiganshire C15th. (Southern, N.W., 1964, p.267). It is known to have been a food animal in Roman-British times. The bones of small rodents were numerically most abundant. The dominant species was *Microtus oeconomus*. This is another extinct species which has been found on sites of the last glaciation (Corbet, G.B., personal communications). It has also been found in a Mesolithic context in Dowel Cave (Bramwell 1959) and again in a Bronze Age but more probably Iron Age (c. 200B.C.—A.D.50) context in the Isles of Scilly (Pernetta and Handford, 1970, p.540).

The small rodent bones are possibly the result of the decomposition of regurgitated pellets from owls or other birds of prey.

On the whole, the assemblage of animal bones most certainly would not represent the refuse from mans' food, found on a living site. The most likely explanation is that they have been brought into the cave by scavenging animals

such as badger or even wolf, although none of the bones show any signs of having been gnawed or chewed. Alternatively, some of the material could have come over the overhang from the hill above.

Thanks are due to Dr. J. Jewell, and Dr. G. B. Corbet of the B.M. Nat. Hist. for their help in the identification of the animal bones.

This appendix was compiled from the catalogue of animal bones, produced by E. T. Davies.

APPENDIX VI. THE POLLEN GRAINS FROM HAY WOOD CAVE

R. L. Jefferies

I have examined the samples which were given me and found the pollen was highly eroded, and the grains in samples 9B (12) and 13C (10) were unrecognisable. In the other sample 2X (12) the destruction of the grains was not so far advanced and it was possible to make some attempt at identifying the most abundant pollen types, although about 90 per cent of the grains were at some stage of breakdown.

The types which were seen included *Quercus*, *Betula*, *Ulmus*, *Corylus* and *Alnus*. Pine pollen was apparently not present. It must be appreciated that differential preservation is an important consideration in such studies as these. Pine pollen is generally regarded as being highly resistant to destruction, and even when the grain is partly broken up, it is easily recognisable. Consequently, if *Pinus* grains were present, they should have been visible. A soil suspension yielded a similar negative result.

The presence of *Alnus* pollen suggests the age of the sample is somewhere between the beginning of Zone 7 (early Atlantic period) and the end of Zone 8 (recent), but beyond that everything becomes uncertain. However, during this length of time, amounts of *Pinus* pollen, compared to other tree pollen amounts, were very low. Consequently, one might not expect to find pine pollen in any quantity.

APPENDIX VII. REPORT ON THE MOLLUSCA

(formerly of Dept., of Palaeontology, British Museum (Natural History))

C. P. Castell

The mollusca are almost all indicative of a chalk or limestone (in this case Carboniferous Limestone), woodland, and some of the grassy scrubland on the edge of a wood. A few of the species in the list (*Helix hortensis*, *H. nemoralis*, *H. aspersa* and *Oxychilus cellarius*) have a wider range of habitats, but this list is quite typical of such a woodland. *Helicigona lapicida*, and *Acicula fusca* are found in beech woods. *Promatias elegans* is perhaps more indicative of scrubland. The presence of *Cecilioides acicula* should be noted as this species is notorious for deep burrowing (present in level 12), and thus can cause errors of interpretation. The number of recent contaminants as deep as level 20 should also be noted. This suggests disturbance by ? mice, voles, or rabbits, or perhaps by earth from higher levels falling in whilst the excavation was in progress.

The molluscs unfortunately do not help with dating any of the levels, or of the levels taken as a whole. They could, however, imply that the woodland has been stable from early in the accumulation of debris in the shelter (it can happen that such a woodland fauna is preserved in a shelter or tomb, and the wood later destroyed, leaving behind a seemingly incongruous assemblage, but, of course, this has not happened here). It is quite likely that all these species could be collected living today in Hay Wood. If this were done, it would make an interesting comparison for this list.

REFERENCES

- BOULE, M. and VALLOIS, H. 1937 *Teviec*. Arch. d'Institute de Paleontologie Humane. *Mem.* 18 Paris.
- BRAMWELL, D. 1959 Excavation in Dowell Cave. Earl Sterndale. *Derbyshire Archaeol. J.* **79**, 97-109.
- BROTHWELL, D. R. 1963 Digging up Bones. *Brit. Mus. (N.H.)*.
- CAMERON, J. 1934 *The Skeleton of British Neolithic Man*. Williams & Norgate Ltd., London.
- CLARK, J. D. G. 1934 A Classification of Mesolithic Culture. *Archaeol. J.* **90**, 52-77.
- CLARK, J. D. G. and RANKINE, W. F. 1939 Excavations at Farnham, Surrey. *Proc. Prehist. Soc.* **5**, 73-77.
- DYMOND, C. W. 1902 *Worlebury. An Ancient Stronghold in the County of Somerset*. (Privately printed).
- FOWLER, P. J. 1968 Excavation of a Romano-British Settlement at Row of Ashes Farm, Butcombe, North Somerset. *Proc. Univ. Bristol Spelaol. Soc.* **11** (3), 209-236.
- — 1970 The Mendip Hills in Prehistoric and Roman Times. *Bristol Archaeol. Res. Group. Special Publ.* No. 1.
- GENOVES, SANTIAGO 1963 *Man—Estimation of Age and Mortality*. Science in Archaeology. Thames & Hudson.
- — 1963 *Sex Determination in Early Man*. Science in Archaeology. Thames & Hudson.
- GOODMAN, C. N. and MORANT, G. W. 1940 The Human Remains of the Iron Age and other periods from Maiden Castle. *Biometrika* **31**, 295.
- JANSSENS, P. A. 1970 *Palaeopathology*. Curwen Press, London.
- MASON, E. J. and MASON, D. 1951 Report on Human Remains and Material recovered from the River Axe in the Great Cave of Wookey during diving operations from October, 1947, to January, 1949. *Proc. Som. Arch. and Nat. Hist. Soc.* **96**, 238-43.
- PALMER, S. 1971A The Second Report on Portland Site I 1967-68. *Proc. Dorset Nat. Hist. and Archaeol. Soc.* **92**, 168-180.
- — 1971B The Mesolithic Industry of Mother Siller's Channel, Christchurch, and the neighbouring areas. *Proc. Hampshire Fld. Club and Arch. Soc.* **27** (Forthcoming).
- PERNETTA, J. C. and HANDFORD, P. T. 1970 Mammalian and Avian remains from possible Bronze Age deposits in Normour, Isles of Scilly. *J. Zoo.* **162**, 534-540.
- RICHARDS, C. 1971 Geomorphological Notes on Hay Wood Cave, Hutton. *Axbridge Caving Group and Archaeological Soc. Journal* 1970.
- SOUTHERN, N. W. 1964 *Handbook of British Mammals*. Blackwell.
- STOPES, M. C., OAKLEY, K. P. and WELLS, C. M. 1953 A Discovery of Human Skulls with stone artifacts and animal bones in a fissure at Portland. Bumpers Lane Quarry. *Dorset Nat. Hist. Soc.* **74**, 39-47.
- TRATMAN, E. K. 1926 Second Report on Kingsweston Hill, Bristol. *Proc. Univ. Bristol Spelaol. Soc.* **2** (3), 238-243.
- TRATMAN, E. K. *et al* 1938 The Excavation of Backwell Cave, Somerset. *Proc. Univ. Bristol Spelaol. Soc.* **5** (1), 57-71.
- WAINWRIGHT, G. J. 1963 A Reinterpretation of the Microlithic Industries of Wales. *Proc. Prehist. Soc.* **29**, 99-132.
- WELLS, C. 1963 *The Radiological Examination of Human Remains*. Science in Archaeology. Thames & Hudson.
- WELLS, L. M. 1963 *Stature of Early Races of Mankind*. Science in Archaeology. Thames & Hudson.
- WENHAM, L. 1968 The Romano-British Cemetery at Trentholme Drive, York. *H.M.S.O.*