

Bill Boismier

Lynford Quarry

A Neanderthal butchery site



'A brilliant site. The only one of its kind in Britain. The preservation is fantastic.' These were the words of veteran field archaeologist Bill Boismier describing the recent Lynford Quarry excavation near Thetford in Norfolk. Many of his small, highly specialised team agreed. 'This is like Boxgrove,' claimed Richard Jennings, an expert on Neanderthal stone tools who had volunteered to work on the site. 'Palaeolithic finds are almost always secondary deposits churned up by rivers and glaciers. It is very, very rare to find things in

context - to have an actual Palaeolithic site. The tools are so fresh - like they were dropped yesterday.' In fact, the ancient river channel buried under thousands of tons of gravel at Lynford Quarry - with its haul of mammoth tusks, rhinoceros teeth, and mint-condition handaxes - is probably at least 60,000 years old. It is one of the most important Neanderthal sites ever excavated in Britain. Current Archaeology visited the dig last summer to get the news firsthand.

Excavation in progress on the prehistoric channel buried beneath river gravel and sand at Lynford Quarry.

Inset. One of the 44 mint-condition handaxes found on the site.

A long track through the pine trees of Thetford Forest brings you to the quarry, a huge water-filled basin dug out of sand and pebbles. On a hot August day it is a place of dust and sweat, with a constant rattle of heavy plant and the droning of industrial pumps. On the far side of the site, lost at first in the vastness of the place, was the excavation: around fifteen diggers from the Norfolk Archaeological Unit working in a small area down near the base of the quarry at the water's edge.

You could tell at a glance this area was different. It had lain beneath many metres of river gravels and sand, but as you dropped down onto it you found there was a wide, shallow, U-shaped cutting filled with dark-brown, light-grey and creamy coloured sand and silt. It had originally extended across the width of the quarry, for on the far side the dark fill cutting into orange-yellow sand and gravel was clearly visible low down on the quarry face. 'These fine sediments are the result of a fairly low energy flow,' explained Simon Lewis of Queen Mary, University of London, the site geoarchaeologist. 'Glaciers did not reach this part of Norfolk in the last Ice Age, but snow-melt floods during an Ice Age maximum result in energetic rivers, shifting river-beds, and the movement of large amounts of gravel bed-load. Our site was not a main channel when the hominid activity took place. It was a sluggish side channel at best, or perhaps an abandoned channel with standing water which flowed again only in floods. Later, a fast-flowing river deposited the coarse gravels which seal and protect the site - leaving us with exceptionally good preservation.'

Amateur archaeologist John Lord had been keeping an eye on work in the quarry for some time, regularly checking the waste-dumps for finds. His patience was rewarded with the discovery of several stone tools and the leg-bone of a woolly rhinoceros. Joined by Nigel Larkin of the Norfolk Museums Service, the watching brief became more intensive. Then, in late February and March 2002, there was the first glimpse of the true richness of the archaeology buried in the silt: not just an isolated tool or bone, but a substantial part of a mammoth, along with four flint flakes and a pristine handaxe - undisturbed, in situ, just where they had been left tens of thousands of years ago.

John and Nigel contacted Bill Boismier at the Norfolk unit. Bill's gritty American accent still betrays his Midwest origins even after thirty years in Britain. He usually has a cool,

Bill Boismier, the Norfolk Archaeological Unit's excavation director, in discussion on site, August 2002.
Photo: Neil Faulkner



unflappable, worldly-wise manner, but the news from Lynford was stunning, and he was immediately in top gear, persuading the quarry company to stop gravel extraction near the find-spot and English Heritage to find the funds for full excavation. As early as 8 April, Bill was able to lead his hastily assembled team of diggers onto the excavation site to commence work. They did not know it then, but they would be there for five months, finishing on 11 September, by which time their discoveries would have made national headlines.

The key to the excavation was to be the meticulous recording of all find-spots, in the hope that significant relationships between bones, artefacts and deposits could then be reconstructed. To achieve this, the site, which measured approximately 20m by 12m at the widest points, was divided into 2m grid-squares, each of which was subdivided into

The prehistoric channel shows up clearly in sections as bands of silt in various shades of brown and grey sandwiched between deposits of river gravel and sand.



four 1m squares, with each of these further subdivided into four 50cm squares. In addition, the locations of all tools and bones larger than 2cm were recorded three-dimensionally, while samples were taken from all deposits to recover small bones, insects, snails, plant remains and pollen. Such work is slow, and the many huge bones embedded in the deposits tended to split, warp and break up if left exposed in the summer sun as the silt around them was removed millimetre by millimetre over many days, so they had to be coated in plaster or kept covered in plastic to protect them. It was the context of each find - its relationships with other finds - that was crucial.

The channel was up to 1.20m deep and contained two deposits. The upper one was dark brown, sandy and organic, with occasional streaks of light-grey sand and lumps of flint. The lower layer comprised sand and silt, again with some flint gravel. Samples of sand were sent to Oxford to be dated using Optical Stimulated Luminescence (OSL). This technique depends on the fact that most mineral particles are bleached of stored electrons by exposure to sunlight, but once deposited and reburied they begin to accumulate electrons again at a fixed rate. This accumulation can be measured in the laboratory by directing light at the particles and measuring the 'luminescence' they give off. The provisional result for the sandy fill of the ancient channel at Lynford Quarry was between 60 and 65,000 years old. This makes the site firmly Middle Palaeolithic. Modern humans (*homo sapiens*) had not yet arrived in what is now the British Isles; the hominid population was Neanderthal (see box feature). The Ice Age which had begun about 115,000 BP (known as the 'Devensian' in Britain) had two cold peaks, one around 70,000, the other around 20,000 BP. At around 60,000, therefore, the weather was becoming a little warmer; Britain was being re-colonised again, and Lynford was at the beginning of a series of interstadials that would last for another 30,000 years. The Mousterian stone-tool culture was fully developed, providing their makers with a wide range of specialised flake implements to supplement the classic core-made handaxes. It is the date that makes Lynford Quarry unique: there are no other excavated examples of a Neanderthal butchery site in the British Isles, and, though it lacks hominid remains, it is as significant for our understanding of the Middle Palaeolithic as Boxgrove has been for the Lower.

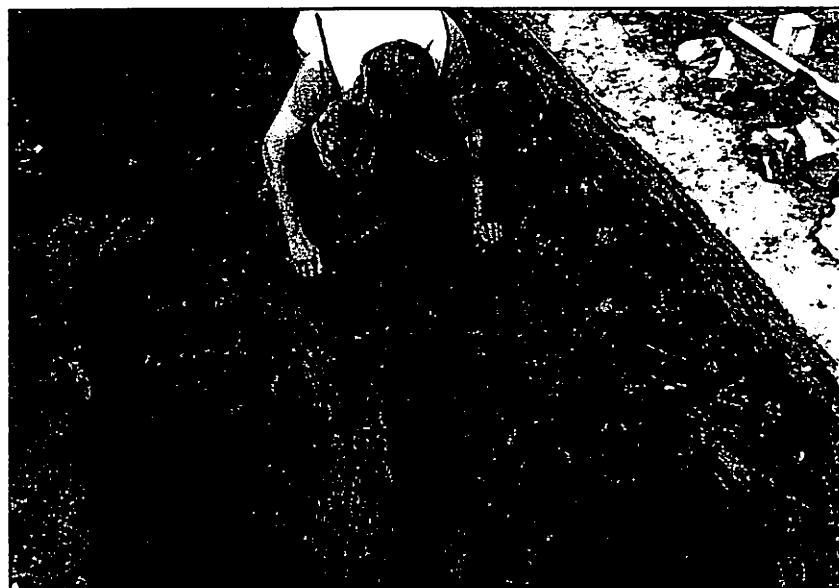
The deposits - amounting to no more than about 200 cubic metres of soil - yielded over 2,000 bones recovered by trowelling and some 2,000 to 4,000 smaller fragments found in sieving. Several species of large prehistoric mammals associated with cold, dry grasslands were represented: mammoth, woolly rhino, horse, reindeer and deer; and there was even the tooth of a brown bear. Some bones had been crushed by trampling or were badly weathered. Some had been gnawed by scavengers. Of greater interest, though, were a few which appeared to have been deliberately split to extract marrow, or which bore possible cut marks from stone tools - evidence for hominid activity.

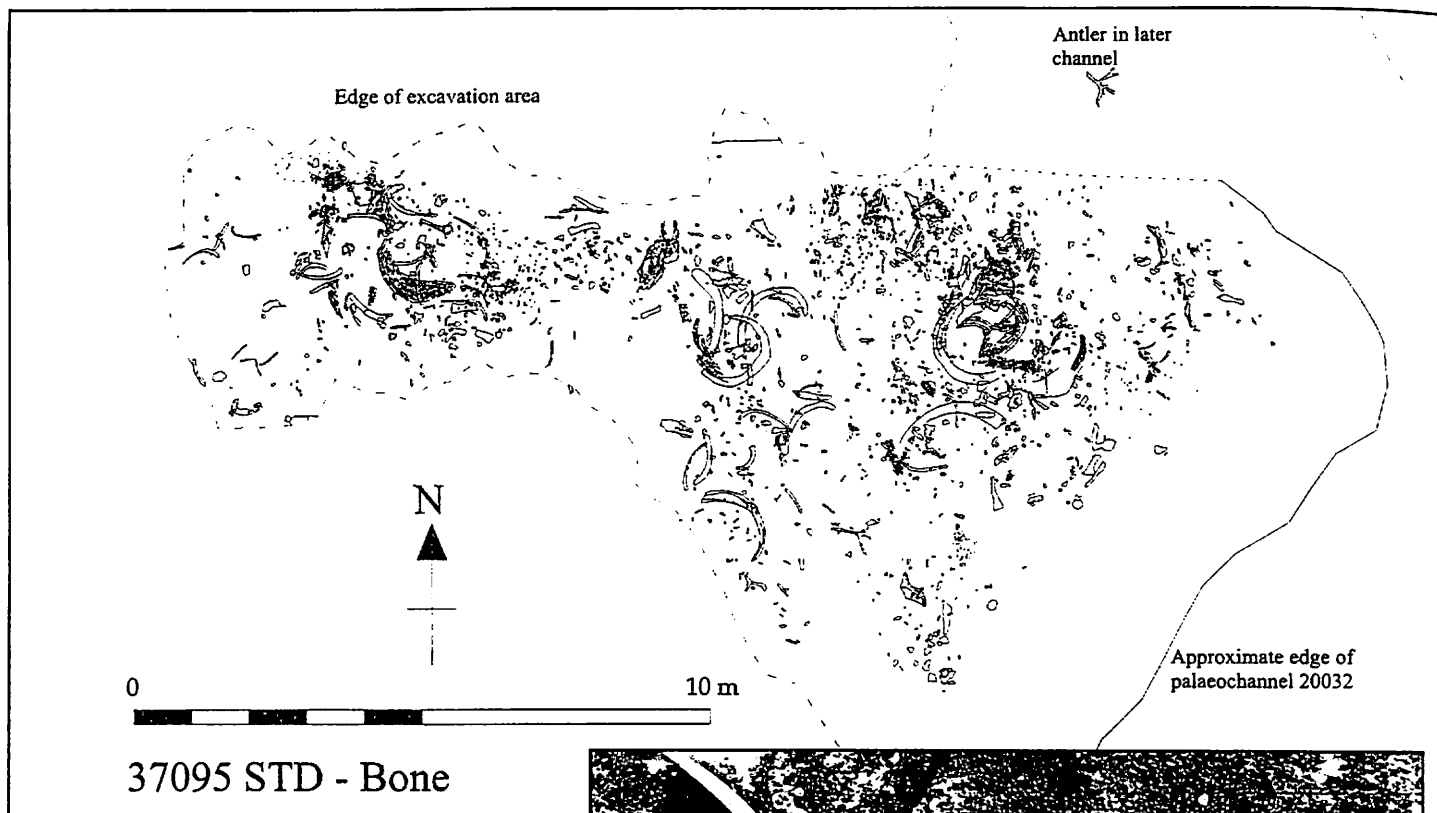
The worked flint was there, too, some 600 individual artefacts or waste flakes, including 44 handaxes of sub-triangular or ovate form.

Excavation in progress.

Top. Phil Rye cleans around newly revealed mammoth tusks.

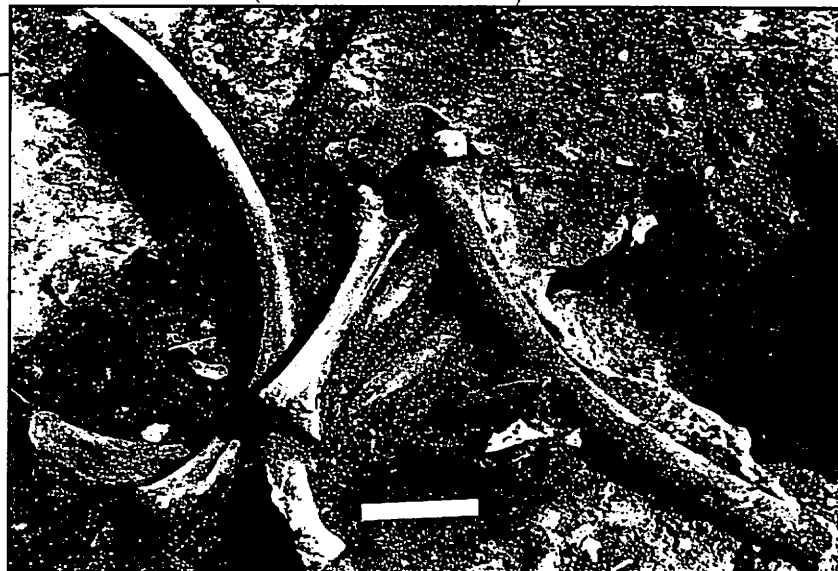
Bottom. Animal remains and flint artefacts were often found in close association. Notice the handaxe left in situ just below Kevin Milner's elbow





Some are of the *bout coupé* type, a distinctive triangular form found only in Britain and Northern France, and closely dated to this period. Most were fresh and sharp, and some were found in undoubted association with the bones from which they had once sliced flesh - one actually among the fragments of a disintegrated mammoth skull. These precious artefacts have a story yet to tell. To avoid contamination, excavators wore plastic gloves to remove them from the ground, and they are now being examined microscopically for bone and plant residues, as well as for the polishes left from use in cutting meat or hides. 'The typology of stone tools,' explain Chris Stringer and Clive Gamble, two leading Palaeolithic specialists, 'has been largely superseded by models of behaviour that concentrate more on the 'biography' of the implement - how it was made, used, resharpened, recycled, changed shape and finally thrown away.' There is now, in other words, a 'focus on edges' in stone-tool studies.

One thing about the tools seems clear already: they were disposables. 'There aren't enough waste flakes for them to have been making tools on site,' Bill Boismier maintains. 'They must have come here with a preformed tool and then done only the final knapping on site - almost like sharpening a pencil. But then the tools were simply abandoned. They were made so quickly and their value was so



low, there was no point in carrying them back.'

But what exactly was happening on the site? The question takes us into the heart of a central controversy in Palaeolithic studies: were early hominids hunters of big game, or merely scavengers of dead meat? The issue is complex and a simple either/or answer is almost certain to be wrong. The Ice Age world was geographically diverse and changeable, and the Neanderthals had to adapt to a wide range of environments. Moreover, their more successful subsistence strategies were probably mixed ones, perhaps including the hunting of small game, the scavenging of big-game kills, and the storing up of frozen carcasses which could be 'defrosted' over winter campfires.

The distribution of bones, tusks, antlers and teeth across the excavation area. Inset. Close-up view of mammoth ribs and vertebrae in situ



Above. A reconstruction painting by Dennis Payne showing how the site may have looked 60,000 years ago. Dennis was one of the Norfolk Archaeological Unit diggers at Lynford Quarry

Lynford Quarry was cold and bleak 60,000 years ago, a pool of stagnant water surrounded by marshes where sedge grew, with a treeless 'steppe' or 'mammoth' tundra of thin grasses and weeds stretching beyond. This we know from insect remains. Also of interest among more than 150 identified species is the presence of specialised dung beetles that fed on animal excrement and of carcass beetles that ate the maggots found in corpses. So there were live animals here, but also dead ones, their bodies rotting in the bog. Was it, then, a much-frequented watering hole ... but a dangerous one, a place where a heavy beast might get stuck in the mud and perish - a mammoth, perhaps, an animal the size of a modern Indian elephant, perhaps 3m tall at the shoulders, weighing 5 or 6 tons, and with curving tusks more than 2m long? And was there sometimes lurking nearby a band of Neanderthals, poised to attack when a herd of deer, horses or reindeer approached, and at other times passing by and catching sight of a pack of hyaenas feasting on the carcass of one of the giants of the Ice Age plains? ■

Source: Bill Boismier, Archaeology Manager, Norfolk Archaeological Unit

The Lynford excavation was funded by English Heritage through the Aggregates Levy Sustainability Fund. The quarry company which supported the excavation, Ayton Asphalte, is part of the May Gurney Group.

The reconstruction painting of the Lynford Quarry site is by Dennis Payne (01449 780194, denachaeus@aol.com). The reconstruction painting of the Neanderthal woman is by Dominic Andrews (0115 926 3882, mrmattock@hotmail.com). Both artists are available for commissions. David Robertson supplied the other illustrations on behalf of the Norfolk Archaeological Unit.

Further Details



An excellent introduction to the anthropology and archaeology of the Neanderthals is the award-winning *In Search of the Neanderthals*: by Chris Stringer and Clive Gamble (1993, Thames & Hudson, £14.95). Stringer, a palaeontologist at the Natural History Museum, and Gamble, a palaeolithic archaeologist at Southampton University, are leading advocates of the 'Out-of-Africa II' theory. See CA 141 for a review of the book.