Notes

Contemporaneity of Clactonian and Acheulian flint industries at Barnham, Suffolk

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New field evidence challenges an old-established fundamental of the Lower Palaeolithic sequence in Britain.

Excavations at the Lower Palaeolithic site at East Farm, Barnham, Suffolk (Ashton *et al.* in press) help to change radically the British Lower Palaeolithic sequence. Since the 1930s Barnham has formed a pillar, alongside Swanscombe (Kent), of the traditional framework, with a series of Clactonian flint industries overlain by a single Acheulian industry (Paterson 1937; Roe 1981; Wymer 1985). The two industry types were regarded as chronologically and culturally distinct, the simple core-and-flake Clactonian being replaced by a 'more advanced' industry containing bifaces. Recent work at Boxgrove, Sussex (Roberts 1990) and High Lodge, Suffolk (Ashton *et al.* 1992) has shown, however, that Acheulian industries also pre-date the Clactonian industries. Other work (McNabb 1992; Ashton & McNabb 1992) indicate a broad variation in British Lower Palaeolithic assemblages, the only real difference between Clactonian and Acheulian being the presence or absence of bifaces. On this basis their cultural distinctiveness has been questioned. Excavations at Barnham during August 1993 have demonstrated that the core-and-flake industry, previously described as Clactonian (Paterson 1937; Wymer 1985), is in fact in the same stratigraphic position as, and contemporary with, biface manufacture.

The site and its palaeoenvironment

At Barnham, Middle Pleistocene deposits survive in the base and around the edges of a disused clay pit (FIGURE 1). A series of glacial deposits underlie the site, consisting of Lowestoft Till and associated outwash gravels (FIGURE 2) formed during the Anglian glaciation (assigned to Oxygen Isotope Stage 12, *c.* 450,000 years ago, Bowen *et al.* 1989). A late glacial/early interglacial channel, up to 7 m in depth, cut into these deposits and was subsequently infilled with sands, silts and clays (FIGURE 2). The lowest 5 m of these deposits are poorly fossiliferous, but the top 2 m of grey silts and clays have produced abundant faunal remains (Area III).

At the margins of the channel, the grey silts and clays thin and pass laterally into grey silty sands which reach a thickness of less than 30 cm. They cover a single spread of coarse gravels, consisting of medium to large flint cobbles, formed during an earlier stage of the channel's infilling. This 'lag' gravel appears to have been periodically innundated and finally covered by the grey silty sands. Evidence of soil formation has been identified in the dark brown clay unit above the grey silty sands. This unit has possibly been identified at the top of the sequence of silts and clays in the centre of the channel. The whole area was subsequently covered by 'brickearth' composed of brown

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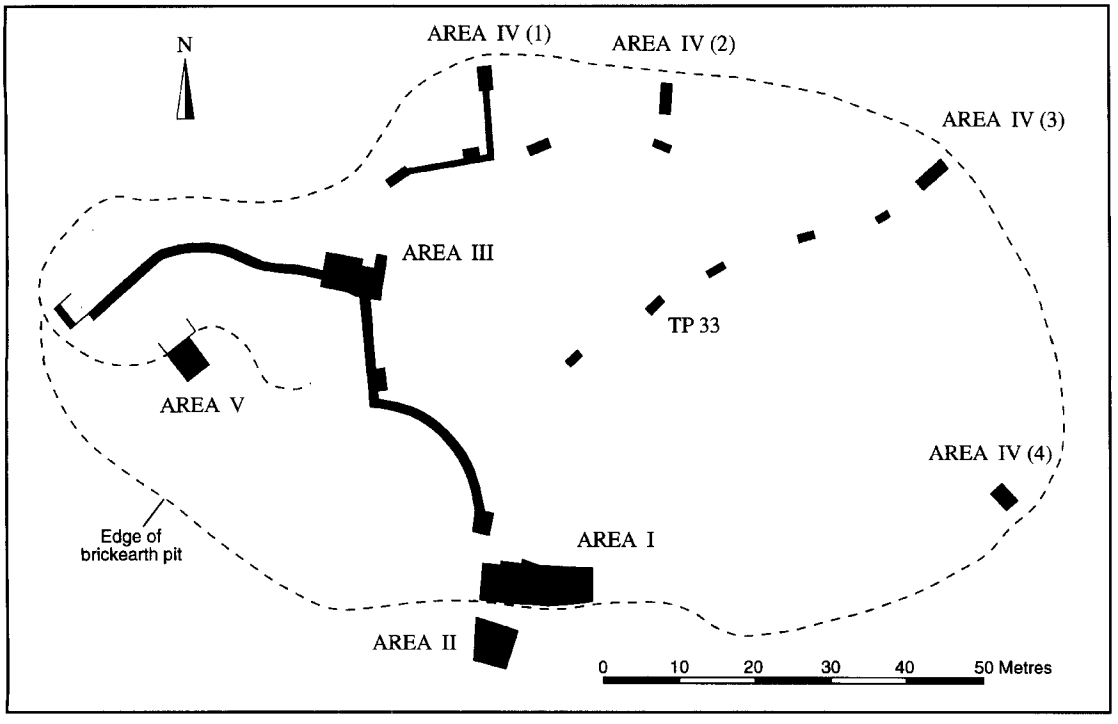

FIGURE 1. *Site plan of excavation trenches in disused clay pit at East Farm Pit, Barnham.*

clays and silts, with further evidence of soil formation at periods during deposition, indicating a complex pedosedimentary history (Kemp in Ashton *et al.* in press).

Around the margins of the channel the deposits are decalcified, but the upper 2 m of the grey silts and clays in the central part of the channel have yielded a rich fauna (Area III). Changes in the composition of the vertebrate fauna indicate a succession from a fluvial situation to a marsh, as the channel infilled and dried up. Initial colonization of migratory fish,

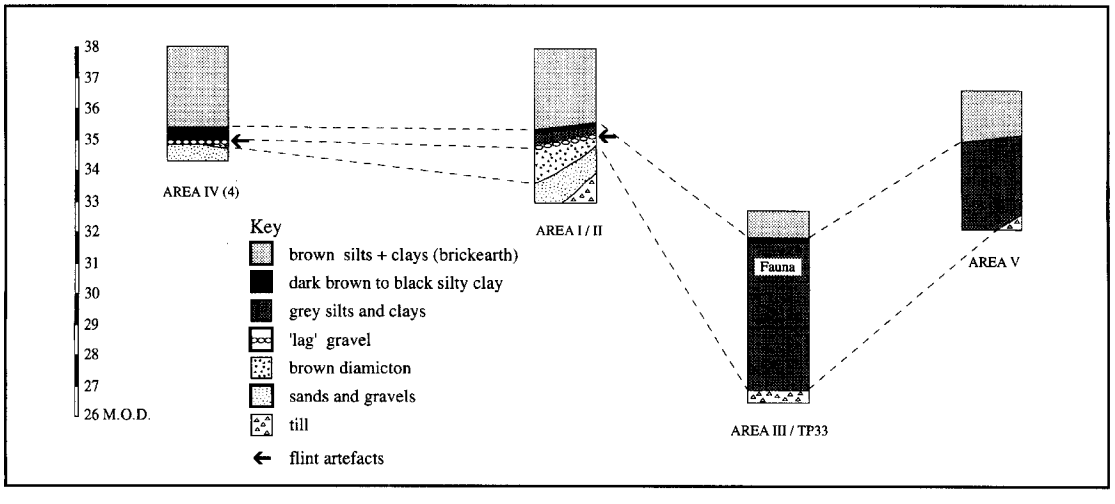

FIGURE 2. *Schematic cross-sections through Area IV(4), Area I/II, Area III/Test Pit 33 and Area V. The horizontal distance is not to scale.*

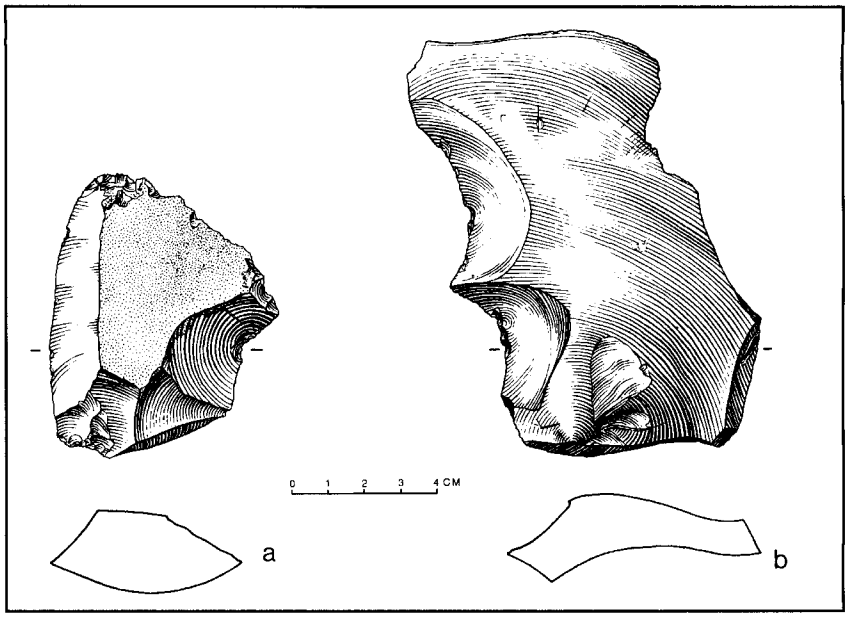

FIGURE 3. a. *Flaked flake from Paterson's excavations on/in the lag gravel, Area I.*
b. *Flaked flake from Wymer's excavation on the lag gravel, Area I.*

such as salmonids and eel (*Anguilla anguilla*), gave way to species that prefer slow-moving water, in particular cyprinids and their associated predators, pike (*Esox lucius*) and perch (*Perca fluviatilis*). Towards the top of the fossiliferous sequence, the vertebrate fauna is dominated by semi-aquatic species such as frogs, toads, newts and European pond terrapin (*Emys obicularis*), possibly reflecting the loss of a fluvial link at the site. Pond terrapin, together with common tree frog (*Hyla arborea*) and Aesculapian snake (*Elaphe longissima*) indicate a fully interglacial climate with a mean July temperature at least 2–3°C higher than present (Holman in Ashton *et al.* in press). Associated with these is a diverse mammal assemblage indicating open grassland with mixed woodland beyond. The sparse large mammal fauna includes fallow deer (*Dama dama*), lion (*Panthera leo*), bear (*Ursus* sp.) and elephant. The mammal fauna includes species that are biostratigraphically important, such as European pine vole (*Microtus (Terricola)* cf. *subterraneus*) and water vole (*Arvicola cantiana*); it is typical of the Hoxnian interglacial, with marked affinities to Swanscombe. The similarity to Swanscombe, supported by results from amino-acid racemization, suggests a correlation with Oxygen Isotope Stage 11 (*c.* 400,000 years ago) (Bowen 1989; Bowen in Ashton *et al.* in press).

The human presence

Contemporary with the fauna, but around the margins of the channel (FIGURE 1), is the evidence of human activity. Within and on top of the lag gravel in Area I, over 2500 artefacts have been excavated from a 40 sq. m area. These consist of cores worked primarily by alternating-platform technique to produce flakes, a few of which have been modified into flaked flakes and retouched pieces (FIGURES 3a & 3b; Wymer 1985: 121, figure 40). The gravel appears to be the source of raw material for a primary manufacturing area, mainly for the production of flakes. Many of the flint cobbles have been tested and abandoned as the quality of the raw material is generally poor.

The knapping seems to have taken place over a long period of time, as many of the artefacts are rolled and abraded. However, the final knapping events in the area have been covered by the grey silty sand and left almost *in situ*. Refitting of the flint suggests that the artefacts have moved slightly, but is also providing a better understanding of the technology. This industry in the past has been termed Clactonian (Paterson 1937; Wymer 1985).

A different group of artefacts has been excavated from a 3 sq. m area (Area IV, 4) on the margins of the same channel, but 50 m to the east (FIGURES 1 & 2). These artefacts, also found in and on the lag gravel, consist predominantly

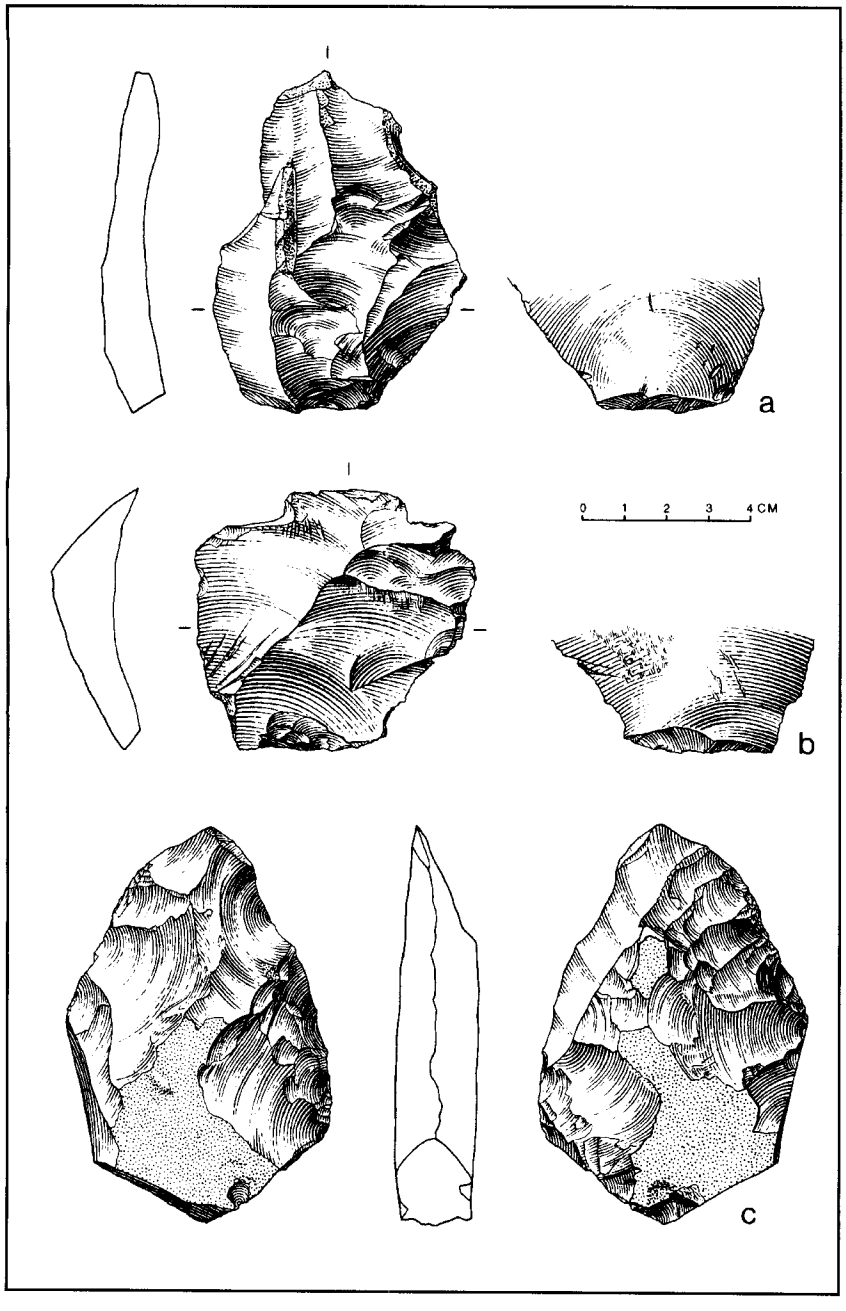

FIGURE 4a & b. *Two biface manufacturing flakes from in the lag gravel in Area IV(4).*
c. *Biface from the palaeosol in Area I.*

of biface-manufacturing flakes. Although only a small area has been excavated, of the 50 flakes recovered a high proportion seem to be from the initial stages of biface-manufacturing (FIGURES 4a & 4b). They are again in fresh condition and are also associated with other flintwork, indicating that cores and flakes were manufactured in the same area.

A third area (Area V) has been excavated in a slightly higher stratigraphic position (FIGURES 1 & 2). On the interface between the grey silty sands and the overlying 'brickearth', a surface has been exposed with a thin scatter of flakes, cores and biface-finishing flakes. Of the six *in situ* larger flakes (>5 cm), two have been modified into flaked flakes and a third bears evi-

dence of attempts to modify the flake edge. The comparatively high proportion of formal tools and the evidence of biface finishing may indicate a distinct use area or final manufacturing area away from the source of raw material.

A single biface excavated in Area I is associated with the palaeosol (FIGURE 4c). The lack of any other manufacturing debitage suggests that the biface has been used and discarded again away from the source of raw material.

Discussion

At Barnham distinct activities within the landscape can be seen, in relation both to the ancient river channel and to the sources of raw material. It is becoming apparent how the proximity of the raw material source and perhaps the quality of that source affects the type of industry recovered. Although not all the areas are exactly contemporary, it is likely that 'photoshots' or glimpses of activities have been identified which took place around the fringes of the channel over a period of time.

At Barnham an industry which has traditionally been interpreted as Clactonian is also seen to be contemporary with biface manufacture. This strongly suggests that the notion of Clactonian and Acheulian industries being culturally distinct is incorrect. A more complex interaction of landscape and human dynamics appears to have influenced the industry types, involving the quantity and quality of raw material, the position of that raw material in the landscape, and above all the desired uses and movement of that raw material by humans. By looking at the site in this way it can be seen how human behaviour varies in the landscape, reflected by the flint technology, without the constraints of a purely cultural framework.

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