Quaternary International xxx (2015) 1–15

Contents lists available at ScienceDirect

Quaternary International

journal homepage: www.elsevier.com/locate/quaint

The British Middle Palaeolithic

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ARTICLE INFO

Article history:
Available online xxx

Keywords:
Early Middle Palaeolithic
Late Middle Palaeolithic
Neanderthal
Britain
Levallois
Bout coupe

ABSTRACT

The British Middle Palaeolithic record can be divided between an early period of occupation (EMP) mainly from late MIS 8 to early MIS 7 characterised by Levallois technology and a late phase of occupation (LMP) in early MIS 3 generally characterised by discoidal technology with flat-butted cordate and *bout coupé* handaxes. This paper discusses the major sites for these periods and the evidence for scarcity or absence of humans from MIS 6 through to late MIS 4. The differences in the early and late phases are discussed with the conclusion that the EMP shows permanent, but short-lived occupation during temperate conditions on open mammoth steppe. In contrast the evidence from LMP sites suggests only seasonal occupation during summer and overwintering in mainland Europe. The latter shows more sophisticated use of landscape over wider territories by late Neanderthals.

1. Introduction

The British Middle Palaeolithic record is rather impoverished compared with that from the rest of northern Europe. Most of the British record consists of late 19th and early 20th century collections, with very few sites discovered or excavated over the last fifty years. However new fieldwork on old sites has provided a chronological framework for understanding the age of the sites and furnishing new data on the habitats occupied. The record can be divided into two main periods, separated by a long period of apparent human absence caused by a combination of climate and the changing island/peninsula status of Britain. The two periods have been termed the Early and Late Middle Palaeolithic respectively (Ashton, 2002; White and Jacobi, 2002).

The Early Middle Palaeolithic (EMP) is characterised by the emergence of Levallois technology, which at most sites replaces handaxe manufacture as the dominant method of tool production. The earliest record at Botany Pit, Purfleet, is of 'proto-Levallois' or 'simple prepared cores' dating to either late MIS 9 or early MIS 8 (White and Ashton, 2003; Scott, 2010). Fully developed Levallois technology is found at sites dating to late MIS 8 or early MIS 7 (White et al., 2006; Scott, 2010; Scott et al., 2011). It is unclear whether Britain was still occupied during later MIS 7, but certainly by the beginning of MIS 6 it is unlikely that humans were present in Britain due to the extreme cold. Rapid sea-level rise in early MIS 5e caused Britain to become an island and it appears that humans failed to make it across in significant numbers (Ashton, 2002; Ashton and Lewis, 2002; Ashton et al., 2011). Continued island status during the remainder of MIS 5 seems to have hindered human occupation in contrast to mainland Europe, while during the cold of MIS 4 northern Europe in general seems to have been uninhabited. The Late Middle Palaeolithic (LMP) in Britain seems therefore to be defined by the first reappearance of humans in early MIS 3. The assemblages are marked by the use of discoidal rather than Levallois technology. They are also characterised by specific handaxes called *bout coupés* or 'flat-butted cordates' (Tyldesley, 1987; White and Jacobi, 2002). However, these terms are discussed in more detail below. The assemblages have been likened to those of the MTA in the remainder of western Europe (White and Jacobi, 2002).

This paper summarises the main sites that relate to the Early and Late Middle Palaeolithic periods and rehearses the arguments that humans were absent or here in low numbers from MIS 6 through to early MIS 3. The paper discusses the contrasting records for the Early and Late Middle Palaeolithic, particularly in terms of palaeogeography, habitat, distribution and site location and investigates whether there are fundamental differences in the nature of the occupations.

2. The Early Middle Palaeolithic

Earlier stratigraphic frameworks for Britain only recognised two post-Anglian (MIS 12) warm periods, the Hoxnian and the

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http://dx.doi.org/10.1016/j.quaint.2015.06.011
1040-6182/

Ipswichian interglacials (Mitchell et al., 1973), but research over the last 40 years has provided firmer correlation of the terrestrial sequences with the marine isotope record. The Ipswichian has long been correlated with MIS 5e (Shackleton, 1969; Shackleton and Opdyke, 1973; Gascoyne et al., 1981; Sutcliffe, 1995) and the Hoxnian is now firmly correlated with MIS 11 (Bowen et al., 1989; Bridgland, 1994; Ashton et al., 1998, 2008; Bowen, 1999; Preece et al., 2007). Therefore the expanded chronology has allowed the recognition of two additional warm stages between these interglacials, so that many sites which had formerly been attributed to either the Hoxnian or the Ipswichian could be reassigned to either MIS 9 or MIS 7. It had long been recognised that many of the sites traditionally attributed to MIS 5e contained two distinctive mammalian faunas, one typified by the small 'Ilford' type mammoth (*Mammuthus* sp.) and horse (*Equus ferus*), the other containing hippopotamus (*Hippopotamus amphibious*) and fallow deer (*Dama dama*) (Tables 1 and 2; Sutcliffe, 1960, 1976, 1995; Currant, 1986). Significantly, horse never seemed to be associated with hippopotamus and it was also observed that evidence of humans was lacking at hippopotamus faunal sites (Currant, 1986). In combination with a better understanding of terrace stratigraphy for some of the major rivers and the application of new dating methods the mammoth-horse faunas are now attributed to MIS 7, while the hippopotamus-fallow deer faunas are recognised as MIS 5e (Bowen et al., 1989; Bridgland, 1994; Currant and Jacobi, 1997, 2001, 2002, 2011; Schreve, 2001; Lewis et al., 2011). The interglacial of MIS 9 is less widely represented, but Purfleet has been attributed to this warm stage based on its position on the third (Lynch Hill/Corbets Tay) terrace of the Thames, its distinctive mammalian fauna and amino acid racemisation (AAR) ratios (Schreve et al., 2002; Penkman et al., 2011).

The MIS 7 faunas have been further divided into an earlier 'Ponds Farm' mammal assemblage zone (MAZ) and a later Sandy Lane MAZ, based on two faunal assemblages from the fluvial sequence at Sandy Lane Quarry, Aveley (Schreve, 2001). The lower assemblage from the yellow sand was characterised by straight-tusked elephant (*Palaeoloxodon antiquus*) and white-toothed shrew (*Crocidura* sp.), while the assemblage from immediately overlying organic mud contained the small Ilford type mammoth and horse, but notably also straight-tusked elephant. Other significant species from elsewhere for the Sandy Lane MAZ were argued to be woolly rhinoceros (*Coelodonta antiquitatis*), narrow-nosed rhinoceros (*Stephanorhinus hemitoechus*) and occasionally Merck's rhinoceros (*Stephanorhinus kirchbergensis*) (Table 1). The distinction in the faunas has been used to attribute sites to either early or late MIS 7 (Schreve, 2001), despite the lack of a marked hiatus between the deposits at Aveley. In addition, although many sites contain the Sandy Lane fauna, there are no other convincing sites that contain the Ponds Farm MAZ (Lewis et al., 2011). Therefore it is suggested here that the apparent distinction in the faunas relates to sample size and perhaps small differences in local environment rather than being of biostratigraphic significance. Indeed the occurrence of the Sandy Lane fauna in stratigraphically early MIS 7 sediments at Ebbsfleet (see below) suggests that it might be a more generalised indicator of MIS 7 and is used as such in this paper.

Most of the principal British EMP sites are located in the Thames Valley, where large Levallois assemblages have been recovered from within or on the surface of fluvial sediments laid down by the Thames or its tributaries (Fig. 1; Table 3). The dating of the sites is dependent on the interpretation of the terrace stratigraphy. Bridgland (1994) has produced a model for terrace formation and aggradation, which is directly linked to global climate change. Downcutting of the river occurred during the amelioration in climate at the end of a glaciation, followed by aggradation during the following warm and cold stages. The Lynch Hill terrace of the Middle Thames is therefore attributed to late MIS 10, MIS 9 and early MIS 8, while the lower Taplow terrace is attributed to late MIS 8, MIS 7 and early MIS 6. In the Lower Thames the corresponding units are the Corbets Tey and Mucking terraces respectively.

Although the model has been widely applied, Lewis et al., (2004) have also highlighted the stratigraphic complexity of the Lower Thames, where sediments laid down under temperate conditions often abut or overlie much older terrace sequences, advocating caution in assigning temperate channel sediments to particular terrace formations. Despite these problems an increasing body of biostratigraphic data, work on amino acids and absolute dating tends to support the attribution of temperate sediments at sites assigned by Bridgland to the Mucking Formation as dating broadly

Table 1
Faunas listed by Schreve (1997) for the Sandy Lane MAZ from Aveley and from other typical assemblages (Schreve, 2001), attributed to MIS 7.

Sandy Lane MAZ (Aveley)	
Arvicola terrestris cantiana	water vole
Canis lupus	wolf
Ursus cf. *arctos*	brown bear
Felis chaus	jungle cat
Panthera leo	lion
Mammuthus primigenius[a]	woolly mammoth
Equus ferus	horse
Stephanorhinus hemitoechus	narrow-nosed rhinoceros
Megaloceros giganteus	giant deer
Cervus elaphus	red deer
Bos primigenius	aurochs
Bison priscus	bison
Sandy Lane MAZ (other sites)	
Microtus oeconomus	northern vole
Dicrostonyx torquatus	collared lemming
Lemmus lemmus	Norway lemming
Citellus citellus	ground squirrel
Crocuta crocuta	spotted hyaena
Panthera pardus	leopard
Palaeoloxodon antiquus	straight-tusked elephant
Stephanorhinus kirchbergensis	Merck's rhinoceros
Coelodonta antiquitatis	woolly rhinoceros

[a] *Mammuthus primigenius* often included the small Ilford-type mammoth. The latter has more recently been interpreted as a smaller form of *M. trogontherii* (Lister and Sher, 2001).

Table 2
The mammal fauna from Joint Mitnor Cave, Buckfastleigh, Devon, the type site for the Joint Mitnor MAZ, attributed to MIS 5e (after Currant and Jacobi, 2011).

Species	Common name
Sorex araneus Linnaeus, 1758	Eurasian common shrew
Lepus timidus Linnaeus, 1758	Arctic hare
Clethrionomys glareolus (Schreber, 1780)	bank vole
Arvicola cantiana (Hinton, 1910)	water vole
Microtus agrestis (Linnaeus, 1761)	field vole
Apodemus sylvaticus (Linnaeus, 1758)	wood mouse
Canis lupus Linnaeus, 1758	wolf
Vulpes vulpes (Linnaeus, 1758)	red fox
Ursus arctos Linnaeus, 1758	brown bear
Meles meles (Linnaeus, 1758)	badger
Crocuta crocuta (Erxleben, 1777)	spotted hyaena
Felis silvestris Schreber, 1777	wild cat
Panthera leo (Linnaeus, 1758)	lion
Palaeoloxodon antiquus (Falconer, 1857)	straight-tusked elephant
Stephanorhinus hemitoechus (Falconer, 1859)	narrow-nosed rhinoceros
Sus scrofa Linnaeus, 1758	wild boar
Hippopotamus amphibius Linnaeus, 1758	hippopotamus
Cervus elaphus Linnaeus, 1758	red deer
Dama dama (Linnaeus, 1758)	fallow deer
Megaloceros giganteus (Blumenbach, 1799)	giant deer
Bison priscus Bojanus, 1827	bison

Please cite this article in press as: Ashton, N., Scott, B., The British Middle Palaeolithic, Quaternary International (2015), http://dx.doi.org/10.1016/j.quaint.2015.06.011