PIA 3 1992

EARLY PALAEOLITHIC CULTURAL FACIES AND THE LEVALLOISIAN AT BAKER'S HOLE

Francis Wenban-Smith (Department of Archaeology, University of Southampton)

The purpose of this short paper is to use the lithic material recovered from the site of Baker's Hole to demonstrate the point that the classificatory framework generally in operation for British, and also other European, Early Palaeolithic lithic material is overly simplified. The pigeon-holing of assemblages into one of a restricted number of industrial variants, or cultural facies, based on the presence and relative predominance of selected tool-types or knapping techniques, has served to obscure the variety and complexity of Early Palaeolithic lithic technology. The particular lithic industrial variant discussed in this paper is the Levalloisian.

Levalloisian technology

Levalloisian technology is a method of working flint nodules named after a site in the Paris suburb of Levallois-Perret, where flint artefacts showing its distinctive traits were first recognised by Reboux in the 1870s in deposits from one of the lower terraces of the Seine (de Mortillet, G. 1885: 255). Subsequently it has been recognised at many European Early Palaeolithic sites, including the English site known as Baker's Hole.

Breuil and Koslowski (1931: 454) were the first to formally name this distinctive lithic technology as Levalloisian. Hitherto it had been labelled Mousterian, due to the work of Commont (1909 & 1914) who had examined it in great detail at his 'Mousterian' sites in the Somme Valley. This led to a Mousterian epoch of the Palaeolithic being defined as one characterised by what is now called Levalloisian technology. Breuil & Koslowski defined the Levalloisian industry as consisting of large flakes and blades produced from prepared cores and generally left unretouched.

Bordes (1961) defined a Levalloisian flake as being a flake whose form had been predetermined by special preparation of the core prior to its removal, and which had a 'privileged striking platform'. Subsequently Bordes (1967, 1979 & 1980) did not modify this definition except to recognise a distinction between a general concept of a Levalloisian strategy of predetermined form for privileged flakes and particular variants of Levalloisian strategy with different goals such as 'classic' Levalloisian flakes, pointed Levalloisian flakes, Levalloisian points, and Levalloisian blades.

'Classic' Levalloisian, as identified at the site of Levallois-Perret, involves the radial trimming of one surface of a large core, often known as a tortoise core (Figure 2.i), prior to the removal from this surface of a large, privileged flake whose form has been predetermined by the radial trimming (Figure 2.ii). Pointed Levalloisian flakes are classic Levalloisian flakes which happen to end in a point, possibly intentionally. In contrast, Levalloisian points are triangular flakes ending in a sharp point formed by the intersection of the scars of two carefully judged sub-parallel previous removals. Levallois blades, according to Bordes, include both classic Levalloisian flakes whose length is over twice their breadth (Figure 2.v), and also elongated flakes whose dorsal scars are mainly uni-or bi-polar but often with slight evidence of radial

trimming to suggest they come from a tortoise-type core (Figures 2.iv & 3). Wymer (1968: 72) takes a more technological and less morphological approach to the definition of Levalloisian blades, arguing that narrow flakes with the classic radially-convergent dorsal scar pattern should not be considered as Levalloisian blades, but as elongated versions of the classic type. Considering that the fundamental element defining a Levalloisian strategy is its focus on a single, privileged and predetermined flake as its end-product, it should be questioned (cf. Callow 1986: 386) whether 'Levalloisian blade' is the proper term for flakes with sub-parallel dorsal scars and which are evidently part of a sequence of laminar reduction. It is recommended here that an alternative terminology should be adopted for what Bordes, Wymer, and others call 'Levalloisian blades', for instance 'Early Palaeolithic blades'. In this paper flakes showing uni- or bi-polar dorsal scars are called Early Palaeolithic blades, and flakes whose dorsal scar pattern is dominantly uni- or bi-polar but with a radial element are still called Levalloisian blades despite the unsatisfactory connotations of the term.

More recently, Boëda (1986 & 1988) has refined the definition of Levalloisian to accommodate '*une certaine réalite archéologique*'. Boëda proposed a distinction between Levalloisian techniques focussed on the production of a single flake as end-product (*méthode lineale*), and techniques where several predetermined flakes are produced from the same core-surface with intervening stages of preparation (*méthode récurrente*).

Therefore the fundamental Levalloisian concept of a predetermined, privileged flake includes a wide variety of possible reduction sequences, which may be linear or recurrent, focussed on the production of a variety of end-products, just one of which is the classic Levalloisian flake of Levallois-Perret.

Lithic technology at Baker's Hole

Baker's Hole is famous in the British Early Palaeolithic as being a uniquely prolific source of classic Levalloisian flakes and cores, mostly collected from the site in the early part of the 20th century (Smith 1911; Wymer 1968: 354-6; Roe 1981: 80-3). The site is located in Kent, in the Ebbsfleet Valley (Figure 1). The Ebbsfleet is a small tidal tributary of the Thames, joining its lower reaches from the South just upstream of Gravesend. The site was first discovered by Spurrell in the 1880s (Spurrell 1883). In 1908 Cross, another local collector, brought the site to the attention of the British Museum and in 1909 Reginald Smith supervised an excavation there (Smith 1911). Smith specified the location of the site as the northwest corner of Southfleet Pit, a quarry which was popularly and erroneously known to collectors of lithic artefacts as Baker's Hole (which was in fact another nearby quarry). Smith's 1909 site is located at approximately TQ 614739 (Wenban-Smith 1990.

Smith recovered approximately 2,500 fossils and flint artefacts from a layer of soliflucted chalk between 5 and 10 feet thick, which lay between the chalk bedrock and a 3 feet thick layer of silty 'brickearth', which in turn was overlain by topsoil. Despite being technically inaccurate, but in order to maintain compatibility with archival records and other archaeological literature, the lithic material recovered from this site is referred to as 'Smith's

Baker's Hole assemblage' in this paper, and other material collected from the site is referred to as being from 'Baker's Hole'.

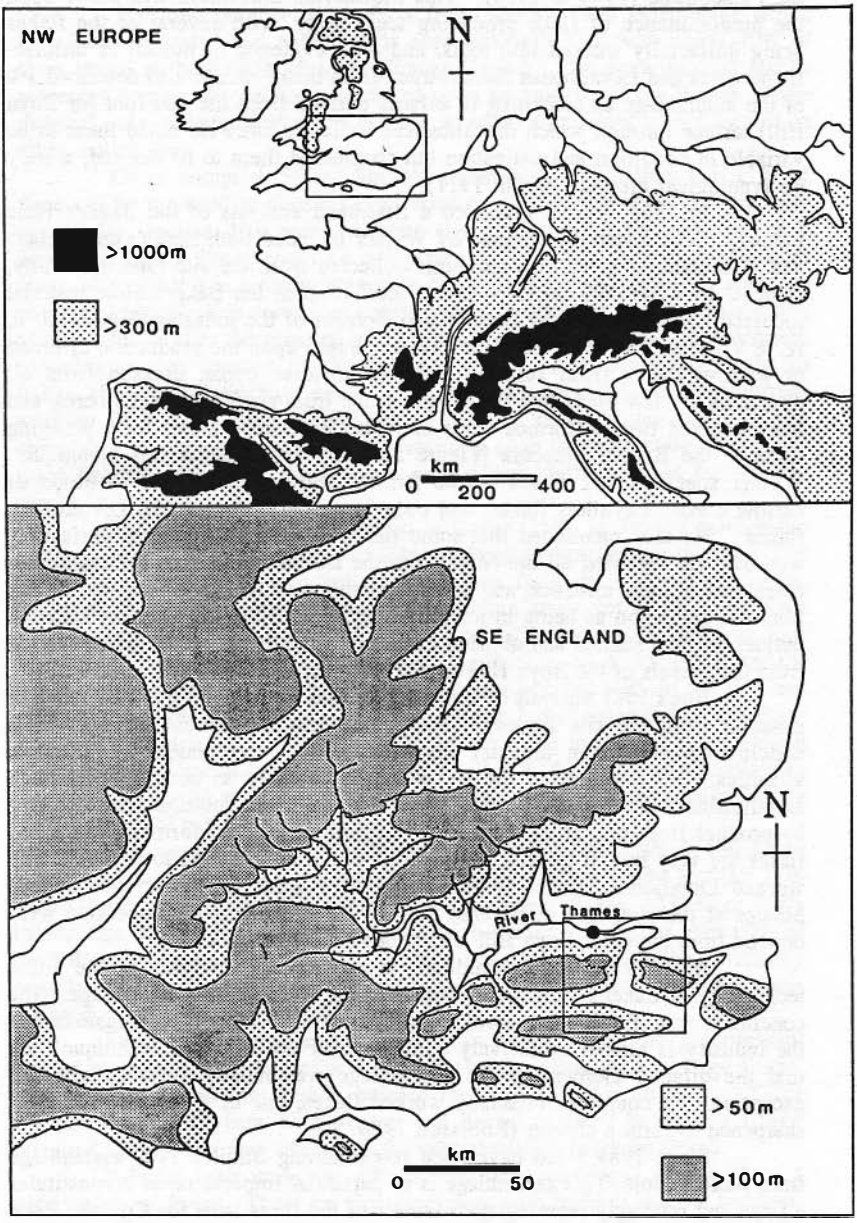

Fig. 1. Location of the Thames basin in NW Europe, and location of the Ebbsfleet Valley within the Thames basin.

In 1911 Smith attributed his Baker's Hole assemblage to the Mousterian, as defined in G. & A. de Mortillet's classificatory framework for the Palaeolithic (1900 & 1910). This Mousterian attribution was based upon the predominance of flake producing technology, with several of the flakes being unifacially worked into tools, and with evidence of numerous tortoise-shape cores and Levalloisian flakes struck from them. Smith also described 1% of the assemblage as consisting of bifaces derived from the 100 foot (or Boyn Hill) terrace through which the Ebbsfleet Valley is cut. He noted them to be variable in condition and patination but considered them to be derived, mainly on typological grounds (Smith 1911).

In 1968 Wymer produced a first-hand analysis of the Baker's Hole industry. The material examined by Wymer included both Smith's assemblage and also material in various museums collected from the site (and, hopefully, context) by other collectors. Wymer's attribution of the Baker's Hole material focussed upon the classical Levalloisian element of the industry (Figure 2.i, ii, iv, & v), describing it as 'highly evolved ... based upon the production of broad or narrow flakes from suitably prepared tortoise cores, dressed from all directions. A few blade-like flakes have come from simple prismatic cores, and more evolved two-platformed cores may also have been made, for a plunging flake in the British Museum [Figure 3.v] appears to show this technique'. Wymer specifies 161 flakes in the British Museum collection as broad or narrow classic Levallois flakes, and only 16 as being 'blade-like Levalloisian flakes'. He also mentioned that some flakes in the collection are unifacially worked. He regarded all the cores from the site as being classic Levalloisian cores, one of them unstruck, and he drew attention to 16 handaxes in the British Museum collection as being in a similar condition to the Levalloisian material, besides the few stained and abraded handaxes which he presumed to be derived from the gravels of the Boyn Hill terrace (Wymer 1968: 354-8).

Roe's 1981 analysis of Baker's Hole was based upon the wide range of material from the site stored in many museums throughout the UK. His conclusions about the industry also focussed on its classic Levalloisian affinities. He summarised the Baker's Hole industry as consisting of large Levalloisian flakes, classic tortoise-cores, and the waste debitage produced as a by-product from preparing the cores. According to Roe, formally retouched flakes are very rare at the site, although he did draw attention to two bifacially worked Levalloisian flakes (Figure 4.i). As regards the occurrence of true bifaces at the site, Roe considered that all the bifaces in the collection were derived from the older Boyn Hill terrace deposits (Roe 1981: 81).

In 1986 Robinson produced a preliminary analysis of the lithic technology at Baker's Hole which concentrated upon Smith's assemblage. She concluded that 'Preliminary results confirm previous authors' conclusions that the industry is almost exclusively dominated by the Levallois technique' and that the bifacial element of the assemblage was mostly derived, with the exception of a couple of bifacially worked flakes, one of which was tranchet-sharpened to form a cleaver (Robinson 1986: 20).

Since 1989 I too have been re-examining Smith's 1909 assemblage from Baker's Hole. This assemblage is of particular importance as it constitutes a large and relatively representative sample of the flints from the Coombe Rock context at the site. It was collected less selectively than the assemblages put

together by individuals who subsequently visited the site seeking typical Mousterian or Levalloisian specimens, and who did not record the context of their finds so precisely.

The total number of artefacts from Smith's 1909 assemblage which have been relocated and examined is approximately 750, with about 40% of them stored at the British Museum (Franks House). The more detailed results presented here on the debitage are based upon an analysis of the Franks House material only, although reference is made to some significant pieces located in other collections.

Cores comprise 5% of Smith's assemblage. Less than half (18) of these can be regarded as classic Levalloisian cores. Several cores are bifacially or radially worked disc cores without any evidence for the removal of a privileged flake. These could be interpreted as 'unstruck' classic Levalloisian cores, although this is a difficult point to be dogmatic about. There is evidence on several Levalloisian cores (not considered as classic) for continued reduction of their surface after the removal of a classic Levalloisian flake. This recurrent trimming is also attested by the debitage which contains approximately 20 flakes showing distinctive dorsal scar patterns consistent with recurrent working of classic Levalloisian cores. Finally three of the cores in the assemblage examined show a definite emphasis upon the production of parallel-sided flakes/blades from either single or opposed platforms, and from either one or both surfaces.

The relatively large proportion of flakes (85%) in Smith's assemblage is also revealing as to the variety of lithic technology practised at the site. The results from their study complement the results from the study of the cores. However, although the same variety of reduction strategies is apparent, their relative representation is quite different. The debitage was divided into four categories: i) classic Levalloisian flakes (Figure 2.ii, iii & v), ii) 'intended' flakes, showing some evidence of intent and privilege but without the size and symmetry to allow them to be regarded as classic Levalloisian flakes, iii) Early Palaeolithic blades with their dorsal scar pattern being uni- or bi-polar without any evidence of radial trimming (Figures 3.i, 3.ii & 4.ii), and iv) Levalloisian blades whose dorsal scars show a clear emphasis upon uni- or bi-polar flaking but with a slight radial element (Figures 3.iii, iv & v).

The results of this analysis were that, of the flakes which fitted into one of the four categories (191 of the 245 flakes stored in Franks House), 11% were classic Levalloisian flakes, 28% were 'intended' flakes, 38% were Early Palaeolithic blades, and 23% were Levalloisian blades. Therefore over 60% of the flakes in this sample of Smith's Baker's Hole assemblage reflect distinctly non-classic Levalloisian reduction strategies, with a definite emphasis upon the production of broad flake/blades.

Flake-tools comprise 6% of Smith's assemblage. The predominant type of modification is the unifacial working of the distal ends of large flakes, often but not always into bluntly pointed forms (Figure 4.ii, iii & iv). There are also examples where both ventral and dorsal surfaces have been flaked (Figure 4.i & iv), and also where just the ventral surface has been flaked.

Bifacial tools comprise 4% of Smith's assemblage. These show a wide variety of forms. There are fine specimens with features such as tranchet-sharpening and twisted tips, as well as cruder forms. Although Smith and

subsequent workers have mostly chosen to regard this component of the assemblage as residual, the evidence (apart from the typology) supporting this is inconclusive. Most of the bifaces are in a good condition, although about 20% are heavily rolled. However this rolling does not correlate with the staining one would expect in specimens derived from the Boyn Hill terrace, and furthermore a comparable proportion of the Levalloisian element of the assemblage is equally rolled.

Conclusions

This analysis shows that from the beginning the classic Levalloisian element of the Baker's Hole assemblage has been over-emphasised to the exclusion of the other aspects of the lithic industry - the Early Palaeolithic and Levalloisian blade technology, the flake-tools, and the bifacial tools.

The explanation for this state of affairs lies in three areas. Firstly, the contemporary classificatory framework for the European Palaeolithic (Wymer 1968; Bordes 1979; Roe 1981) still retains close methodological links with the pioneering 19th and early 20th century frameworks out of which it is derived. The significant common factor is the attribution of assemblages to recognised industrial variants on the basis of the identification of key tool-types or knapping techniques, and the consequent suppression of awkward variations. Obviously the purpose of a classificatory framework is to bring out significant differences and eliminate insignificant ones. However as the selection of attributes as significant is a major issue in lithic studies, it seems reasonable to argue for a wider reporting of potentially insignificant typological and technological data by those who study assemblages first-hand.

Secondly, the validity of such a classificatory framework has been continuously legitimised since its inception in the 19th century by the selective collection and publication of 'typical' artefacts to the exclusion of atypical forms. Early assignations of assemblages to industrial variants, or cultural facies, on the basis of a few typical artefacts has therefore provided a self-perpetuating and fundamentally mythical framework for the Early Palaeolithic. The partitioning of the Early Palaeolithic into stages characterised by particular industrial variants has made analysis of the chronological and spatial distribution of these units the focus of research, imbuing the units with a spurious significance, and further re-enforcing the classificatory methodology out of which they have arisen.

Thirdly, the theory of lithic classification has developed in recent years, with distinctions between tool-types backed up by metrical data, with various challenges to Bordes' typology (Dibble 1987; Kolpakov & Vishnyatsky 1989), and with increasing attention paid to the potential variety of knapping techniques as shown by the study of complete reduction sequences (e.g.. Boëda 1986 & 1988). However this developing appreciation of the potential complexity of lithic assemblages has not been matched by an overhaul of interpretations of lithic assemblages originally produced in the context of previous, simpler classificatory frameworks which continue to be quoted and analysed in contemporary texts.

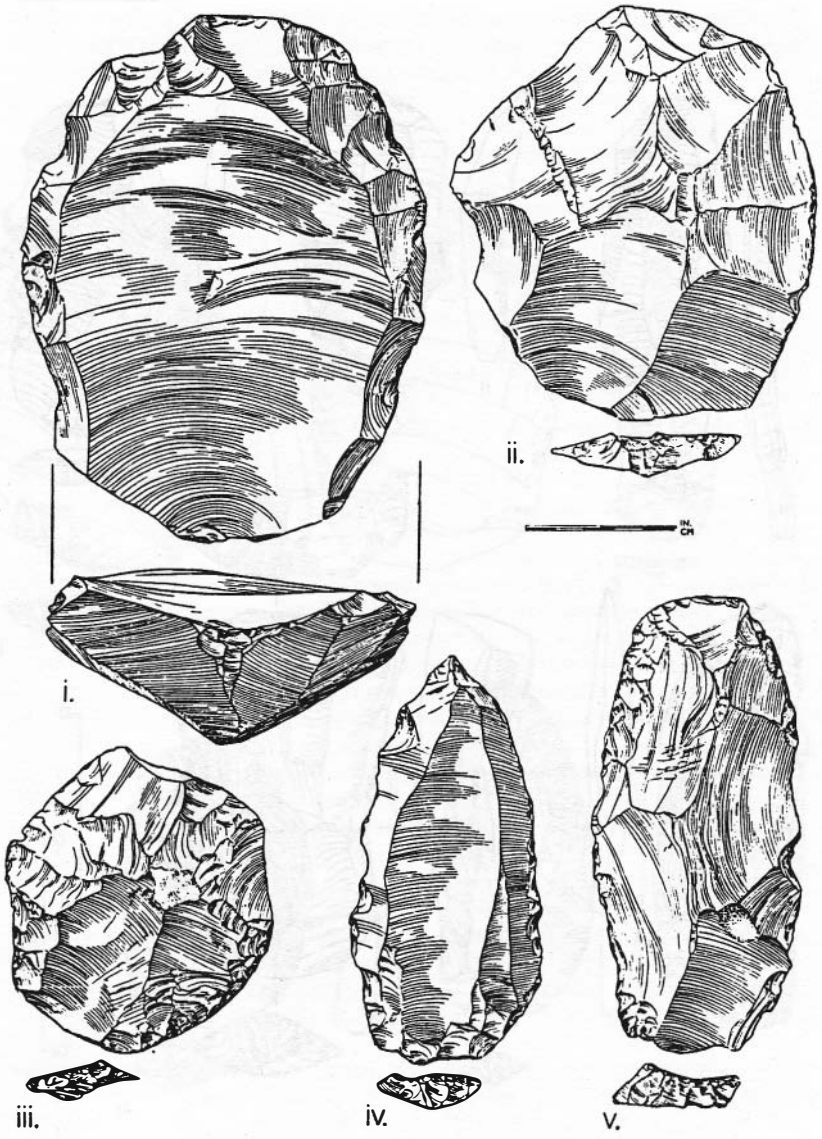

Fig. 2. Baker's Hole artefacts, from Wymer (1968: 358): i) classic Levallois core; ii) classic Levallois flake; iii) classic Levallois flake, unifacially worked: iv) broad blade with unipolar scars; and v) elongated classic flake.

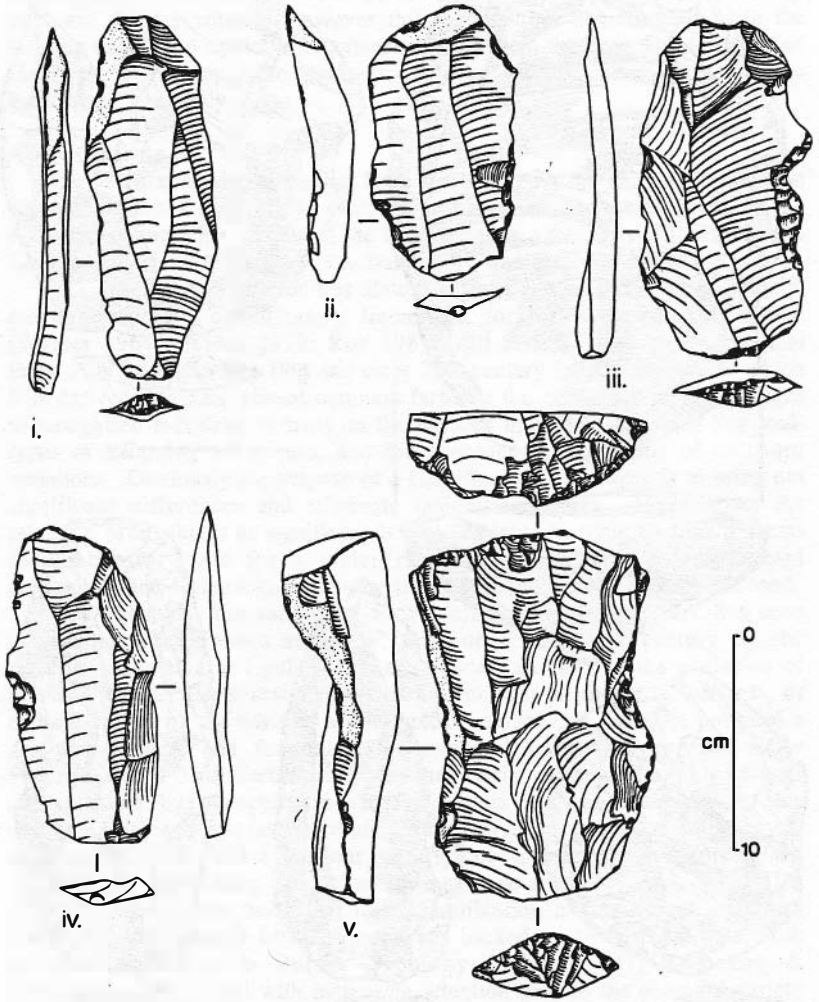

Fig. 3. Baker's Hole artefacts from R.A. Smith's 1909 excavation: i) broad blade with bipolar scars; ii) broad blade with unipolar scars; iii & iv) broad blades with bipolar scars showing radial trimming of core surface; and v) plunging flake showing bipolar flaking with radial trimming and opposed faceted striking platforms.

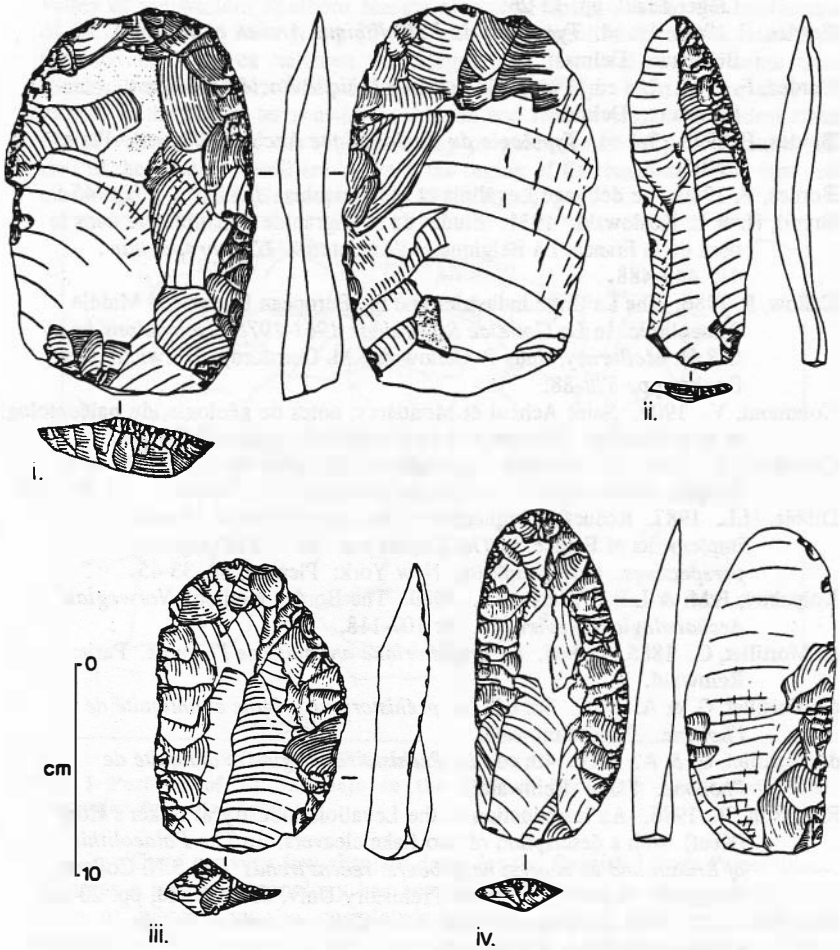

Fig. 4. Baker's Hole artefacts from R.A. Smith's 1909 excavation: i) large bifacially worked flake-tool; ii) & iii) unifacially worked flake tools; and iv) bifacially worked flake-tool (flakes on ventral surface could be interpreted as use-damage).

References

Boëda, E. 1986. Le concept laminaire: rupture et filiation avec le concept Levallois. Paper given at *Colloque Internationale L'Homme de Néandertal, Session 4*.

Boëda, E. 1988. Le concept Levallois et evaluation de son champ d'application. *L'Homme Néandertal 4: La technique,* (ed. M. Otte). Liège: Eraul, pp. 13-26.

Bordes, F. 1961. 1st ed. *Typologie du Paléolithique Ancien et Moyen.* Bordeaux: Delmas.

Bordes, F. 1967. 2nd ed. *Typologie du Paléolithique Ancien et Moyen.* Bordeaux: Delmas.

Bordes, F. 1979. 3rd ed. *Typologie du Paléolithique Ancien et Moyen.* Paris: CNRS.

Bordes, F. 1980. Le débitage Levallois et ses variantes. *B.S.P.F.* 77(2): 45-9.

Breuil, H. & L. Koslowski. 1931. Études de stratigraphie Paléolithique dans le nord de la France, La Belgique et l'Angleterre. *L'Anthropologie* . 41: 449-488.

Callow, P. 1986. The La Cotte industries and the European Lower and Middle Palaeolithic. In *La Cotte de St. Brelade 1961-1978: excavations by C.B.M. McBurney,* (eds P. Callow & J.M. Cornford). Norwich: Geo Books, pp. 377-88.

Commont, V. 1909. Saint Acheul et Montières: notes de géologie, du paléontologie et de préhistoire. *Mémoires de la Société Géologique du Nord 6.*

Commont, V. 1914. Les hommes contemporains du renne dans la Vallée de la Somme. *Mémoires de la Société des antiquaires de Picardie.* 37: 207-646

Dibble, H.L. 1987. Reduction sequences in the manufacture of Mousterian implements of France. In *The Pleistocene Old World: regional perspectives,* (ed. O. Soffer). New York: Plenum, pp. 33-45.

Kolpakov, E.M. & L.B. Vishnyatsky. 1989. The Bordes method? *Norwegian Archaeological Review* 22 (2): 107-118.

de Mortillet, G. 1885. 2nd ed. *Le préhistorique antiquité de l'homme.* Paris: Reinwald.

de Mortillet, G. & A. 1900. 3rd ed. *Le préhistorique origine et antiquité de l'homme.* Paris: Reinwald.

de Mortillet, G. & A. 1910. 4th ed. *La Préhistoire: origine et antiquité de l'homme.* Paris: Reinwald.

Robinson, P. 1986. An introduction to the Levallois industry at Baker's Hole (Kent), with a description of two flake cleavers. In *The Palaeolithic of Britain and its nearest neighbours: recent trends* (ed. S.N. Collcut). Sheffield: Dept. of Arch. and Prehistory Univ. of Sheffield, pp. 20-22.

Roe, D.A. 1981. *The Lower and Middle Palaeolithic periods in Britain.* London: Routledge & Kegan Paul.

Smith, R.A. 1911. A Palaeolithic industry at Northfleet, Kent. *Archaeologia* . 62(2): 515-32.

Spurrell, F.C.J. 1883. Palaeolithic implements found in West Kent. *Archaeologia Cantiana* . 15: 89-103.

Wenban-Smith, F.F. 1990. The location of Baker's Hole. *PPS.* 56: 11-14.

Wymer, J.J. 1968. *Lower Palaeolithic archaeology in Britain as represented by the Thames Valley.* London : John Baker.