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ICE AGE MAN ON MENDIP: OLD FINDS IN NEW CONTEXTS

by
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ABSTRACT

The development of thought in Pleistocene and Palaeolithic studies as it affected work in the Mendip area in the period 1919-1969 is briefly traced and the way in which recent developments in the fields of Pleistocene stratigraphy and chronology threaten conventional accepted schemes is discussed. Some implications for the Palaeolithic archaeology of the area are also noted.

INTRODUCTION

This paper stems from an address given at the Society's 60th anniversary meeting on 17th March, 1979. That occasion was overshadowed for us by the death, in the previous August, of our greatly loved former President, Professor E. K. Tratman. The choice of topic for the lecture was made for me by my recollection of my last conversations with 'Trat' in hospital, a few short weeks before his death. We talked, among other things, about the interpretation of the human skeletal finds from Aveline's Hole, the site at which the Society's work had begun, 60 years ago, and where he himself had worked. Though weak his mind was clear and he was as ready as ever to consider new ideas. I therefore looked at some of the Pleistocene and Palaeolithic sites from the Mendip region to see how our views of them and their associated finds had changed in the six decades of the Society's existence and Tratman's work with it.

Since I am preparing reports on two Palaeolithic sites excavated by the Society, this review may serve to outline (for the benefit of those who find that the pace of research confronts them with a bewilderingly changing landscape in which even the most familiar markers have changed names or places) the current framework of interpretation and hypotheses within which such sites have to be fitted.

THE ICE AGE IN 1919

In 1919, when the Society took up excavations at Aveline's Hole begun before the Great War, among those lecturing to the Society (Shaw, 1969, Fig. 3), were Reginald Smith of the British Museum, Miles Burkitt of Cambridge University and Professor Boyd Dawkins, the veteran of the Hyaena Den excavations at Wookey Hole 60 years before. The golden jubilee number of Proceedings shows us a picture of Prof. W. J. Sollas, then one of the leading authorities on the Palaeolithic

period, and R. R. Marett, excavator of the Grotte de Saint Brelade in Jersey, among a party lunching at the Society's field headquarters during a visit to see the excavations at Aveline's Hole. At that time the Society must have been in close touch with current thought on matters Palaeolithic and Pleistocene. The flavour of this can be caught from Sollas' book *Ancient Hunters*, first published in 1911, or from Marcellin Boule's *Les Hommes Fossiles*, first translated into English in 1923.

For Sollas in 1911, the Ice Age was already a period divided by oscillations of climate, with the scheme of four Alpine glacials represented by river terraces linked to moraines, and four genial periods, as developed by Penck and Bruckner's 'Die alpen in Eiszeitalter' (1901-9), even though the familiar names, Gunz, Mindel, Riss and Würm, were not yet used and only one Alpine interglacial had been recognised. This view was still not universally accepted, indeed one remembers the distinguished palaeontologist, Martin Hinton, for many years a member, who remained a life-long monoglacialist, a view which indeed could seem plausible in the lower Thames valley, reached by the ice only once, where Hinton's early work was done. In 1911 Sollas felt able to place Chellean, Acheulean, Mousterian and Magdalenian in this scheme and to take account of Breuil's work on the subdivisions of the Upper Palaeolithic in France, though on the chronological side he could do no more than suggest, rightly, that the last Upper Palaeolithic stage did not last more than 24,000 years. In the 1924 edition there were three Pleistocene glacials and Sollas could suggest a duration of either 3-400,000 years or 1,500,000 years, a good estimate as it turns out, for the Pleistocene and Recent periods. Boule, in 1923, favoured the shorter chronology, though he noted that some authorities favoured an even shorter one with the Chellean no more than 60,000 years ago. Boule's placing of the Acheulean in a 'Great Interglacial' between the Rissian and Würmian glaciations, which was generally acceptable in England, where most Acheulean finds post-dated the Chalky Boulder Clay, was to lead later workers in France to attribute Swanscombe Man to the last interglacial, a view which still survives there among some scholars. Perhaps the best evocation of the thought of this period as it affected work on Mendip is to be found in the pages of H. E. Balch's popular books about the Mendip caves (Balch 1929; 1935; 1937).

Although Sollas had been Professor of Geology at Bristol University, *Ancient Hunters* makes no mention of Palaeolithic sites on Mendip, not even in the 1924 edition, despite the 1919 lunch party. It was left to Dorothy Garrod (1926) to make the Upper Palaeolithic sites of the Mendip more widely known. Though in subsequent years workers as diverse as Breuil, Lacaille, Bohmers, McBurney and Oakley commented on material from the area or published reports on particular sites, the only substantial synthesis has been that by John Campbell (Campbell, 1970; 1977). Apart from this and from site reports in Proceedings, one of

the most useful contributions has been Donovan's bibliography of Quaternary literature covering the Mendip, Bath and Bristol areas (Donovan, 1954; 1964), brought up to date by Hawkins and Tratman (1977). This last paper contains a table (Table I), showing relevant Quaternary terminology as well as a tabulation (Table II) of the then accepted divisions of the Quaternary, and thus makes a good starting point for an examination of the way in which the framework which had been developed over the preceding 60 years had suddenly begun to show signs of disintegration and collapse. (Detailed references to local sites will be found in this bibliography and are not repeated here.)

THE ICE AGE IN 1979

Radiometric dating

The most important development in the field of Palaeolithic archaeology in recent years has been the elaboration of a chronology for the Pleistocene based on radiometric dating methods which supersedes the old reasoned guesses. Unfortunately the absence of Pleistocene volcanic activity in England rules out the use of Potassium-Argon dating for the Early and Middle Pleistocene in our area. Uranium dating applied to animal bone has produced some tentative dates for Lower Palaeolithic sites, such as Clacton and Swanscombe, which are of Middle Pleistocene age, and applied to calcite from flowstone deposits has given dates which suggest that the formation of caves such as G. B. Cavern, dates back at least to the Middle Pleistocene (Atkinson et al., 1978), though without telling us anything about the dating of archaeological remains from the area. In southern England a detailed chronology cannot as yet be extended back beyond the limit of Carbon-14 dating, roughly the last 50,000 years, though development of the 'milligramme method', based on use of laser enrichment of ^{14}C and mass spectrometry, promises to double this range in the very near future (Hedges and Moore, 1978).

The Sequences

The sequence as summarised by Hawkins and Tratman (1977, table I) was essentially similar to that set out by Sollas except that British names for cold (glacial) stages, - Anglian, Wolstonian, Devensian, replaced the once familiar Alpine names, - Mindelian, Rissian, Würmian, as well as their presumed equivalents in north-west Europe, Elsterian, Saalian, Weichselian. The sequence of interglacials remained essentially the same except that the names, - Cromerian, Hoxnian, Ipswichian, replaced the old names - Gunz-Mindel, Mindel-Riss, Riss-Würm.

A generation of work on fossil pollen from Pleistocene deposits had seemed to confirm this sequence, since even though one cold phase was very much like another, it seemed that the pattern of forest development

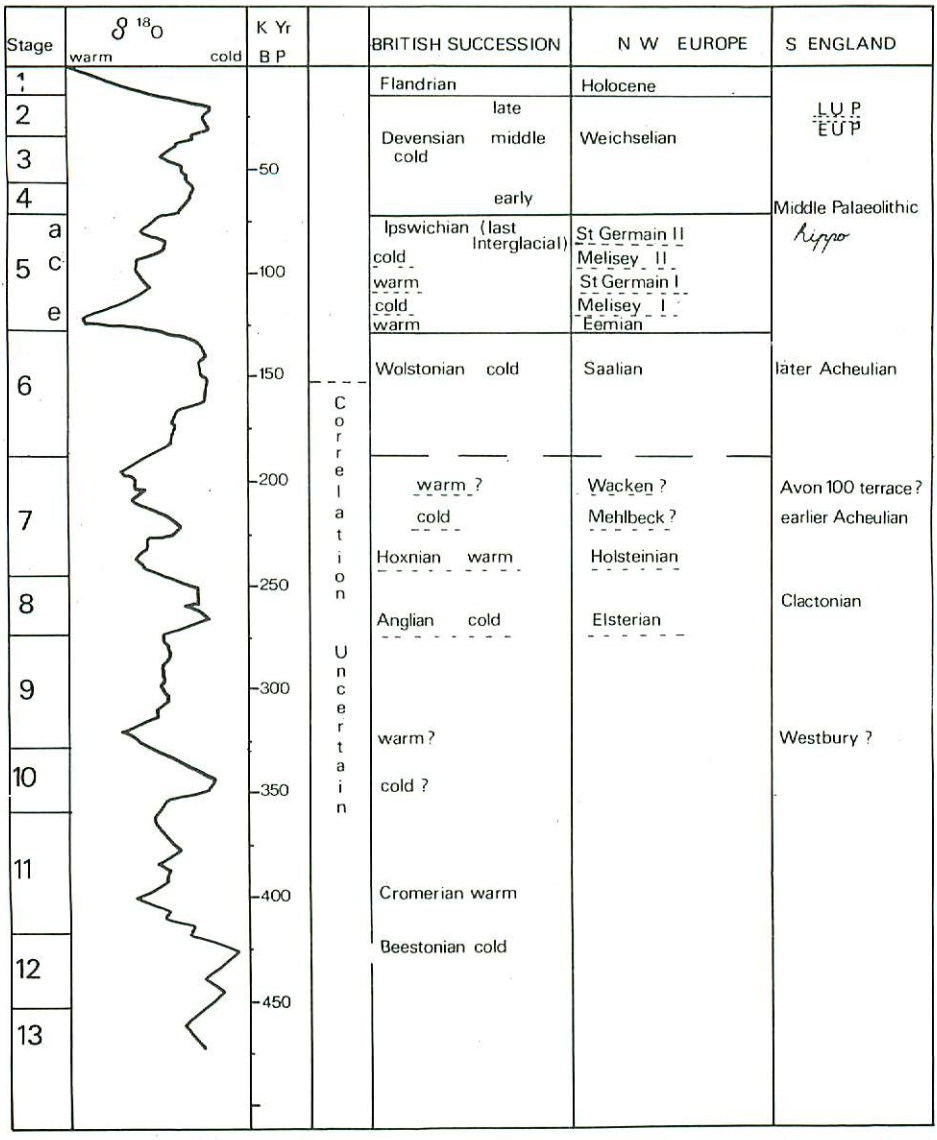

Fig. 21 Quaternary terminology and correlation. The oxygen-isotope curve and dates are based on Hays *et al.*, 1976, fig. 9. For recent discussion see Shackleton, 1977. For the N.W. Europe column, see particularly, Woillard, 1978; Bowen, 1979. The major climatic cycle of *c.* 100,000 yr duration visible in the $^{18}0$ curve correlates with variation in the eccentricity of the earth's orbit.

in each interglacial was different, so that it was possible, though not always without some difficulty, to assign all pollen-bearing deposits of temperate character from England which were of Middle or Upper Pleistocene age to one of the three known interglacials. Probably most workers believed in the soundness of the correlations between the British, the north-west European and the Alpine sequences: - Devensian = Weichselian = Würmian, Wolstonian = Saalian = Rissian, etc., though such confidence ignored the fact that at almost all sites only part of an interglacial cycle was represented and that only one or two were part of a long securely stratified sequence.

Temperature variations within the Sequences

Doubts about the validity of this simple scheme have been growing for some time. They arose first from the curves of oceanic palaeotemperatures derived from measurement of the oxygen isotope ratios in the tests of Pleistocene foraminifera preserved in deep sea floor deposits. These curves (Fig. 21) showed a saw-toothed alternation between warm and cold that contrasted markedly with the conventional picture of long uniform periods of cold or warm. This contrast was foreshadowed by the indications of continuously fluctuating solar radiation in the curves calculated by Milankovitch (Zeuner, 1959) and by evidence of climatic fluctuations (interstadials) within cold phases.

Concrete evidence that reality was far more complicated than the traditional scheme came with the recognition that what for Zeuner had been one or two interstadials within the penultimate glacial stage (Saalian, s.l.) of north-west Europe, were really interglacials with temperate forest floras, and with the subsequent recognition of two or three distinct interglacials within the Cromerian - Elsterian stages in eastern Germany (e.g. Erd, 1970). These lines of evidence led to renewed interest in Milankovitch's mechanism (e.g. Kukla, 1975), which postulated that climatic change was caused by changes in the intensity of solar radiation received on earth resulting from periodic changes in the earth's orbit. The principal obstacle to previous acceptance of this mechanism had been that the theory seemed to require a long lag between change in intensity of radiation and change in temperature. Recent studies suggesting that variations in insolation in the Northern Hemisphere in October-November have a strong and direct effect on the Earth's surface temperature, remove this obstacle and allow us to accept the good correlation apparent between the palaeotemperature curves derived from Milankovitch's work and radiometrically dated climatic sequences covering the last 125,000 years (Hays *et al.*, 1976). The indications are that in place of the three interglacials of the traditional scheme there have been at least 10 changes from glacial to interglacial climate within the 850,000 years or so of the Middle and Upper Pleistocene (Kukla, 1977). Even more upsetting than evidence of greater complication is evidence that all is not well with some of the basic

elements of the older scheme, for example that the evidence of the localities by which the Alpine glacial stages were defined has been shown to be misleading, so that the very names Gunz, Mindel, Riss and Würm will have only symbolic value until new type localities can be agreed (Kukla 1977). In the end we are reduced to the deep sea oxygen isotope curves as providing the only sure climatic sequence, followed by deeply stratified loess sequences and deep lake beds.

The earliest Mendip evidence

The implications of these changes for Pleistocene and Palaeolithic sites in the Mendip area are considerable. The presently oldest known archaeological site, the quarry at Westbury on Mendip (Bishop, 1974, 1975) has yielded flint artifacts from the filling of a cave at least 30 m. deep exposed in the quarry working, whose infilling is likely to be older than the erosion of the valleys flanking the Mendip plateau. Of those implements figured by Bishop (1975), Fig. 2a is a flake, Fig. 2b is a bifacially flaked chopper which could be Clactonian, and Fig. 2c is an ovate biface which is, as Oakley has pointed out, more elaborately worked than any Clactonian implement and so suggestive of a very early Acheulian. The fauna from the site has been called late Cromerian, and one bed at least indicates interglacial conditions, so that the site may date in part from one of the little known interglacials in the period between the Cromerian and the Hoxnian.

There is no other deposit in the area which is likely to be as old as this, unless it is the gravel deposit at 80 m. O.D. on the south slope of Bleadon Hill (Findlay, Hawkins and Lloyd, 1972) which has been thought to be possibly of fluvioglacial origin, although its morphology suggests that it might be a bay bar, either of an ice-dammed lake or of a marine beach. The presence of unweathered glauconite in the calcrete matrix of the deposit rather favours the latter possibility but the age of the deposit remains unknown. Nor are there other finds of Clactonian or Acheulian artifacts from the Mendip region. This is no surprise as most such finds come from major river valleys or from old shorelines. In fact there are no other sites which can be shown to be older than the glaciation, of which evidence was found by Hawkins and Kellaway (1971) in the Clevedon-Kenn area, and which has been thought on geomorphological evidence, notably of Rickford Coombe, to have reached as far as the north side of the Mendip Hills. The age of this glaciation is also uncertain. It is presumably older than the 100 ft. terrace of the Avon at Shirehampton (bedded sand and gravel seen in situ at c. 29-33 m. O.D. - ApSimon and Boon, 1969), from which a number of Acheulian handaxes have been recovered and which is probably of about the same age as the higher fluvioglacial terraces of the Severn, which are probably Wolstonian. The glaciation must also be older than the marine deposits of the Gordano valley and the low raised beaches of the Clevedon - Weston-super-Mare area. These have gen-

erally been attributed to the Last Interglacial, but as we shall now see recent developments make this attribution very doubtful.

The Last Interglacial

In England the Last Interglacial has been thought to be represented by the Ipswichian Interglacial (West, 1969), generally equated with the Eemian Interglacial of north-west Europe, and evidence has been brought forward suggesting that the sea reached about 7-8 m. above present level during this period. Kukla (1977) has however expressed doubts about the position and status of the Eemian on the continent, while Sutcliffe (1976) has pointed out that deposits in the lower Thames valley attributed to the Last Interglacial contain three quite distinct mammalian faunas, and for a long time workers in certain areas, notably Devon and Cornwall and southern Ireland have suggested that the +7-8 m. sea-level was older than the last interglacial.

New light has recently been shed on this problem by the work of Mlle. Woillard on the pollen analysis of 19 m. deep deposits in an old lake basin at the Grande Pile site in the Vosges. Her diagram (Woillard, 1978) shows an essentially continuous sequence ending with Holocene deposits, below which are deposits of the last glaciation, with confirmatory radiocarbon dates of 29,000 and 36,000 B.P., in which early and middle last glacial interstadials are apparently recognisable. Below these are three successive complete cycles of interglacial forest development, each beginning with cold, open conditions, progressing to temperate broad-leaved forest and returning finally to open condition with the return of cold climate. The two intervening periods, though short, show evidence of very cold climate. Beneath these again the deposit shows evidence of an earlier glaciation and the floor of the basin was composed of glacial moraine (Fig. 22).

The implications of the Grande Pile site go beyond previous suspicions that the last interglacial might be divided into two or three sub-stages, since there it is the earliest of the three interglacials which shows a complete sequence with the features diagnostic of the typical Eemian, including the continuous presence of *Abies* (Silver Fir), whereas the two later interglacials, though fully temperate, so that they cannot be equated with the Brörup and Amersfoort interstadials of early last glaciation age, lack these diagnostic features. This immediately puts a query against the correlation of Ipswichian interglacial sites in England with the Eemian, since these generally lack *Abies* and all present only incomplete sequences. The same query must apply to the archaeological material attributed to this stage.

The doubts about the high sea-level of the last interglacial are confirmed by stratified cliff sections on the north coast of Brittany, such as those of Nantois, Pléneuf (Monnier, 1973) and Port-Morvan, Planguenoual (Monnier, 1973, 1974, 1976), which show that the 5-7 m. sea level is separated from the deposits of the last glaciation by at least

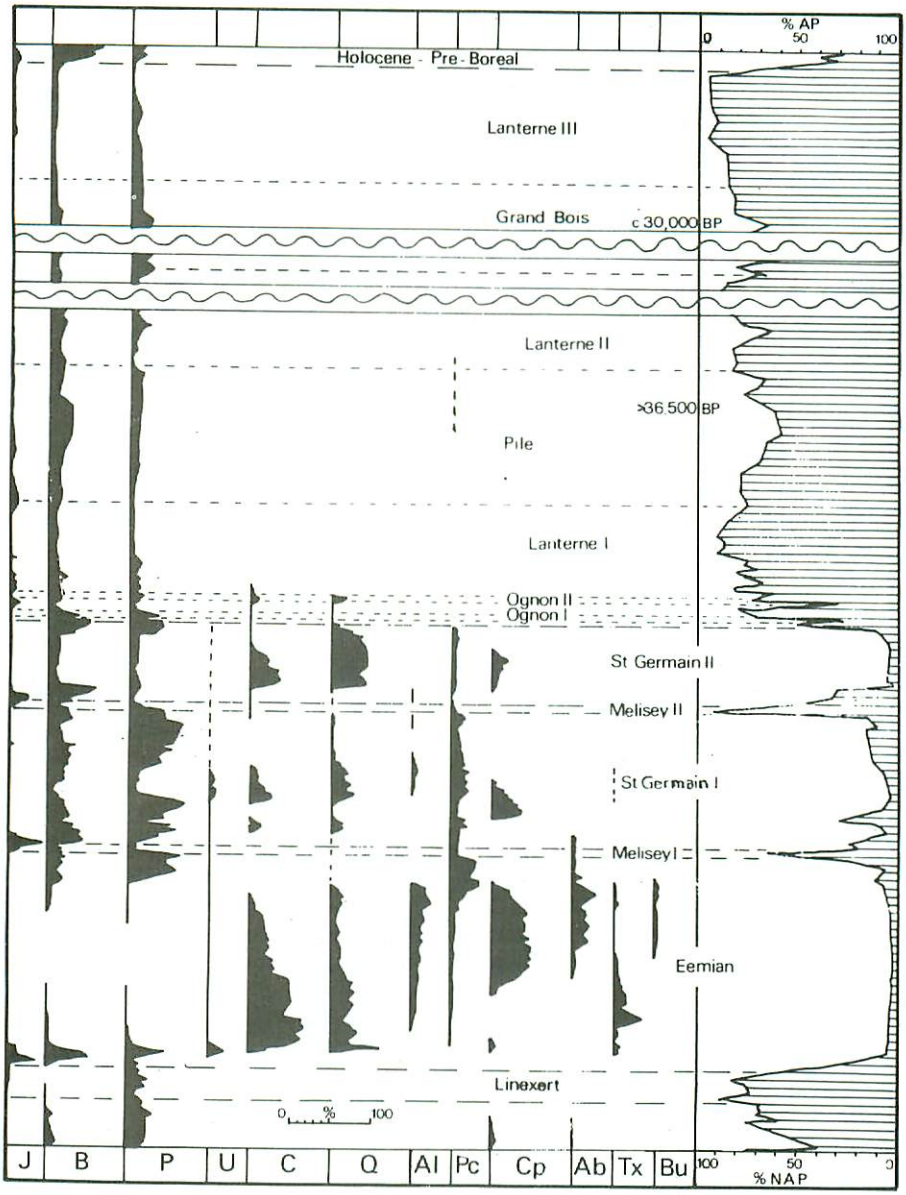

Fig. 22 Pollen diagram from Grande Pile, St. Germain, Haute Saone, redrawn from Woillard, 1978, Fig. 3-3E, showing the two interglacials, St. Germain I and II, between the Eemian Interglacial and the Lanterne (Last) Glacial. The Ognon I insterstadial level contains volcanic grains and may correspond to the Brörup (Chelford) interstadial. Key: AP Arboreal Pollen, NAP Non-Arboreal Pollen, J *Juniperus* (Juniper), B *Betula* (Birch), P *Pinus* (Pine), U *Ulmus* (Elm), C *Corylus* (Hazel), Q *Quercus* (Oak), Al *Alnus* (Alder), Pc *Picea* (Spruce), Cp *Carpinus* (Hornbeam), Ab *Abies* (Fir), Tx *Taxus* (Yew), Bu *Buxus* (Box). Percentages are total pollen grains sum.

two periods of cold climate and two intervening periods of interglacial climate in which the sea level rose only to about or at most 1 metre above the present level. Sutcliffe (1976) has pointed out that this is corroborated by the Hippopotamus finds from Ravenscliffe Cave in the Gower, in deposits which would have been washed out of the cave had the sea risen 2 m. above the present level. This must mean that the lower raised shorelines of the Weston-Clevedon area, +5 m. at Middle Hope (Gilbertson and Hawkins, 1977), +3 m. and +6-7 m. at Brean Down, +7-8 m. at Birnbeck Cove, and +6.7-7.9 m. at Weston-in-Gordano, together with the Burtle Beds, which reach +7-+9 m. (Kidson and Haynes, 1972, Kidson et al. 1974), must be older than the last interglacial. A number of uranium-thorium dates from widely dispersed localities suggests an age of around 125,000 years for a sea level of around +7.5-8 m., corresponding to the Barbados III coral reef terrace. This has been correlated with stage 5e of the generalised oxygen isotope curve of Emiliani, and with the classical Eemian interglacial, leaving the less warm sub-stages 5c and 5a to be correlated with the two post-Eemian, pre-last glaciation temperate periods recognised by Woillard, though these correlations are really no more than speculative (cf Bowen, 1979).

The evidence from Brean Down

Of the local sites, it has been suggested by Sutcliffe that the fauna from Hutton cave might be of Ilford, = Eemian ?, age, whereas the sites whose fauna includes Hippopotamus, —Durdham Downs, Milton Hill, Alveston and Rhinoceros Hole, —may belong to the last interglacial. Though no interglacial horizon was recognised at Brean Down, these conclusions are important for the dating of the section there. In the original publication this was influenced by the then current belief in an early last glaciation sea level of +3 m., so that the deposits were assigned to the Main and Late Devensian, The main archaeological interest of the site centred in layer 11A from which humanly worked bone and antler was recovered, indicating the probable presence of a Palaeolithic archaeological site. This layer was initially attributed to the Allerod Interstadial of about 11,000 B.P., but changing opinions on the dating of sea-levels suggested that it might be of middle Devensian age, in the range 25-35,000 B.P., as its periglacial-steppe fauna, including mammoth, horse and reindeer, might suggest. This idea is reinforced by Campbell's suggestion (Campbell, 1977) that layer 9, the Main Sand, might represent the maximum cold of the Late Devensian, about 19,000 B.P. An attempt to date bone from layer 11A failed because there was no collagen left in the bone. It remains possible that the layer is older than has been thought, possibly representing an Early Devensian interstadial around 60,000 B.P., in which case the site would be a Middle Palaeolithic one, but there is no evidence of interglacial conditions, even though it is possible that the upper part of the layer has been removed by erosion (Fig. 23).

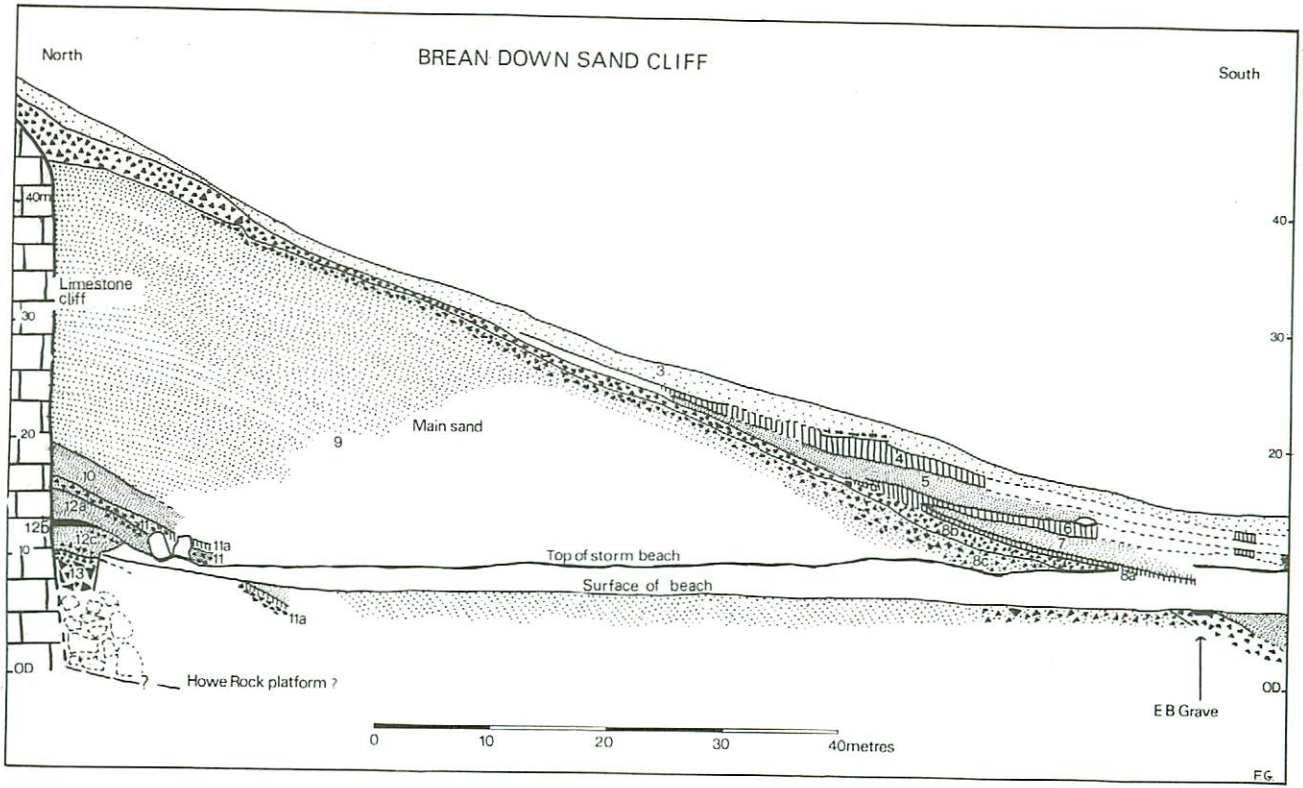

Fig. 23 Brean Down Sand Cliff. Section re-drawn from ApSimon *et al.*, 1961, Pl. 11. Layer 3, Dark Age; 4, Middle Iron Age; 6, Early-Middle Bronze Age; 8A, Holocene soil; 8B-C, Upper Breccia; 10, Silty Sand; 11A, Bone Bed; 11B, Middle Breccia; 12A, Sandy Loam; 12B, Silty Clay; 12C, Clayey Silt with Breccia; 13, Lower Breccia.

It would be of great interest to excavate layer 11A where it passes below the present beach in the hope of finding the palaeolithic site hinted at by the bones from the sand cliff. It is likely that the slope of this layer flattens out southward and that it is there that the centre of the site will have lain, perhaps 30 m. south of the limestone cliff, but most probably buried beneath 5-6 m. of unconsolidated and water saturated deposits, which have so far frustrated attempts at excavation.

A possible break in the sequence of deposition at Brean is indicated by the reddened zone at the top of layer 13, at about the level of the present beach, which might be the result of erosion by the sea in the last interglacial. If so, the rock fall constituting layer 13 might date from the cold interval before the last interglacial. The under-lying rock platform (Howe Rock) which at the end of the Down is seen at about 0 m. O.D., but which may be higher at the Sand Cliff, may mark the regression of the sea after the preceding temperate period, to which the traces of the 1-2 m. shoreline, seen on the cliff against which the deposits are banked, might date. In any case this cliff explicitly truncates the +5-7 m. shoreline, presumptively of Eemian age, so that the whole sequence must be younger than this. Comparison between the Brean section and that at Holly Lane, Clevedon (Gilbertson and Hawkins, 1974), the whole of which is attributed to the Devensian, shows close correspondence between Brean Layer 12c, samples 0 and 1, a clayey silt, and Holly Lane, Unit 3, though this has less clay and more sand. The following correlation, essentially similar to our 1961 correlation is suggested:

Brean	Holly Lane
Layer 8B - 10A	Unit 12 - 7
Layer 10B	Unit 6
Layer 11B (breccia with boulders)	Unit 5 (breccia with boulders)
Layer 12A	Unit 4
Layer 12C (clayey silt)	Unit 3
Layer 12C (breccia)	Unit 2
Layer 13	no equivalent?

The shorelines at about 15 m. and 35 m. above present H.W.M. visible on the south face of the Down are also older than the limestone cliff. There is evidence to suggest that the higher level may be of Hoxnian age on the south coast of England.

Hyaena Den

Tratman's further work at the Hyaena Den (Tratman et al., 1971) and adjacent Rhinoceros Hole, at Wookey Hole, has allowed Boyd Dawkins's old finds to be put into context, with a Middle Palaeolithic group in the Early Devensian and an Early Upper Palaeolithic group in the Middle Devensian. His discovery of a small Mousterian biface on the edge of a stream channel at Rhinoceros Hole, probably abandoned at the end of the last interglacial, is worth note.

Picken's Hole

Tratman also worked for several years, together with the author on the site at Picken's Hole, Compton Bishop (Tratman, 1964). This site showed a sequence of six stratigraphic units, of which the fifth was a reddish clay loam containing a fauna suggesting boreal forest environment. At this time the site seems to have been frequented by foxes and wolves, and bear and deer bones were among the commonest finds, but there was no sign of human activity. This unit, which may date from an Early Devensian interstadial, was separated by an overlying frost shattered layer from unit 3, a sandy silt more than a metre thick. During the formation of this unit the site was frequented by hyaenas and the remains, virtually only teeth and scraps of bone, are typical of hyaena den accumulations. Horse, Woolley Rhinoceros, Mammoth and Reindeer are among the fauna, which suggests an open periglacial steppe-tundra environment, for which a radiocarbon date of 34,000 B.P. suggests an attribution to the Middle Devensian. Man is represented by two teeth and by about 40 artifacts from near the base of the unit. The artifacts include a sandstone hammer stone, chert flakes, and flint flakes from a single flint core, a fragment of a disc core and a trimming flake which might be from a Middle Palaeolithic biface or from an Early Upper Palaeolithic leaf-point. The radiocarbon date is from a horizon above the artifacts, which are presumably rather older, one might guess around 36,000 B.P., which is getting very old for Upper Palaeolithic. It may be that we are dealing with traces of a final Middle Palaeolithic of a type transitional to the Upper Palaeolithic.

Pollen analysis and the Early and Late Upper Palaeolithic

The greatest advance in work on cave sites has been due to Campbell (1977). His most noteworthy success was the recovery of pollen from stratified sequences in Mendip caves, which despite certain methodological problems seems to give an outline of the sequence of vegetation in the area during the Devensian. His work enabled him to distinguish two stages in the Upper Palaeolithic, an Earlier Upper Palaeolithic (E.U.P.), which seems really to be a kind of Aurignacian with leaf-point spearheads, some unifacially worked (ex-Proto-Solutrean) and some bifacially worked (ex-Solutrean), and a Later Upper Palaeolithic (L.U.P.) which takes in Dorothy Garrod's Creswellian, and the once popular supposed local variant, the Cheddarian, a name which can now be laid decently to rest. The E.U.P. dates from the Middle Devensian between about 29,000 and 23,000 B.P. and is separated from the L.U.P. by a gap, during which England may have been uninhabited, corresponding to the maximum extension of the Devensian ice sheets around 17-20,000 B.P., when ice reached the present vicinity of Cardiff and Swansea, though our region was free from it.

The Badger Hole at Wookey and Soldier's Hole at Cheddar show E.U.P. stratified below L.U.P. The main finds at Soldier's Hole were

broken leaf points probably discarded by a party of hunters who need have stayed in the cave for no longer than was needed to replace the broken spearheads with new ones. The E.U.P. sites lie on the fringe of the Mendips. None of them - Soldier's Hole, Wookey, Uphill (Harrison, 1977), possibly Brean Down and Picken's Hole, - has yielded more than a handful of implements, so that it is not likely that any one of them was a base site, as Campbell suggests. More probably they are placed to take advantage of two zones, the Mendip upland and the Lowlands, now buried beneath the Somerset levels, which it may be suggested bury the real base sites, from which implement counts numbering hundreds or thousands might be expected.

The L.U.P. represents a resumption of occupation at a time when the ice sheets had already shrunk considerably. The L.U.P. flints from the Society's excavations at Sun Hole are among the few radiocarbon dated finds from England, and their date, at c. 12,400 B.P. is among the oldest for the L.U.P. The deep section through the deposit at Sun Hole is of great interest, with its L.U.P. finds near the top and the implication that the base of the deposit may date back to the last interglacial. Tratman was working here in 1976 and there is still work to be done on the site.

Of the other sites, Gough's Cave yielded the largest stratified L.U.P. assemblage from Britain, but although Donovan (1955) was able to clarify the outlines of the stratification, the inadequate recording of the original excavations means that the successive stages in what must have been a long occupation or a succession of distinct occupations cannot now be studied. Aveline's Hole has generally been considered a very late site, possibly transitional to Mesolithic, but the inadequate publication of the Society's excavations there and the wartime destruction of records and specimens makes any objective assessment very difficult. The radiocarbon dating to the Holocene of both Cheddar Man (Tratman, 1975, 1977) and human material from the black layer at Aveline's Hole has clarified matters somewhat by making it clear that these remains are Mesolithic and not Palaeolithic, at the cost of leaving only the supposed ceremonial burials from the cave earth at Aveline's to represent L.U.P. human remains in the area. In fact the status of even these remains is not certain, and if one leaves on one side as uncertain in age the skulls from Flint Jack's Cave (Oakley, 1958), this redating of the material from Mendip means that there is now no substantial series of human remains to represent the L.U.P. population of England and Wales as a whole.

CONCLUSION

This paper, like the lecture on which it is based is no more than a sketch, in which I have tried to show something of how our compre-

hension of the Ice Age and human activity during it within our area has widened during the last 60 years. To some extent we may seem to be running to stay in the same spot, as old certainties and simple truths dissolve and we come to realise how complex the past was. In reality we do know and understand more now, even if we also begin to realise how little we know and how much more there is to understand.

To some extent the original lecture was concerned with the future of the Spelaeological Society and of its library and valuable museum collections, not considered here. Inevitably, when a society such as ours mourns the loss of someone such as Trat, who had been a leading spirit in its activities during the whole of its existence, it is hard to be optimistic about the future. Happily there are more than a few members active in the fields covered by this paper who are concerned for the Society's future, and if new workers come forward there is every reason for optimism. One thing is certain, we are only at the beginning of our study and perhaps only the easiest and most obvious sites have been found or dug.

ACKNOWLEDGEMENT

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