

## PROBLEMS OF "THE CHEDDAR MAN", GOUGH'S CAVE, SOMERSET\*

by  
E. K. TRATMAN, O.B.E., F.S.A.

### ABSTRACT

The skeleton known as "The Cheddar Man" was found when a drainage trench was dug inside Gough's Cave, (NGR ST 46705631). The skeleton was sealed under the same stalagmite layer as that which covered the Late Pleistocene/Late Upper Palaeolithic deposits in the entrance passage. The problems discussed are:- Was the skeleton the product of accidental death by drowning or was it there by deliberate burial? If the latter were there any grave goods and what were the relationships between the skeleton and the Late Upper Palaeolithic occupation and the other human bones found in the Late Pleistocene cave deposits?

### INTRODUCTION

The cave generally referred to as 'Gough's Cave' is historically 'Gough's New Cave' and is the present show cave. 'Gough's Old Cave' was once the show cave. It is now, (1974), partially hidden by the restaurant buildings, being situated above and to the west of the present show cave. It is difficult to visualise the original appearance of the site before R. C. Gough and his associates started work to find the present show cave. Plate 1a gives a clue to the appearance. The cottage has long since gone.

There was a considerable ridge of talus from rock falls across the mouth of Gough's (New) Cave. The level of the bridge spanning the present entrance way was the level of the entrance in 1955, when Donovan wrote his paper on deposits in the cave and was the basal level of the excavations by Gough. The original top of the talus slope must have been higher still. The cave arch was relatively low and wide. There was a steep slope down at the angle of rest of the scree. The slope flattened out and the fill reached the roof approximately at the western edge of excavations D and E (*Fig. 2*), west of The Fonts. Just how much of the downfold of the roof was here buried in the fill is unknown because the rock has been blasted away in the critical area. The

\* Published with the assistance of a grant from the Council for British Archaeology.

level of the stalagmite floor remnants on the rock side-walls suggest that there was no access to The Fonts when Palaeolithic man lived in the cave.

R. C. Gough began his digging and blasting in 1892 and he eventually broke into the main part of the show cave in December 1893. He subsequently found other extensions. He also found, to his regret, that the foot area of the downward-sloping entrance way was often flooded after periods of heavy rain. (The time lag between heavy rain on the surface and flood water beginning to appear in this part of the cave is now known to be between 12-24 hours. The flood rises fairly slowly at first). The water wells up first in the area of The Fonts and forms a pool. The flood water will continue to rise and will flow out through the low roofed recess now known as 'Skeleton Pit' to drain down the rift at the back and will continue to do so for a limited time. But if there is a major flood, a not uncommon thing, the whole of the entrance passage will fill up and water will overflow the entrance ridge, now quarried away, down to the road. Plate 1b shows such a flood in 1930 and the entrance level as excavated by Gough.

In order to keep the cave open to visitors under wet conditions Gough decided to dig a drainage trench from near The Fonts to the side recess. This was in 1903. Within the recess the diggers found a human skeleton

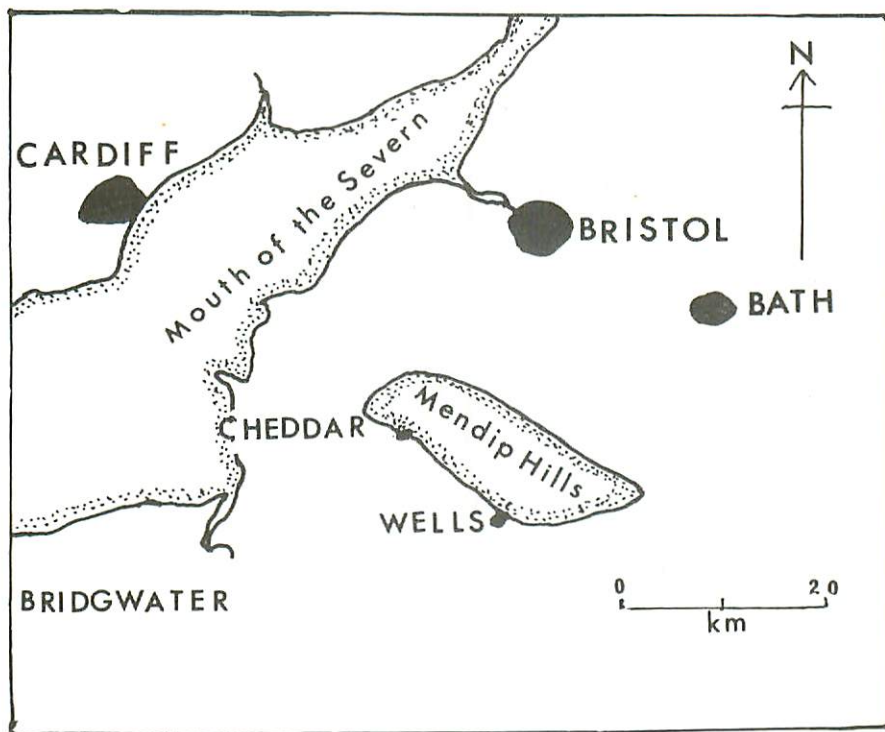


Fig. 1.

under the stalagmite on the right side against the rock. Thus was 'Cheddar Man' found. The trench was dug with picks and shovels under poor lighting conditions. No attention was paid to the stratification. Fortunately a geologist, H. N. Davies, heard about the discovery and was soon on the scene.

#### ACCOUNT BY H. N. DAVIES, 1904

Davies has discussed at some length the discovery of the skeleton and the stratification he observed in 'Skeleton Pit'. There are certain discrepancies in his account when it is compared with that of Parry (1929). Donovan (1955) has discussed these discrepancies in his very valuable paper.

Davies described the actual position of the skeleton. "It was sealed under the 'Upper Stalagmite', which in the fissure was 5 inches thick". The stalagmite was laminated with fine sand between the laminae. The actual thickness that can be observed today is variable and can be as much as 12 inches.

Davies describes blocks of limestone and an intermediate band of "calcareous deposit" (1904, *fig. 4*). However Davies' *fig. 4* and *fig. 5* give contradictory evidence about the depth position of the skull in relation to the covering stalagmite and also to the other bones. Of all the bones the skull had and still has much more stalagmite on it than the other bones. Davies (p. 342) remarks that "the skull was taken out in pieces but so carefully that there was no difficulty in putting it together again". The left parietal, just above the squamous suture, has an opening in it. There is an extension of this opening through the temporal bone. The appearance of the major part of this opening through the parietal indicates that it was made when the bone was 'green' and its upper border is coated with stalagmite. The lower border is coated with glue or with other repairing substances and the fractures bordering the lower opening are also so-coated. The angularity of these fractures marks them as being made when the bone was fossil and brittle. It is almost certain that these fractures were made when the skull was found, perhaps with the point of a pickaxe.

The amount of stalagmite on the skull suggests that the original position was just under the stalagmite and not in the cave earth "2 ft. below the surface of the stalagmite", (Davies p. 242, line 4 and *fig. 5* or less than 1 ft. in his *fig. 4*). The contradictions in the evidence cannot be resolved. Davies goes on to comment that some of the bones were left *in situ* for visitors to see and I have seen them so. He states (p. 342) that "the legs were drawn up, one of the arms bent so as to bring the hand to the back of the head, and the whole position of the skeleton such as would be assumed by the body of a drowned man swirled into his last resting place by a rushing torrent". He adds (p. 343) "two of the phalanges have found their way into the cranium and are now cemented to the base of the frontal bone at the back of the orbits". But the skeleton was undoubtedly in a contracted



position (see below) and it is highly improbable that this would happen with a drowned man.

Further, the height of the rock lip of the cave mouth together with any talus already present would effectively have prevented even a major flood, such as that of 1968, from washing a body into the cave. Plate 1b shows that a body could be washed out of the cave, not in. Again the evidence of the 'Rescue Excavations' (Tratman *et al* 1972) emphatically confirmed that bones would be washed out of the cave away from Skeleton Pit during floods.

On the fauna alleged to have been found in the cave earth Davies expressed marked scepticism. "I have found it quite impossible to locate the position in the cave earth in which . . . any of the bones and teeth were found".

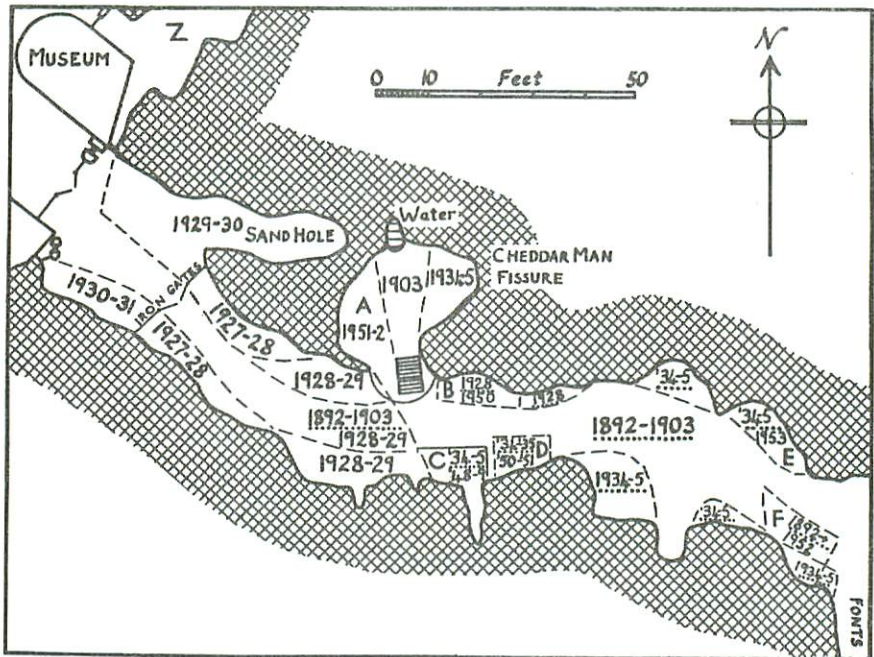


Fig. 2. Plan of the outer part of Gough's Cave, Cheddar showing the dates of excavation of different areas. Based on a plan made in 1935, with additions. [Reproduced from Donovan 1955, fig. 12].

*Key to conventions used.* Broken lines mark the limits of the areas in which the cave was excavated. Where two dates are given for an area, separated by a horizontal dotted line, the upper indicates the date of excavation to the present floor level, the lower that of excavation below this level. Where one date is given above a dotted line, excavation has not been carried below the present floor level. A single date without dotted line indicates that the deposits both above and below the present floor level were excavated at this date. Letters A-F mark the position of recent excavations.

The fauna was said to include Hyaena, woolly rhinoceros and cave bear. (*Crocota crocuta*, *Coelodonta antiquitatis* and *Ursus spelaeus*). He thought that these probably came from Gough's Old Cave. Excavations since made there (Tratman 1960) proved that this was not the site of derivation. The most probable site is the fissure, now cleared out, in Sugar Loaf Rock (Balch 1947) about 300 m further up the gorge on the south side. Parry's work (see below) proves that Davies' scepticism was fully justified.

"Numerous flint flakes, knives, scrapers and borers" are mentioned by Davies as being found in the cave. No mention is made of them being found with the skeleton itself. Unfortunately no depths are given for the implements found and Parry's work has made it clear that the area of the main passage opposite Skeleton Pit was particularly rich in flint implements but very few were found in the recess itself.

A summary of the discovery is given by Davies on p. 346. A precis is set out here:-

1. The skeleton was in cave earth near its upper surface and was under a bed of stalagmite continuous with that of other parts of the cave and of the same laminated structure.
2. "The skeleton was in a cramped position, such as would be assumed by a drowning man".
3. Flint knives, scrapers and borers are plentiful in the cave earth of the vestibule and of fissure 'g' [Skeleton Pit].

#### SELIGMAN AND PARSONS, 1914

These authors concentrated on the anatomy of the skeleton. They were not at first aware of Davies' earlier account (p. 245). They accepted what they were told about the fauna and for the first time the '*Baton de Commandment*' is mentioned and figured. They sum up on p. 262. "The human skeleton was found under a layer of stalagmite . . . in close association — [this 10 years after the anything but skilful excavation had finished] — with flints of late palaeolithic type and *it is said* [my italics] that the *Baton de Commandment* was also found in association with the skeleton". But on p. 243 the reference is to flints being found "in the proximity of the skeleton".

Their plate 23, figure 1 shows some of the bones *in situ* and only just under the stalagmite. The face was much mutilated and the skull as a whole had much stalagmite on it. The maximum depth of the human bones under the stalagmite was 2 ft. and some of the bones were touching its under surface. Donovan (1955, p. 87) points out that the stalagmite floor sloped steeply down into the fissure. It can be traced today (1974). The top of the

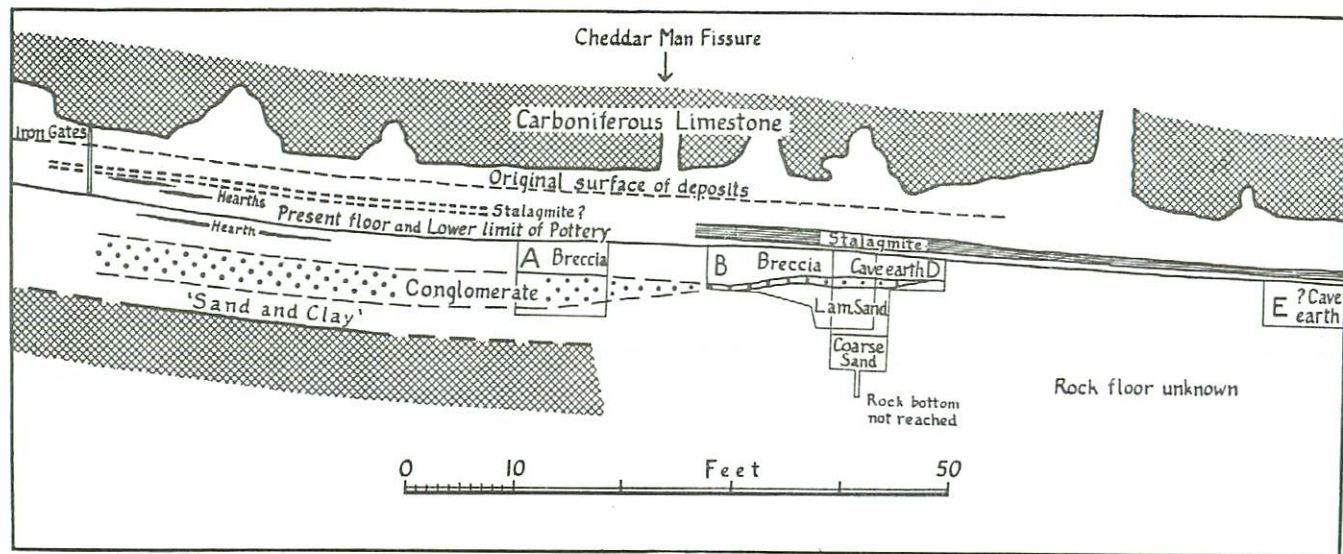


Fig. 3. Diagrammatic longitudinal section along the centre line of Gough's Cave, Cheddar, constructed from all available data and based on accurate levelling. Details of excavations A, B, D and E, which were at the sides of the cave have been projected on to the line of the section. The rock floor is shown as too regular, consequent upon lack of accurate information. [Reproduced from Donovan, 1955, fig. 16].



stalagmite is not more than 18 in. below the rock roof of the fissure at the site of the skeleton. From the top of the stalagmite to the rock floor is 7 ft.

Seligman and Parsons (p. 262) make comparisons with other skeletal material and conclude "in each case the final verdict [on dating] depends on whether the surrounding artifacts are of the same date as the skeleton". Obviously they had some doubts about the alleged relationships.

#### EXCAVATIONS DIRECTED BY R. F. PARRY

R. F. Parry was the agent for the owners and was the first to undertake systematic excavations in the cave. Work started in November 1927. The digging was done in 6 in. layers following down the slope of the deposits. Parry numbered his layers from above downwards. A stratification was established. These excavations have been reviewed by Donovan (1955). Many objects were found. The rest of the skeleton was removed. Unfortunately none of Parry's notebooks can be found and information as to how the rest of the skeleton was lying was not recorded in the subsequent publication. Fortunately a considerable proportion of the flint implements and other objects had their layer number written on them in pencil. The excavation report was quite short. It was amplified by specialists' reports. These included J. A. Davies on the flints, St. George Gray on the artifacts other than flint and Sir Arthur Keith and N. C. Cooper on the human bones other than Cheddar Man. Keith concluded that "some of the skulls show fractures which were probably made when the bone was still fresh".

The human bones, excluding Cheddar Man, fall into two groups. The majority, including all the limb bones, came from layers 6 and 7. The residue includes skulls 1 and 2 of Keith/Cooper (Cheddar 2 and 3 of Oakley) came from layers 10-13. Later on two more bones were found: a mandible (Cooper 1931, p. 57) and part of a right parietal, both from layer 14. (Cheddar 6 and 7 of Oakley). Keith (1924) described three human skulls from Aveline's Hole, Burrington Combe. He found them to represent dolichocephalic, brachycephalic and hybrid types. The first record of the brachycephalic type in Britain in the Palaeolithic. So the statement in Keith/Cooper that the head forms at Cheddar differed "from most of the occupants of Aveline's Hole, which were brachycephalic", is incorrect.

In Parry's (p. 105) table of strata and finds layers 6 and 7 contained Romano-British pottery, 8 contained Iron Age pottery and a few palaeolithic type flint implements. Layer 9 marked the lowest limit of Iron Age pottery, again with a few flint implements. So layer 9 apparently marks the transition from the Holocene back into the Pleistocene. Some degree of disturbance is apparent.

## OAKLEY ON THE HUMAN BONES

Oakley (1955) has catalogued the remains from Gough's Cave and cites references. More recently he and others have included the remains in the "Catalogue of Fossil Hominids, Part II, Europe" (1971). It is convenient to follow the numbering of Oakley *et al* in the brief description that now follows. The numbers in [ ] are those in the catalogue of the museum at the cave, which is No. 1 in the list of sites.

**Cheddar 1** (Oakley p. 22) is *Cheddar Man* [1.1/5-37]. (Pl. 3)

**Cheddar 2** (Oakley p. 24) This is *Skull 1* of Keith/Cooper. [1974, this skull was rediscovered in the museum store and is not lost *teste* Oakley]. Male, aged 20-25 years, layers 12-13. There are at least 9 cutmarks on the left frontal. There is an ancient area of damage on the left parietal. The injured area is about 30 x 20 mm. The part of the depression that remains is filled with red cave earth and stalagmite. The outer plate and part of the cancellous bone have been damaged but the internal plate is intact. The damage was probably done when the bone was fresh. [1.1/4].

**Cheddar 3** (Oakley p. 24). This is *Skull 2* of Keith/Cooper. Child, aged about 3 years, layers 10-11. There are deep cut marks over frontal bone, mainly on the left side, and the central opening was probably made when the bone was fresh. The edges of the hole are coated with stalagmite. There are cut marks on the left side of the occipital running down close to the foramen magnum area. There are patches of red/pink staining, which could be the outcome of natural processes or the colour could have been humanly applied, probably the former. [1.1/1].

**Cheddar 4 and 5** (Oakley p. 24). Layers 6 and 7. These items comprise a number of bones. They were re-examined in 1974. All are in a totally different state of preservation than that of Cheddar 1-3 and 6, 7. They have a uniform appearance, do not appear to have been mineralised and are very light to handle. These features agree with the stratification and the group ought to be regarded as belonging to the Holocene. [not catalogued].

In Keith/Cooper (p. 118) reference is made to these bones and to some limb bones of the lower extremity as being split up "similarly to the bones of animals used for the purposes of food". Donovan quotes this as the bones "had been split in the same way as the *Pleistocene* animal bones, which had been used for food". The context of both renderings implies that the human bones were regarded as being Pleistocene in date. None of the split limb bones is available for re-examination. All seem to have been lost. In my view the stratification of these bones, coupled with the condition of the few extant ones, places them in the Holocene and these bones have no bearing on the habits and customs of the Upper Palaeolithic people in Late Pleistocene times. **Cheddar 6** (Oakley p. 24). Mandible. This is Cooper, 1931, p. 57. Layer 14. Adult about 30 years. Only Rt.  $\overline{M2}$  is standing  $\overline{M3|}M3$  were



congenitally absent, (checked by X-ray examination). All the other teeth, except perhaps Lt PM2 were lost post-mortem when the bone was fresh. All the sockets are sharply defined and filled with calcite and cave earth. The bone is very dark in colour, unlike Cheddar 1, 2, 3. The left ascending ramus has a series of long cut marks on the medial aspect in the area of attachment of the medial pterygoid muscle. The corresponding area on the right side was lost during excavation. [1.1/3].

Cheddar 7 (Oakley p. 25). Adult, right parietal, layer 14. The bone is dark in colour, smooth and shiny, almost polished in appearance. In these respects it closely resembles Cheddar 6 and was probably part of the same individual. Its shape alone precludes it from being most of the missing portion of the right parietal of Cheddar 2. [1.1/2].

There are no limb bones, vertebrae or isolated teeth from any layer below 7.

## THE CHEDDAR MAN

### (Cheddar 1)

Donovan (1955, p. 91) has summed up the evidence, already quoted in this paper, about the deposition of Cheddar Man. He discounted the theory of accidental death by drowning and decided that the skeleton represented a burial. He draws attention to the facial injuries as a possible cause of death and finally notes that "if a burial it must have been made into the upper part of the cave earth, towards the end of the Creswellian occupation. The stalagmite above the cave earth was undisturbed".

The present author is in agreement with these findings. The now known hydrology of the cave and the natural barrier across the mouth would absolutely preclude drowning by "a rushing torrent" (Davies) entering the cave from the gorge and inside the waters rise slowly to form a pond so that there would be ample time for any person in the cave to escape. The rescue excavations outside the cave (Tratman, 1972) provided unequivocal evidence that bones could be washed out of but not into the cave.

The skeleton was in a crouched position with the extremities of some of the limb bones immediately under and perhaps actually touching the under surface of the stalagmite. The original position of the skull cannot be stated nor even the real position at the time of discovery. The totally missing bones are some of the vertebrae, some bones of the hands and feet, especially of the left side. The left tibia is represented by fragments, which included the proximal and distal ends. Much of the bone has been used up in making various tests. It is fair to conclude that most of the missing bones were lost during the initial excavations or subsequently when on exhibition.

The skull shows extensive damage, particularly to the anterior part of the maxillae. All the anterior teeth were lost before stalagmite covered the area. Only the molar teeth on each side remain. There is a fracture of the left

maxilla with slight displacement upwards and backwards. The mandible was not damaged. In all a severe injury to the middle third of the face which occurred during life and not subsequently in the earth. I agree with Donovan that this injury could have been the cause of death.

The mandible was complete except for the right condyle. The left condyle has been lost subsequently to the discovery. Rt.  $\overline{PM1}$   $\overline{PM2}$ , which because the sockets are entirely free of stalagmite, must have been lost during excavation. (Another pointer to unrecorded rough displacement of the skull during excavation). Lt. C,  $\overline{PM1}$ ,  $\overline{PM2}$  all show horizontal grooves at their necks. There is only a trace of a groove on the Rt.  $\overline{C}$ .

On the left frontal there is a long cut mark made when the bone was fresh. There is a longer one on the right. This cut appears as a stalagmite-filled groove in a narrow ridge. This ridge is an artifact produced by removing stalagmite in the area together with a layer of the underlying bone. There is a short cut mark, which is covered with stalagmite, on the temporo-zygomatic surface of the right malar. There are very short cut marks, also filled with stalagmite, near the anterior border of the right temporal bone. There are other types of 'damage' done when the bone was fresh. The hole in the left parietal has been recorded above. In the distal end of the right clavicle [1.1/7], in the dorsal aspect of the right humerus [1.1/8] and in the ventral aspect of the head of the left femur [1.1/34] are irregular hollows with sharp edges. The hollows are filled with cave earth and stalagmite and are ancient. Microscopical examination of thin sections from the clavicle and humerus show that these hollows are not due to infective processes during life, nor to gnawing by rodents when the bones were in the ground. The lesions must have been made by man when the bone was fresh.

The three, not two, phalanges found cemented with stalagmite inside the skull can hardly have got to that position while the skeleton was in the ground. They must have been put inside by man either through the opening in the left parietal or through the foramen magnum.

The lowest placed bones of Cheddar Man were no deeper than 2 ft under the stalagmite. The absence of drawn sections showing the relationship of the deposits in the fissure with those in the main entrance passage makes it impossible to be precise about the lowest level of Cheddar Man but as he was buried this is not very important in the present context. The presumed pit made for the burial would probably have reached the level of layer 9 of Parry.

#### THE FLINTS AND OTHER OBJECTS

In the early 1960s the author, in conjunction with the manager of the caves, the late Mr. Gerald Robertson, compiled a catalogue of the finds in the museum. Special attention was given to the Upper Palaeolithic flint implements. In 1974 the author examined the uncatalogued flint fragments

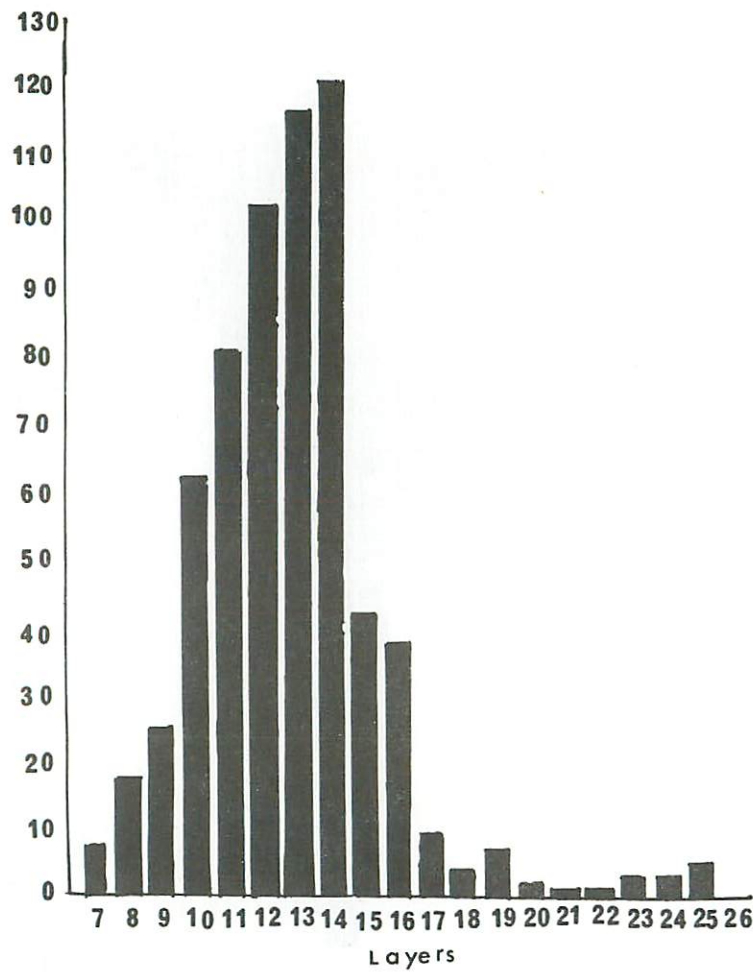


Fig. 4.1. Histogram of layer distribution of catalogued and stratified flint implements.

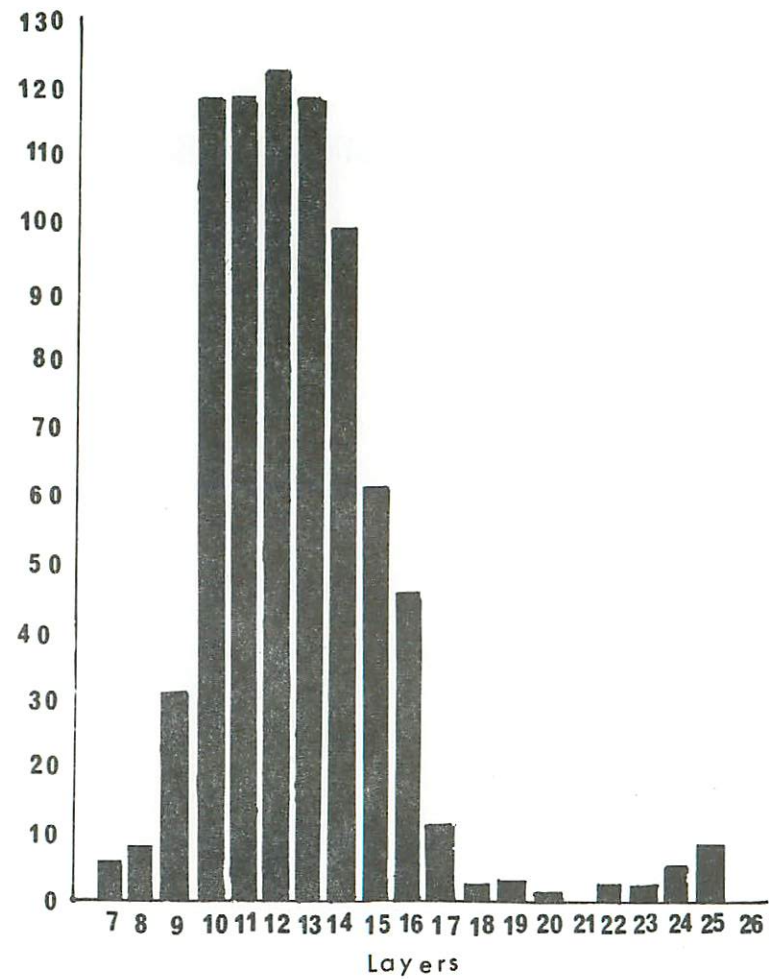


Fig. 4.2. Histogram of layer distribution of uncatalogued but stratified flint pieces.



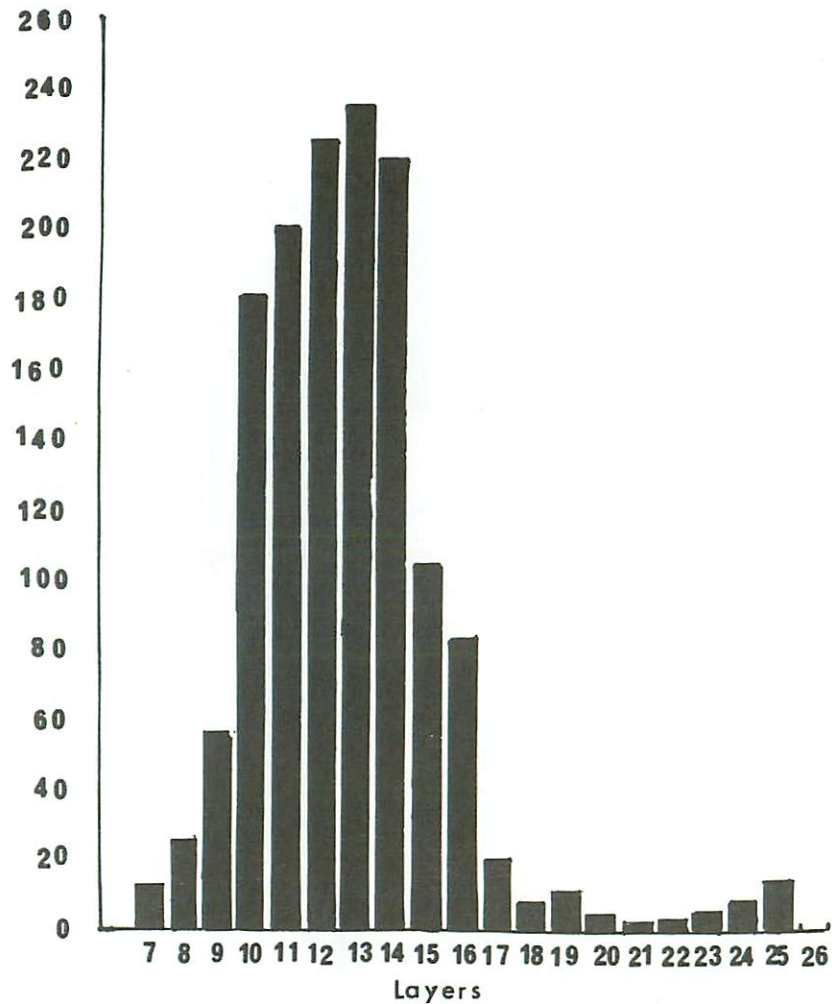


Fig. 4.3. Histogram of combined groups of figs. 4.1 and 4.2.

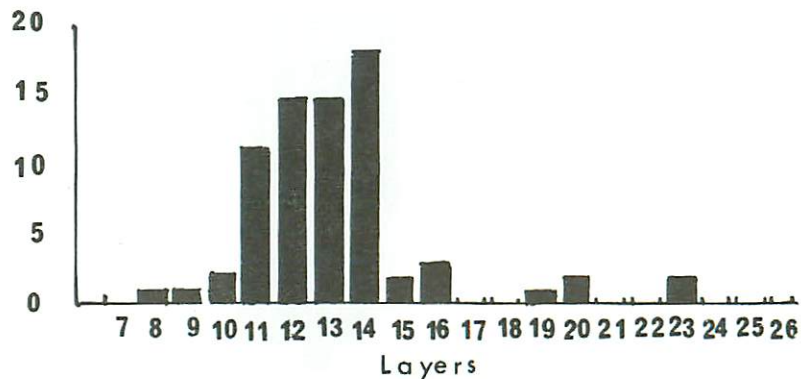


Fig. 4.4. Histogram of layer distribution of bone and antler objects, teeth, amber and sea shells utilised by man and associated with the flints.

in the store. The fragments included a few implements. The vast majority were waste flakes and included many minute pieces. In table 1 a distinction is made between the items bearing layer numbers (Stratified) and those without layer numbers (Unstratified).

Table 1

	Implements Catalogued	Fragments Uncatalogued	All flints
Stratified	644	794	1438
Unstratified	116	1517	1633
Totals	760	2311	3071*
Fig. No.	4.1	4.2	4.3

\* Parry (1931, p. 47) gives a total of 7,000 flints of which 947 showed secondary working, *i.e.* were implements. The discrepancies between the totals in the table and those given by Parry remain unexplained.

A more detailed analysis is set out in the form of histograms in *figs.* 4.1-4.3. The histograms refer only to the stratified implements. There is a remarkable similarity in the forms of the histograms. It is very clear that the main Creswellian occupation took place during the accumulation of layers 10-14. There are indications of a short-lived earlier occupation within the Creswellian but this paper is not concerned with this. *Fig.* 4.4 is the histogram of the stratified objects, used by man, other than the flints. The form is again the same. In *figs.* 4.1-4.3 the column marked 'layer 7' includes a few items recorded from layers 5 and 6.

## DATING

The lowest level of the bones of Cheddar Man is layer 9, even if he was not deliberately buried. This level is considerably later than the main occupation and on this count Cheddar Man is Post-Creswellian. He has a radio-carbon date of 9080 B.P.  $\pm$  150 (Campbell 1970). The main Creswellian occupation has been dated, under grade A3 of Oakley (1964), as contemporary with certain beds in the Brean Down deposits (ApSimon, Donovan and Taylor 1961). The date is given as 9,950 B.P. Perhaps a closer date can be given by comparison with Sun Hole Cave on the opposite side of the Gorge. There bone, A2 of Oakley, associated with a Creswellian industry similar to that of Gough's and with a similar fauna has a radio-carbon date of 12,378 B.P.  $\pm$  150 (Campbell 1970). The Sun Hole material may be slightly older than the Gough's Cave items as there is evidence for hyaena being present.

(This animal was accidentally omitted from the faunal list published (Tratman 1963)). *Hyaena* is not represented at Gough's Cave.

The radio-carbon dates have not been adjusted for the new half-life nor for the Bristle Cone Pine sequence. The dates do agree well for a late date for Cheddar Man well after the main Creswellian occupation had ended. More radio-carbon dates would be welcome to prove or disprove these findings.

In the Creswellian deposits at Gough's Cave there were no burials. The human material included no post-cranial bones but only bones of the head and represented three, or, just possibly, four individuals. The bones had cut marks and other evidence of damage done when the bones were fresh. They were scattered. There is thus the possibility of occasional cannibalistic activities. The absence of post-cranial bones suggest that these activities may have been ritualistic in origin rather than a simple use of one human being by another as a source of food.

The evidence that Cheddar Man was a deliberate burial is overwhelming. It bespeaks a radical change in the philosophy of the people about life and death and the after-life. The change is so complete that it implies the arrival of new people, after the effective end of the Creswellian occupation. These people may well have been, on the dating evidence, the precursors of the Mesolithic influx. There is a possible connection here with the multiple burials that took place at Aveline's Hole, Burrington Combe at the final stage of the use of the cave and immediately before it became closed. The time line for the beginning of the Mesolithic is here taken at the usually accepted date of 8,000 B.C. (9,950 B.P.).

The social habits of Cheddar Man included habitual cleaning of the teeth. Abrasion grooves on the necks of Lt. C, PM1, PM2 indicate a regular to-and-fro movement of the cleaning agent, probably a twig. The mere trace of a groove on Rt. C allows a further deduction that Cheddar Man was habitually right-handed.

#### THE LAMINATED STALAGMITE

Stalagmite deposits are formed in a cave by precipitation of calcium carbonate from thin films of slowly moving water or from direct drips from the roof. This is percolation water transmitted from the surface along joints and bedding planes in the limestone into the cave. But stalagmite will only be formed if the percolation water has a relatively high dissolved carbon dioxide content, because only then will sufficient calcium be dissolved such that a disequilibrium will occur when the solution is exposed to the lower partial pressures of carbon dioxide in the cave atmosphere, (Smart, 1974).

The Creswellian main occupation ended before the cave earth ceased to be deposited. The time sequence represents the final stage of the Pleistocene



when the cold climate was changing to the more temperate and dry conditions of the Pre-Boreal — Boreal. Against this is the seeming paradox of precipitation of stalagmite from an adequate water supply in a drier and warmer climate than when no stalagmite was formed. Under the conditions of the close of the Pleistocene there would be little surface soil and vegetation to supply carbon dioxide. With the advent of Pre-Boreal — Boreal conditions soil would form and sufficient vegetation to provide enough carbon dioxide to the water to allow limestone to be dissolved and be precipitated in the cave as stalagmite. Whether permafrost played any part by preventing penetration of water from the surface is unknown.

The thinness of the laminae suggests little percolation water, which would fit to Boreal conditions. This is not contradicted by the evidence of intermittent flooding for a single storm could produce a flood in Gough's Cave, especially as the openings of the present resurgences were then smaller and less able to cope with a flood pulse.

### CONCLUSIONS

1. "The Cheddar Man" was deliberately and carefully buried as a complete or nearly complete collection of bones held together with sinews and ligaments. Most of the flesh had been removed or allowed to decay by previous exposure of the body. Even loose phalanges seem to have been gathered up and placed inside the skull. The burial was made in a crouched position with the limb bones certainly generally in normal articulation. The position of the skull as originally deposited cannot be determined.
2. The stratigraphy and radio-carbon dates agree and make it clear that there was a considerable gap in time between the end of the main occupation, with its Creswellian industries of flint and bone and art objects, and the burial of Cheddar Man. In this respect he is Post-Creswellian. The people of the main occupation are physically represented by broken and scattered cranial bones only. Their customs included occasional cannibalistic acts, which, because of the absence of post-cranial bones, could have been of a ritualistic nature rather than using their fellows as a source of food.
3. Cheddar Man represents new-comers to the area with new ideas, which included careful burial of the dead without grave goods. There is no occupation level to which Cheddar Man can satisfactorily be linked and therefore the cultural affinities of the new-comers are unknown.
4. Cheddar Man is dated at 9,080 B.P.  $\pm$  150. This would place him certainly in the Post-Palaeolithic, which, on the standard dating, begins about 8,000 B.C. (9,950 B.P.). But as the bones were sealed by the same stalagmite that covered, as a continuous layer, much of the Late Pleistocene/Late Upper Palaeolithic deposits Cheddar Man must

remain as a representative of the very Late Upper Palaeolithic people of southern Britain, but he can no longer be linked to the Creswellian, *sensu strictu*, as a representative of that culture.

5. The laminated stalagmite represents a period of soil and vegetation development sufficient to provide enough carbon dioxide to enable surface water to become acidic enough to dissolve limestone as the water percolated through the rock and to precipitate it as stalagmite. The precipitation does not imply increased rainfall.

#### ACKNOWLEDGEMENTS

The author is in debt to Professor D. T. Donovan for the data contained in his 1955 paper. It would have been impossible to produce the present paper without that data. This is all the more important because changes made in the entrance passage since 1955 have almost destroyed the evidence of the stratification noted by Donovan. The 1974 paper by Mr. P. L. Smart has provided an explanation for the formation of stalagmite under Boreal conditions and I am glad to have had the opportunity to discuss this archaeologically important matter with him. To the management of the caves I am grateful for their help over access to the cave and to the contents of the museum.

#### REFERENCES

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Plate 1a. The old cottage at the foot of the scree slope up to Gough's Old Cave and The Slitter.

Plate 1b. Flood of August 1930. The level of the top of the waterfall was the level to which Gough had excavated the talus ridge. Behind, inside the cave, there was a deep pool of relatively still water.





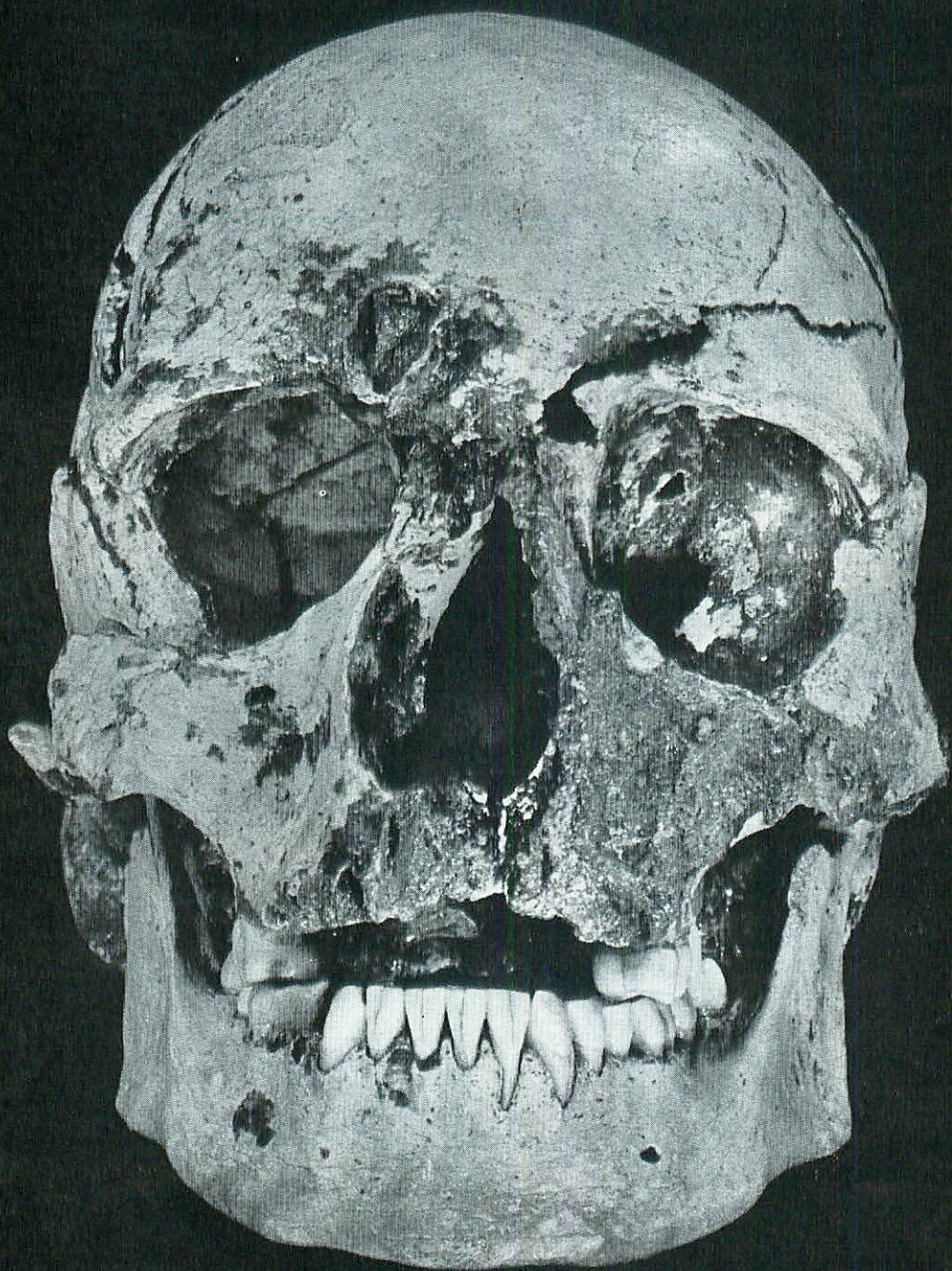


Plate 2. Cheddar Man. (*Norma facialis*).