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LEAF-POINTS AND THE BRITISH EARLY UPPER PALAEOLITHIC

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Perhaps because of its geographical position on the western margin of the North European plain Britain has received relatively little consideration in most discussions of the European Early Upper Palaeolithic. Indeed, from one recently published map it might be believed that there was none! This is curious since find-spots of the so-called leaf-points with which this conference was concerned, appear far more numerous than further eastwards on the North European plain and closer to the areas from which most of the participants came (see Kozlowski and Kozlowski, 1981, Fig. 1).

Why this should be is not entirely clear. It could be that the hunters who used such leaf-points found the area of what is to-day Britain particularly rich in game. It could be, however, that more has survived the effects of the last ice-advance, or it could simply be that contents of our public and private collections have been more assiduously researched. Whatever the reason, it is clear that much of England and Wales was visited by users of leaf-points and at a time equivalent to what on the mainland has been termed the Interpleniglacial and in Britain the Middle Devensian (West, 1977).

Blade-points

The majority of British leaf-points take the form of what I will here call blade-points (cf. pointes lamellaires : Chmielewski, 1961). These are what other workers have termed Jerzmanovice points (Bordes, 1968, p. 183). They represent an effective adaptation to obtaining straight weapon-heads (mono-points) in an area where un-flawed raw-material most often comes in irregular blocks (nodules) and where thin tabular flint (Plattensilex) is both rare and usually of uncertain quality.

As the name implies, they are made on blades (Fig. 1). These are true blades (lames vraies) with more or less parallel margin and dorsal scar pattern (Bordes, 1961, p. 6). In almost all cases the blades selected for their manufacture came from cores which possessed a pair of opposed striking-platforms. Such cores, by being worked from both ends, enabled the knapper to by-pass flaws or correct for previous failures more easily than if worked from just one end.

Most points possess a triangular cross-section and a clearly defined dorsal mid-line. While the outlines of those points for which any substantial length survives clearly taper at both ends one extremity usually appears more pointed than the other. This characteristic may allow identification of tip and butt.

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Surface chipping tends to be localized on the ventral face and is frequently limited to the extremities. Its aim was to eliminate the natural curvature of the blade, so that when hafted it would form a natural extension to the line of the shaft. Dorsal fluting along the mid-line was sometimes used to thin one end as an aid to hafting.

Damage patterns on blade-points from a site at Beedings, in West Sussex, resemble those most likely to result from impact when used as hafted weapon-tips (cf. Bergman and Newcomer, 1983). Most blade-points are too thick and too heavy to have served as arrow-tips. It is, of course, unknown whether the weapons of which they formed a part were used in conjunction with a spear-thrower (propulseur), as were some of those of the Solutrean (Cattelain, 1989).

Distribution

The first blade-point to be preserved from a British find-spot comes from Kent's Cavern (S. Devon). It was found by Mac Enery in 1825 or 1826. A drawing made in 1827 (Kennard, 1945, p. 182) was published by Vivian (1859, plate T, No. 5). It is unclear from the accompanying caption whether the object was considered to be a knife or an arrow-head.

Evans (1872, p. 452) noted similarities between later finds of points from Kent's Cavern and the Hyaena Den (at Wookey, Somerset : Dawkins, 1906, Fig. 5) and lance-heads from Laugerie Haute. Using contemporary ethnography he speculated that what he termed lanceolate blades might have served as both knives and javelin-heads.

Excavations in 1875–6 at Robin Hood Cave (Creswell Crags, Derbyshire : Dawkins, 1876 and 1877) and in 1885 at Ffynnon Beuno Cave (Clwyd, N. Wales : Hicks, 1886, Fig. 6) produced what are still the most northerly British finds of such points.

Both Garrod (1926) and Campbell (1977) have considered the British blade-points, as has the present contributor (1980). Fig. 2 attempts an update of what we know of their distribution. There are both additions and a few deletions when compared to previous maps. The number of blade-points so far traced from each find-spot is given in parentheses.

With the exception of the single blade-point from Ffynnon Beuno all British find-spots are to the South of the area which was to be ice-covered at the last glacial maximum. It is unknown how far North Early Upper Palaeolithic hunting may have reached. A radiocarbon date of about 27.5 $\pm$ 1.5 ka for a humerus of woolly rhinoceros found near Bishopbriggs in Lanarkshire (Rolfe, 1966) shows how long some areas remained unglaciated, and so available to human settlement. Ice-growth has been suggested as due to increased precipitation, rather than a sudden deterioration in the thermal environment (Coope, 1977).

Settlement distribution in northern Europe is further fragmented as a result of world-wide recoveries in sea-level during the last deglaciation (Fairbanks, 1989). In this, it resembles the pre-Boreal Mesolithic wherein technological similarities can be perceived apart as Britain and Poland.

Although many of the spots marked on Fig. 2 record the finding only of single points their distribution clearly shows that much of that part of Britain which remained unglaciated was known to their users. Large areas without find-spots include regions where Pleistocene deposits are masked by more recent sediments, as in the Fenlands of eastern England, or where searching for Stone–Age artefacts has begun only recently, as in much of the English Midlands. The small number of points from most find-spots is here interpreted as reflecting the randomness of their sur-

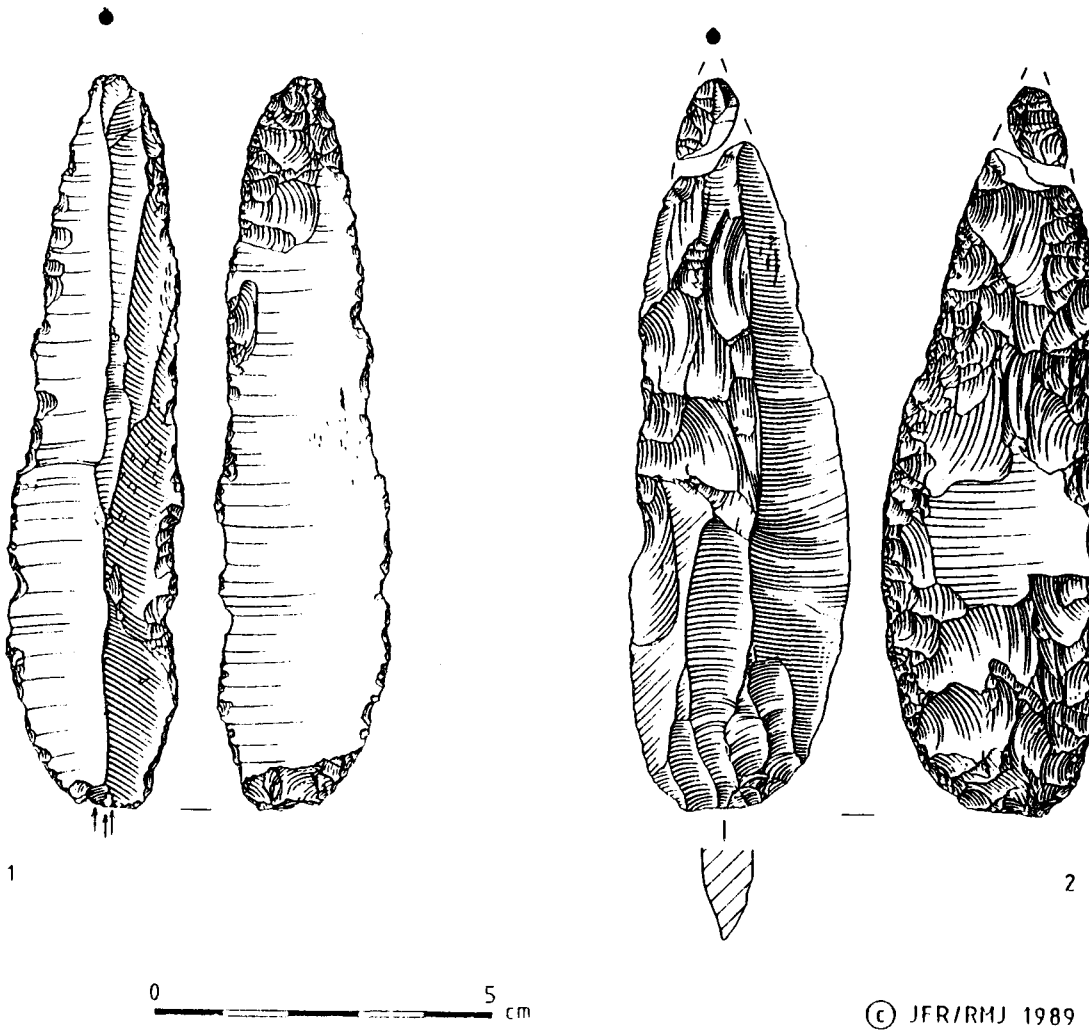

Fig. 1. Blade-points from Kent's Cavern. (1) British Museum (Natural History): Pengelly No.3884. (2) Torquay Museum. Pengelly No.3859. Drawings by Joanna Richards.

vival, recovery and recognition, rather than as documenting a low level of past human activity. Some points come from within high-energy fluvial sediments and others from caves whose physical constraints will have made them improbable bases for long-term human habitation. The highest count is for Beedings in West Sussex.

Blade-points as part of an Upper Palaeolithic technology

Our knowledge of the technology of which these points formed a part remains sparse. For Britain it depends upon the correct interpretation of the discovery made about 1900 at Beedings.

Here, some 2300 pieces of chipped flint including portions of at least 33 blade-points were recovered during house-building. They came from the filling of gulls (widened joints) developed in the Hythe Beds division of the Lower Greensand. Collapse into these joints, as they became widened during cambering, has preserved components from an open-air location which would otherwise have become dis-associated during periglacial scouring. Mends (break refits) and some technological refits have been possible. Burial has protected the flints from frost fracture.

A number of artefacts are unevenly patinated, as between their two faces (cf. Gaussen, 1986). This is particularly marked in the case of one anciently broken blade-point whose two halves are both far more heavily altered on their ventral face. After breakage, these two pieces would appear to have lain for some time exposed on the surface, and the same way up, before becoming buried (cf. Mulloy, 1959, p. 114). Despite these occasional contrasts there is no evidence that any artefact was flaked at more than one period – nor is there any suggestion that more than one Upper Palaeolithic assemblages is represented in the collection.

All the points from Beedings are made from blades. All were abandoned broken – as were many of the other tools. The majority of fragments appear to be from the butts rather than the tips of points. These, it could be suggested, entered the site along with their wooden hafts and were ejected when the weapons were re-tooled (cf. Keeley, 1982).

Some broken pieces were subsequently re-cycled into other tool-forms or transformed into bladelet cores. This re-cycling, together with the combination of different tool types on the same support, would seem to link these blade-points with long end-scrapers, burins (either dihedral or on prepared truncation), inverse truncations and the use of some pieces to chop material with a hardness of bone – cf. lames machurées (Barton, 1986).

In almost all cases the inverse truncations had served as the point of origin for a bladelet removal, or removals, along the dorsal spine of the piece. Two of these pieces with additional chipping along their margins would qualify as Kostienki knives (*sensu* Bordes, 1968, p. 192). All are here interpreted as cores (nucléus sur éclat : Newcomer and Hivernel-Guerre, 1974), rather than as tools. Their presence at Beedings is, therefore, no longer regarded as necessarily of chronological significance (as in Jacobi, 1986, p. 65).

Campbell (1988, p. 1042) has suggested that the collection might include material attributable to different stages of the Early Upper Palaeolithic. This suggestion appears based on a supposed presence of unifacial points (pointes à face plane) of the type known from Maisières near Mons where they are associated with (Font-Robert type) stemmed blades. On these points flat chipping is restricted to the dorsal face while the ventral surface is left un-modified. On some blade-points flat chipping may similarly be unevenly distributed with only minimal modification to the ventral surface (eg. Evans, 1872, Fig. 390; Chmielewski, 1961, pl. 8.4, pl. 9.1 and pl. 13. 4–5). Fragments of one artefact type can very easily be mistaken for fragments of the other. This is certainly what has happened here.

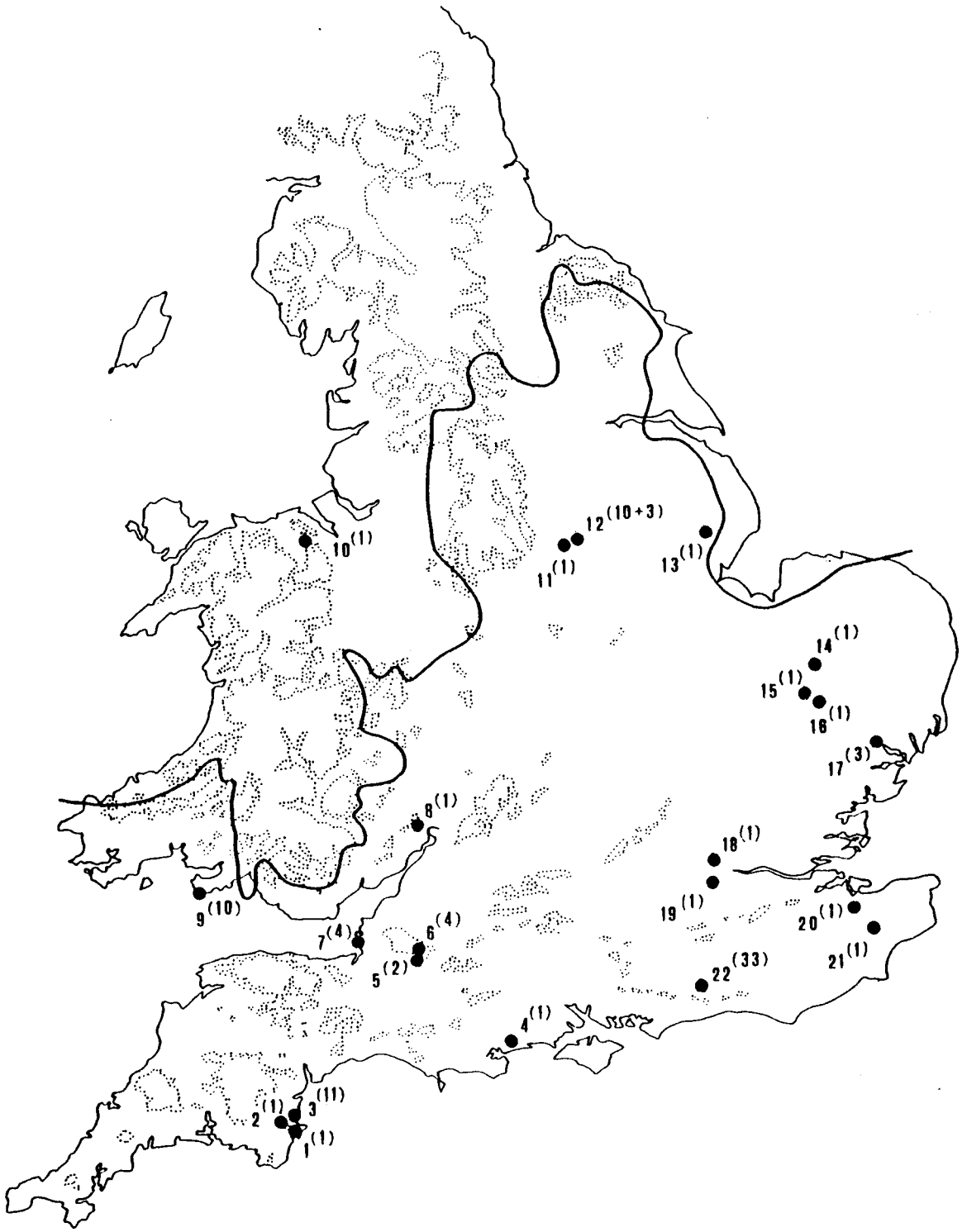

Fig. 2. Find-spots of blade-points. The number of points from each find-spot shown in parentheses. Maximum extent of the Late Devensian ice sheet indicated on figs. 2–5 by unbroken line (from Boulton *et al.*, 1977).

1. Brixham Cave; 2. Bench Quarry; 3. Kent's Cavern; 4. Bournemouth (Moordown); 5. Hyaena Den; 6. Badger Hole; 7. Uphill Quarry; 8. King Arthur's Cave; 9. Paviland Cave (Data from Campbell, 1977); 10. Ffynnon Beuno Cave; 11. Pin Hole Cave; 12. Robin Hood Cave (Second total for blade-points provenanced no more closely than to Creswell); 13. Salmonby (S.E. of Wallow Camp); 14. Brandon; 15. Warren Hill; 16. Icklingham (Town Pit); 17. Ipswich (Bramford Road : Warren Livingstone Pit); 18. Acton (Creffield Road); 19. Ham (Dysart Gravel Pit); 20. Bapchild; 21. Kennington (Conningbrook); 22. Pulborough (Beedings)

The structure of the Beedings' collection suggested use of the location as a field camp some way into a hunting trip (Jacobi, 1986). While it includes cores with opposed striking platforms, crested blades and un-modified blades the degree of re-cycling was attributed to the location's distance from the nearest known flint source (cf. Bamforth, 1986). The position of the camp on a Greensand ridge overlooking the western Weald suggested a further role as an observation point (cf. Binford, 1980).

Interpreted correctly, the Beedings' collection would confirm these blade-points as components of an Upper Palaeolithic technology.

This is difficult to confirm for other locations, partly because so many of these points are isolated finds and partly because, where they form parts of larger artefact collections, contextual data are insufficient to reconstruct their original associations. This is particularly true of collections from cave sites.

At Badger Hole (at Wookey Hole, Somerset) it may be possible to use preservation type as an aid to understanding a collection which includes lithics of very different ages. Closest in condition to the four blade-points are a single retouched piece (Campbell, 1977, Fig. 88.4) and a small number of broken blades (Ibid. Fig. 89.6). All are densely patinated and their margins damaged (concassés), as if by cryoturbation or transport. Interestingly, McBurney (1959, p. 265) suggested that the sediment from which these artefacts were collected was a slope deposit.

Bone fragments recovered in 1968 from the platform in front of the cave were believed burnt and some were radiocarbon dated (BM–497 : Baker et al., 1971, p. 168). Examination of the fragments not used for dating showed them to be stained, rather than burnt. Thus, there would seem to be no evidence that this localization of bones represented as Early Upper Palaeolithic fire-spot.

Bifacial points

Fewer fully bifacial points (pointes foliacées : sensu Chmielewski, 1961) are mapped on Fig. 3, than blade-points on Fig. 2. Partly, this could be the result of a very cautious approach to identifying an artefact type which may be difficult to distinguish from some very thin Lower Palaeolithic bifaces (see comments in Wymer, 1985, p. 381) or from some Neolithic daggers and weapon-heads (see for example Moir, 1923; Wymer, 1985, pp. 379–381).

It is an assumption, of course, that all the fully bifacial points mapped are of Mid-Devensian age – and that none of them are Solutrean, as was once believed (Moir, 1927, pp. 110–117: but see also Saachi et al., 1985).

Otte (1981) has suggested that during interpleniglacial (Mid-Devensian) time blade-points superceded those which were fully bifacial. Find-spots with only one or the other point type could be identified (ibid., pp. 98–99), so providing a beginning and end to this pattern of evolution. Technologies with both point types, such as those from Nietoperzowa (level 6: Chmielewski, 1961) and Ranis (level 2: Hülle, 1977), were envisaged as occupying an evolutionary mid-point.

Recent work at the Trou de l'Abîme at Couvin, S.W. of Namur, has also re-emphasized how leaf-points may provide a link between some Middle– and some Early Upper Palaeolithic technologies (Cattelain et al., 1986). At present, a Middle Palaeolithic context cannot be demonstrated for any of the British finds, although bifacial points from Kent's Cavern (Campbell, 1977, Fig. 86.4) and Robin Hood Cave (ibid., Fig. 103.5 and 104.4; which refit) are from find-spots with Middle Palaeolithic as well as Early Upper Palaeolithic tool-forms.

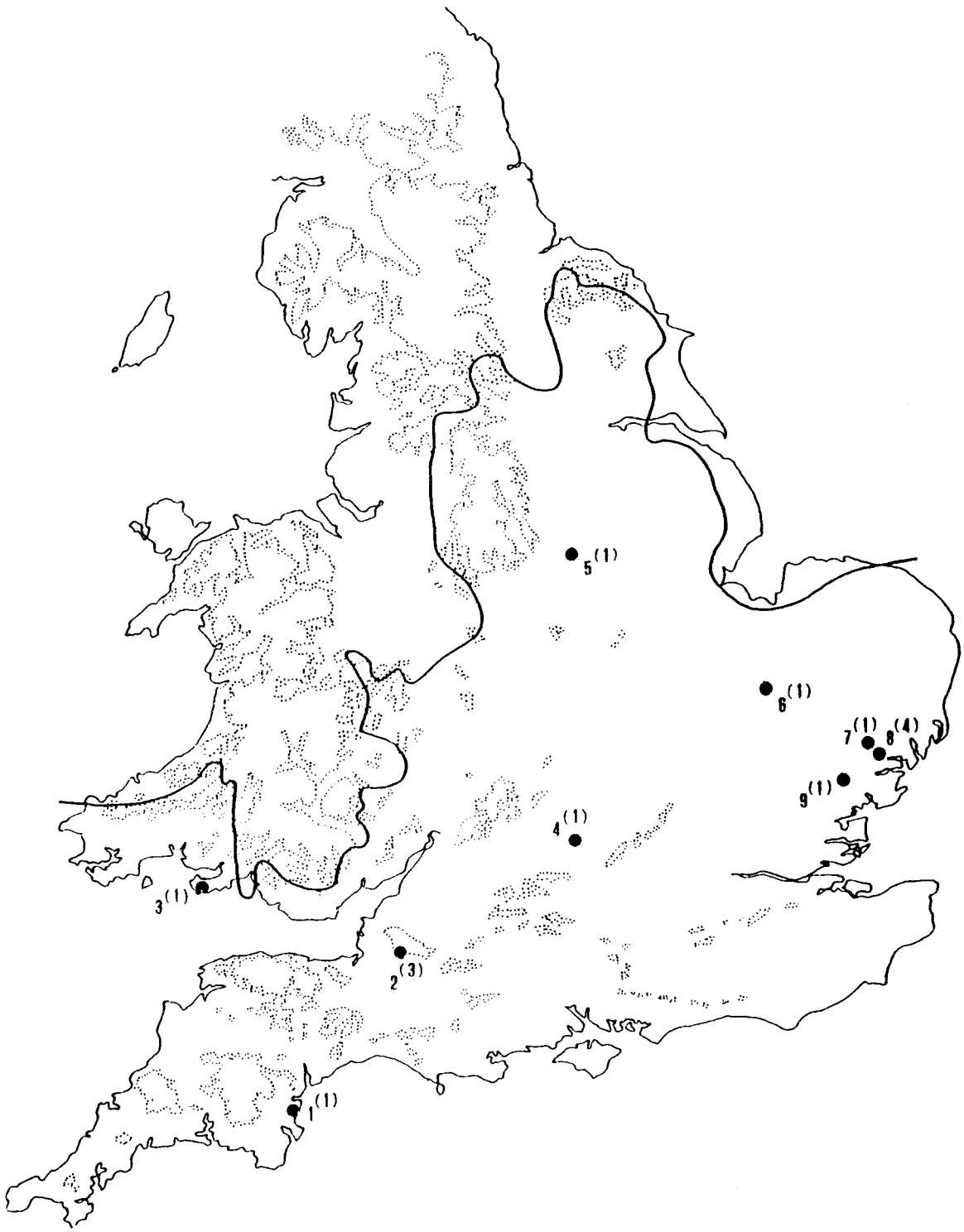

Fig. 3. Find-spots of fully bifacial points. The number of points from each find-spot shown in parentheses.
1. Kent's Cavern, 2. Soldier's Hole; 3. Paviland Cave (Data from Campbell, 1977); 4. Oxford (Osney Lock); 5. Robin Hood Cave; 6. Cross Bank; 7. Barham (Eastall's Pit); 8. Ipswich (Bramford Road : Warren Livingstone Pit); 9. White Colne (Pit I)

Such a scheme undoubtedly provides an attractive explanatory framework for the local adoption of a blade-based technology. If correct, it could suggest that the three fully bifacial points from Soldier's Hole (Cheddar, Somerset: Parry, 1931) are older than the blade-points from nearby find-spots in Wookey Hole ravine (Badger Hole and the Hyaena Den) and at Uphill Quarry (Garrod, 1926, 22).

The fauna and dating of Soldier's Hole are presently being researched (Charles, in prep.). Although this study is not yet completed, it seems useful to correct two mis-understandings recently introduced into descriptions of the archaeological material.

Firstly, the basal notch (Kerbe) and denticulated margins noted by Campbell (1977, p. 143 and 1980, p. 44) as linking the largest of the points from Soldier's Hole to a specimen from Mauern (presumably Bohmers, 1951, pl. 31.1) are due to natural damage (concassage).

Secondly, the "...Aurignacian... ivory point.." referred to by Campbell (1980, pp. 44–47) is neither ivory, nor is it a point. Instead, it is an unidentifiable and naturally polished splinter of large mammal bone. It is not engraved, as originally suggested by Parry (1931, p. 51).

While further research may confirm a trend during the Interpleniglacial away from fully bifacial points and towards blade-points, it is important to recognize that the distinction between the two may be somewhat arbitrary. The cross-sections of some fully bifacial points – for example, that from White Colne in Essex – suggest that these too are made from blades.

Variability in the extent and distribution of the surface chipping applied to a point may reflect the difficulty originally encountered in thinning and straightening the blank for use as a weapon-head. Re-pointing and re-shaping following on damage can also be expected to have altered both the relative distribution of surface chipping and the cross-section of any point.

The form of the original raw material is likely to have been a further influencing factor. Use of tabular flint is more likely to result in fully bifacial points, since it is better tackled using a reduction sequence equivalent to that applied to Lower– and Middle Palaeolithic bifaces. As already noted, the two may sometimes be difficult to tell apart.

Clearly the reasons underlying typological variability, as between individual points or groups of points, are complex. Chronology may be only one of a number of determinants.

For the remainder of this paper the term leaf-points is to be understood as referring to all the points mapped on Figs. 2 and 3.

Chronological considerations

While there are a number of radiocarbon dates on animal fossils from sediments with Early Upper Palaeolithic artefacts, most lack the contextual precision which might make them archaeologically useful (for discussion see Jacobi, 1980).

A recent exception is the date for a right mandible of spotted hyaena from Bench Tunnel Cavern (Brixham, S. Devon: Pengelly 1888 a and b). This is not the same as the Fissure also in Bench Quarry, as assumed by both Garrod (1926) and Campbell (1977). The mandible "... had been deposited immediately on a fine flint implement" (Pengelly, 1888 b, p. 512).

The association was photographed when still preserved as a sediment block. While this no longer survives intact, both implement and mandible can be easily recognized from these photographs. The former is an anciently broken blade-point (Campbell, 1977, Fig. 97.1), while the latter has now been dated to:

OxA– 1620 = 34,500 ± 1400 BP (Hedges et al., 1989, p. 214).

It is unknown, of course, how long an interval separated the introduction of the blade-point from the death of the hyaena whose jaw came to cover it over. However, the date may be interpreted as porviding a minimum age for the point. Pengelly (1888a, p. 711) was left in "... no doubt of its having been made and used by a human contemporary of the cave-hyaena in Devonshire..."

This was the only artefact to be found at Bench (Pengelly, 1888 a, p. 711 and 1888 b, p. 512). Blades, formerly in the Sturge collection and attributed to Bench Cave (R.A. Smith, 1931, p. 123), in reality derive from Pengelly's work at Kent's Cavern. Although someone has made a determined effort to scratch out Pengelly's find-numbers, telltale traces of these still remain!

Faunal (including hominid) associations

It seems probable that use of leaf-points was contemporary with a rich grassland fauna – best known to us through the bone accumulations formed by spotted hyaenas. This fauna included mammoth, woolly rhinoceros and horse as well as bovids and several species of deer. It was seemingly capable of supporting a number of predators besides man – lion, brown bear, spotted hyaena, wolf, red fox and (possibly) arctic fox.

It remains unknown which of these species lay within the hunting capabilities of the users of our leaf-points (but see experimental work by Frison, 1989).

Likewise, it remains unknown who made and used these points. Indeed, it is unclear how this could ever be established. As much of the discussion surrounding the very early hominids demonstrates, apparent associations of their fossils with artefacts can have a variety of interpretation – largely depending upon current fashions.

Fossil material attributed to aboriginal (Neanderthal) type hominids has been suggested as dating to about 35–34 ka ago at St.–Césaire (Leroyer and Arl. Leroi-Gourhan, 1983; Arl. Leroi-Gourhan, 1984) and to about 34–33 ka ago at Arcy-sur-Cure (A.Leroi-Gourhan, 1958; Arl. Leroi-Gourhan, 1988). So far, no dates directly on these fossils have been reported.

However, there is a direct radiocarbon date for a human fossil from Kent's Cavern of:

OxA– 1621 = 30,900 ± 900 BP (Hedges et al., 1989, p. 209).

This partial right maxilla (KC 4 : Oakley et al., 1971, p. 28) was found in March 1927 and at a depth of 3.2 m during excavations close to the N. wall of the Vestibule (Dowie and Ogilvie, 1927; Beynon et al., 1929). In its tooth and cheek morphology this fossil cannot be distinguished from an anatomically modern human (Keith, 1927; Stringer, pers. comm.).

This date would seemingly confirm the presence of a modern human at a time not long after the suggested ages for the fossils from St.–Césaire and Arcy-sur-Cure. It is unknown, of course, how much earlier modern humans may have been present in N.W. Europe, as is the most recent date at which we could expect to encounter Neanderthal type hominids in the fossil record. Therefore, these dates should not be interpreted as identifying the time-span

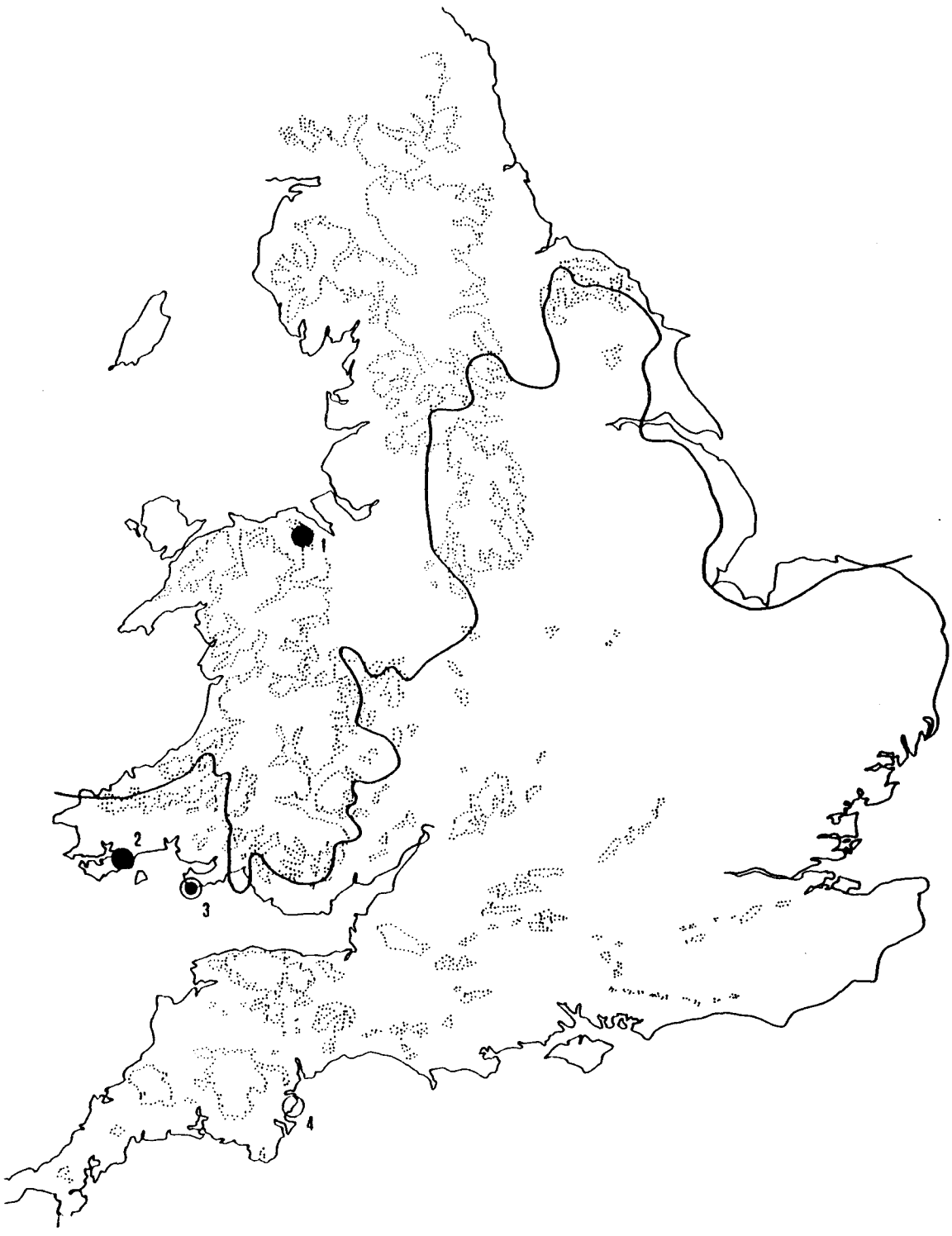

Fig. 4. Find-spots of *burins busqués* indicated by solid dots.

1. Ffynnon Beuno Cave, 2. Hoyle's Mouth Cave; 3. Paviland Cave (Data from Campbell, 1977); Find-spots of "Middle Aurignacian" artefacts (*sensu* Garrod, 1926) indicated by open circles. 3. Paviland Cave; 4. Kent's Cavern

within which one hominid type locally replaced the other. It would appear, however, that this transformation was not completed until sometime after about 34–33 ka ago.

Artefacts from about the reported depth of the Kent's Cavern fossil consist only of segments from stout blades. They cannot be culturally attributed. Interestingly, artefacts which in the past would have been attributed to the Aurignacian are recorded from higher in this sediment profile than the fossil hominid.

Leaf-points and the Aurignacian

Dorothy Garrod (1926, pp. 191–192) applied the term proto-Solutrean to artefacts here termed blade-points. While some fulfil present definitions of pointes à face plane (de Sonneville-Bordes and Perrot, 1954, p. 334) few today would believe them either contemporary with the French proto-Solutrean or relevant to its genesis.

Garrod further identified a Middle (or typical) Aurignacian phase (1926, pp. 191–195) and attributed to it parts of the collections from Kent's Cavern and Paviland Cave (West Glamorgan, S. Wales); also single artefacts from Ffynnon Beuno and Cae Gwyn in N. Wales (ibid.).

This Middle Aurignacian had, of course, to ante-date the proto-Solutrean so as to provide a best fit with Upper Palaeolithic evolution in S.W. France, as well as with contemporary mis-understandings of the sequence at the Belgian site of Spy (Breuil, 1912 a and b).

More recently, McBurney (1965, pp. 26–29) suggested that the proto-Solutrean and Middle Aurignacian elements separated by Garrod were in fact parts of a single hybrid technology. Campbell (1980, pp. 43–49) has amplified McBurney's suggestion and suggested the term Lincombian to describe this hybrid – the name deriving from Lincombe Hill above Kent's Cavern.

It is easy to recognize the components from Kent's Cavern and Paviland which Garrod suggested as being Middle Aurignacian. This material is so similar, as between the two find-spots, that it is difficult to believe that there can be any age difference.

The larger sample is from Paviland, but this lacks the contextual information which can be reconstructed for part at least of the material from Kent's Cavern.

Most retouched pieces are developed from flakes, rather than from blades. There are long and short end-scrapers (grattoirs sur lame ou éclat), also side-scrapers.

Particularly distinctive are scrapers described by Sollas (1913, p. 344) as formed by a "... terminal notch bringing into greater relief one of the corners (of the flake or blade) which forms the snout or rostrum ...". Although Sollas termed these grattoirs à museau very few are typical examples. Some could perhaps be termed grattoirs à épaulement (de Sonneville-Bordes and Perrot, 1954, p. 332), although the greater number might be described more precisely as "... grattoir(s) à museau dégagé par ... Troncature, que le museau soit ... déjeté ..." (Laplace, 1961, p. 165). These are included by Laplace in his category of "grattoirs aurignaciens" (ibid., p. 166).

Other scrapers have rectilinear fronts, oblique or transverse to the axis of their support – "Grattoirs obliques or grattoirs à bout carré". There are no keeled scrapers "grattoirs carénés" from Kent's Cavern.

Both collections include lateral burins on prepared truncation. In many cases the angle of intersection of the burin facet(s) with the ventral surface of the piece is reminiscent of so-called burins plans (de Sonneville-Bordes and Perrot, 1956, p. 412). There is no burin busqué from Kent's Cavern (despite comment in Campbell, 1977, p. 142).

Single examples of burins busqués are known from Ffynnon Beuno (Garrod, 1926, 24.2) and Hoyle's Mouth (Dyfed, S. Wales : Andrew David pers. comm.; McBurney, 1965, plate 2.10). Campbell (1977, p. 145) has reported burins busqués from Paviland. The writer has identified no typical examples from here, but so far has had the opportunity of examining only a part of this collection.

The collections from both Kent's Cavern and Paviland include inverse truncations on robust flake– or blade-portions. At Paviland there are splintered pieces (pièces esquillées), while at Kent's Cavern at least one artefact has clearly been re-used as a chisel or wedge (pièce intermédiaire: Le Brun-Ricalens, 1989).

The only direct date for Palaeolithic human use of Paviland is:
OxA – 1815 = 26,350 ± 550 BP (Hedges et al., 1989, p. 209).

This is for bone powder from the tibia of a male extended inhumation – the so-called Red Lady (Paviland I: Oakley et al., 1971, pp. 33-34). This burial is reported as associated with an ochre stain, periwinkle shells, forty or fifty fragments of ivory baguettes and parts of two ivory bracelets (Buckland, 1823, pp. 88-89). Although some of the stone artefacts appear discoloured by ochre it is potentially fallacious to use this as an argument for associating them with the burial (see comments in Jacobi, 1980, p. 30).

A cave for the dead may not be a base for the living. Therefore, there is no reason why any of the domestic materials from this cave need be contemporary with the burial.

While today little can be done to unravel the Palaeolithic archaeology of Paviland, excavations at various dates between 1926 and 1942 by the Torquay Natural History Society in the Vestibule area of Kent's Cavern have provided several vital clues. These excavations sampled sediments deeper than those explored by Pengelly in 1866–1867.

The "cave-earth" infill of the Vestibule was locally over 10.5 m thick (Ogilvie and Tebbs, 1938) and had been capped by a flowstone – the so-called granular stalagmite. An adult human maxilla from within this flowstone (KCI : Oakley et al., 1971, p. 26) is dated to:
OxA– 1786 = 8070 ± 90 BP (Hedges et al., 1989, p. 209).

Beneath the granular stalagmite and in the topmost part of the cave-earth was a localization of Creswellian artefacts and charcoal fragments – the black band (Pengelly, 1868). The age of its cultural materials has long remained uncertain, but an awl (poinçon) fashioned from part of the hyoid apparatus of a large ungulate (Currant pers.; Evans, 1872, Fig. 407) has now been dated to:
OxA– 1789 = 12,320 ± 130 BP (Hedges et al., 1989, p. 215).

Further dates are available for un-modified vertebrate fossils from the uppermost 60 cm of the cave-earth. These are:
BM– 2168 R = 11,800 ± 420 BP : partial bovid atlas vertebra.
OxA– 1203 = 11,880 ± 120 BP : partial mandible of Bos primigenius (Hedges et al., 1988, p. 159).
GrN– 6204 = 12,180 ± 100 BP : cervid ? metatarsal (Campbell and Sampson, 1971).
GrN– 6203 = 14,275 ± 120 BP : tibia of brown bear (Campbell and Sampson, 1971).

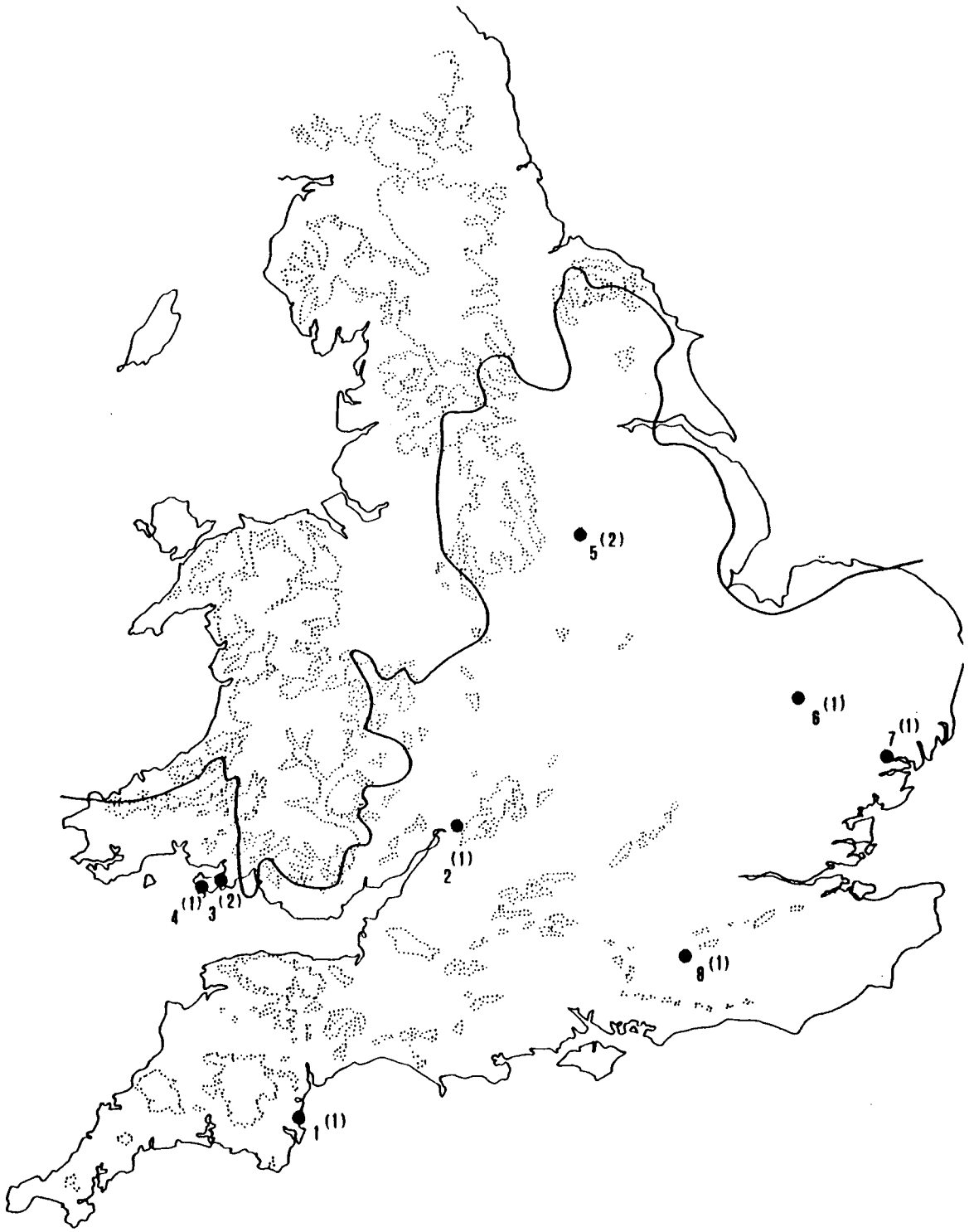

Fig. 5. Find-spots of stemmed blades (Font-Robert points). The number of blades from each find-spot shown in parentheses. 1. Kent's Cavern; 2. Barnwood (Forty Acre Field Pit); 3. Cat Hole Cave; 4. Paviland Cave (Data from Campbell, 1977); 5. Pin Hole Cave; 6. Mildenhall; 7. Ipswich (Bramford Road : Warren L.vingstone Pit); 8. Godalming (Peper Harow Park)

Middle Palaeolithic artefacts were collected from the lower part of the cave-earth (Beynon and Ogilvie, 1935 and 1936). These included an anciently broken side-scraper of flint (R.A. Smith, 1940, Fig. 2).

Early Upper Palaeolithic artefacts were recovered from all the trenches opened in the Vestibule. They appear to have been clearly separated stratigraphically from both Middle– and Late Upper Palaeolithic artefacts.

Locally, against the North wall of the Vestibule, their vertical spread was split by what was described as a "stalagmite floor "or "natural pavement... of brecciated limestone blocks" (Dowie and Ogilvie, 1927 and Beynon et al., 1929). The partial human maxilla dated by OxA– 1621 is reported as having been found deeper than this feature. Artefacts which match Garrod's Middle Aurignacian are from above it.

There are no backed pieces, (fragments from) surface-retouched points, or flakes from the preparation of such points – so – called "éclats solutréens" (P.E.L. Smith, 1966, p. 44). While retrieval was probably very partial, pieces as delicate as retouch spalls were recovered and some re-fitting of these has been possible.

The lack of any evidence for leaf-points is of considerable interest.

Firstly, it confirms Garrod's observation (made before the Torquay Natural History Society re-commenced excavations at Kent's Cavern) of different spatial distributions for her proto-Solutrean and "Middle Aurignacian" within the cave (1926, pp. 44–45). In all fairness, however, it should be said that Garrod's observation was partly based upon the mistaken belief that the proto-Solutrean was more recent than the "Middle Aurignacian" (see above) and, if present, would have been sampled in areas from which Pengelly had retrieved "Aurignacian" artefacts.

Secondly, it calls into question the recent assumption (Campbell, 1980) that they formed part of the same technology as material which would have been described by Garrod as "Middle Aurignacian". Until this can be adequately demonstrated, it would appear prudent to suspend use of the term Lincombian.

Discussion

It is difficult to integrate the various elements surviving from our Early Upper Palaeolithic.

It is unknown which hominid type(s) are to be associated with any of its parts. Anatomically modern humans are directly dated at Kent's Cavern and Paviland to 30.9 $\pm$ .9 and 26.35 $\pm$ .55 ka ago.

However, these ages cannot be extrapolated to any of the stone tool forms which serve as markers of an Early Upper Palaeolithic presence at many localities.

Most frequently occurring of these markers are the blade-points (Fig. 1 and 2) something of whose associated lithic technology is known to us from the find at Beedings: At Bench Quarry a blade-point was found beneath a hyena mandible dated to 34.5 $\pm$ 1.4 ka ago.

It is unknown whether any of the rather fewer finds of fully bifacial points (Fig. 3) represent an earlier stage in the evolution of these weapon-heads.

Burins busqués, usually associated with the Aurignacian, are known from two find-spots (Ffynnon Beuno and Hoyle's Mouth) and are reported from a third – Paviland (Fig. 4).

A broken end-scraper found at Cae Gwyn cave, close to Ffynnon Beuno, has often been assumed Aurignacian (Garrod, 1926, p. 111; McBurney, 1965, p. 27). While it could fairly be described as a scraper on Aurignacian blade (de Sonneville-Bordes and Perrot, 1954, p. 328) it is remarkably similar to an end-scraper from the Lateglacial site of Gough's Cave (Seligman and Parsons, 1914, Fig. 4.F). It would also seem, from a comment made by the finder (Hicks, 1885, p. 17), that there was an element of uncertainty as to its precise stratigraphic context. This find-spot, therefore, is not mapped as Aurignacian.

There are no uniquely Aurignacian tool-forms from either Robin Hood Cave or Long Hole (W. Glamorgan), and it is difficult to understand their listing as such by Campbell (1980, p. 51). However, the very damaged condition of the artefacts from Long Hole would suggest that they are more likely to be Early rather than Late Upper Palaeolithic.

If burins busqués are present in the collection from Paviland it is possible (but difficult to demonstrate) that they formed a part of the grouping described by Garrod (1926) as 'Middle Aurignacian'. The age of this grouping remains to be demonstrated. However, at Kent's Cavern it appears to be more recent than 30.9 ± .9 ka ago.

There appears no compelling reason for associating with it any of the leaf-points which are the principal subject of this paper. Therefore, it is suggested that the term "Lincombian" should be suppressed.

Stemmed blades, sometimes likened to 'Font-Robert points', are recorded from only eight British find-spots (Fig. 5). As yet, there are no radiocarbon dates from Britain which are of demonstrable relevance to these stemmed blades, nor have they been observed in stratigraphic relationship to any of the other components of our Early Upper Palaeolithic (but see de Puydt and Lohest, 1886).

There are no uniquely Gravettian artefacts at either Robin Hood Cave or Mother Grundy's Parlour (Creswell Crags Otte 1984, Fig. 63).

While the maps (Figs. 2–5) are an easy way to present the typological markers which provide the most convincing evidence for an Early Upper Palaeolithic archaeology they are also potentially misleading – since inevitably they suggest that this archaeology consisted of a series of discrete settlement events with each such event identified by one or other of these markers. This is a logical extension of the belief (set down as early as Garrod, 1926, p. 191) that what today is Britain was, for most of the Late Pleistocene, a marginal area whose inhospitable environment prevented settlement and exploitation by all but a few stalwart groups. The markers which identify an Early Upper Palaeolithic presence would also be markers of these very occasional successes.

However, it is perhaps useful to consider a number of alternative propositions:

(1) That closer to the areas covered by the last ice sheets loss of archaeological information due to periglacial processes will have very great – while further away the effects of such processes on the archaeological record will have been much diminished. From this, it could be predicted that the Late Pleistocene record will appear more complete with distance away from the ice margins (for example, see maps in Hemingway, 1980 and Jacobi, 1980).

(2) That only some parts of the archaeological record will have been characterized by technological markers sufficiently complex as to be instantly recognizable to us.

(3) That only some of these markers will have been sufficiently robust to have withstood the effects of a periglacial regime.

(4) That closer to the ice sheets preservation of sediments in an undisturbed state will have been the exception, rather than the norm.

(5) That for archaeological residues to have found their way into what are now only sediment remnants and so become preserved would imply a heightened level of contemporary discard. A possible corollary of this would be the implication of an increased human presence.

What acceptance of these propositions would suggest is that the British Late Pleistocene archaeological record may formerly have been as chronologically complete as its counterparts in supposedly more favoured areas. It would also suggest that we may be sampling only those times when a denser human presence coincided with a technology which included elements sufficiently robust to stand some chance of survival, as well as sufficiently idiosyncratic for us to be able to recognize them for what they were.

Is there any way at all of testing this proposition? While it is important to continue documenting the lithic types which form the substance of this paper, this will not help us. One approach might be to take a lesson from the archaeology of the Lateglacial, where only some of an increasing number of radiocarbon dates are on cut bone from findspots with lithic material. An increasing proportion of our evidence for a human presence during this time comes from the dating of isolated finds of bone and antler artefacts – a number of them from high-energy environments such as river-gravels. Interestingly, some of these dates fall in parts of the Lateglacial for which flint technologies have not as yet been recognized in Britain. Creation of a comprehensive chronology for human presence in Britain during the Lateglacial would not be feasible using only samples from cave-sites, since it does not appear that these were used at some times when radiocarbon dates for stray finds of organic artefacts indicate a human presence.

It will be interesting to know whether, if an equivalent strategy was to be applied to earlier parts of the Upper Palaeolithic, we would still be faced with such a dis-jointed and seemingly incomplete human bio-geographic pattern. It is also going to be interesting to see whether, as more dates are run on large mammals, Britain will gradually lose its image of having been a waste-land during much of the Late-Devensian. I, for one, expect a number of surprises!

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