RANDOM HOUSE eBOOKS

A Fairweather Eden

Michael Pitts and Mark Roberts

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About the Book

The discovery of the remains of ‘Boxgrove Man’, a ‘Missing Link’ hominid half a million years old in chalk pits in Sussex, made world headlines in May 1994. This was the most sensational archeological find in the UK since Piltdown Man – only this time it was not a hoax. Continuing excavation by site archeologist Mark Roberts has enabled him and his team to build up a picture of this, the first Englishman, and to open up a unique window on life in Britain before the Ice Age. Because these human remains, the artifacts surrounding them and the remains of the local flora and fauna – including elephants and rhinoceroses of an extinct species – are preserved in an unprecedented way, we now discover how our ancestors hunted, ate, manufactured the implements they needed to survive and interacted; these were neither the opportunist scavengers nor the mindless killers that they have previously been supposed to be. Boxgrove, therefore, represents a revolutionary view of the origins of mankind, and changes our understanding of what it means to be human.

About the Authors

Michael Pitts studied at the Institute of Archaeology (now part of University College London) before moving to Avebury, Wiltshire as Curator of the Alexander Keiller Museum. He then abandoned a career as professional archaeologist to open (with Hilary Howard) the award-winning Stones Restaurant, and to have more time for writing, photography, and his publishing business, Digging Deeper. He has written extensively for academic journals, including *Antiquity, Journal of Archaeological Science* and *World Archaeology*, as well as for radio and popular magazines. He has excavated at both Stonehenge and Avebury.

Mark Roberts was born in 1961 in West Sussex. He also studied at the Institute of Archaeology, and has directed Boxgrove projects since 1984. He is now a Senior Research Fellow at the Institute. He was principal British contributor to the European Science Foundation workshop on the earliest occupation in Europe, and is member of the Arbeitsgruppe Mauer, which is studying early Middle Pleistocene hominids in Europe. In 1994 he was awarded the Stopes Medal for his contribution to Palaeolithic archaeology and Pleistocene geology. Boxgrove won the ICI/CBA award for the best archaeological project 1995/6. He has a daughter, Harriet, who with his partner Julie, found the largest handaxe ever recorded at Boxgrove.

Some people think an archaeologist is a person who dons a pith helmet, travels to exotic lands, finds something valuable that solves all the big questions, and returns home to get rich on the proceeds of magazine and television interviews.

This book is dedicated to those who know otherwise.

M.W.P.

Fairweather Eden

Life in Britain half a million years ago as revealed by the excavations at Boxgrove

Michael Pitts and Mark Roberts

arrow books

(Drawing by John Sibbick, courtesy of *National Geographic* Magazine)

The chapter head animals are a selection from those represented amongst the bones excavated at Boxgrove. A full list begins here.

Prologue

Christmas 1993

teal

Mark Roberts sat at the head of a long table, beneath the stuffed albino otter. They had booked Christmas dinner in the back room of the pub, the posh dining room, and were having the usual: drinks, jokes, candles and Christmas pudding.

There might have been a touch of sadness that the Boxgrove dig had come to an end. That week they were looking for a fossil elephant said to have been discovered a century before on the bank of the River Arun. But it was only a small private dig: the big project, the full-scale professional excavation, was over now. They were a dozen friends, some of them been together for well over ten years, almost since they left school. If there was any melancholy, it wasn't apparent.

Only Simon Parfitt, Mark's Assistant Director, was very quiet, almost in a world of his own. He'd joined in 1985, straight after his degree, and was now a leading expert in north European ice age mammals. At Boxgrove they'd dug up one of the world's best – possibly *the* best collection of animal bones dating from half a million years ago. Simon had mothered those bones right the way through.

In 1993, a year after they'd stopped digging, Mark had decided they had to do a little more at Boxgrove, to answer some tricky questions that still nagged. Just among themselves, a few small trenches, no need to involve anyone else. And in the very last trench, they had found that bone.

They decided to pull their crackers before the end of the meal, to get the paper hats. Simon and Mark shared one. From it a little key-ring fell onto the table amongst the scattered cutlery and shredded tissues, and dangling from the ring was a tiny plastic skeleton.

For the first time, Simon laughed.

It was just over a week since Simon had first seen the bone, and still he hadn't come out and said what he thought it was. No one beyond the friends around the table knew anything about it at all. Mark nudged him, and under the din said quietly, questioningly: 'Well go on then; is it?'

'I'm 90 per cent certain, yes.'

Mark nodded purposefully, and a grin slowly warmed his whole face. And as he held up the key-ring, amongst this group of old friends whose excavation had come to an end, there was not a sign of melancholy. No, none at all.

PART ONE
WELCOME TO THE STONE AGE

Chapter 1

May 1995: An Excavation Begins

Deninger's bear

FOR OVER TEN years a quest at once disturbing and slightly bizarre has been pursued behind the trees.

Picture an archetypal English country scene. Green leafy lanes; a scatter of villages; children waiting for the school bus; the post lady's red van perched askew, half off the road to avoid the commuting traffic; blackbirds in the hawthorn blossom. Midst all this, invisible from outside, a great swathe has been ripped out and pillaged. Beneath the pretty veneer are stores of sands and gravels – gold to our building road-laying world. And in these gravels, archaeologists have found precious relics that reach beyond our subconsciousness, just as the drag-lines delved beneath the flower beds and footpaths.

As we stand at the top of the track, the well-farmed plain dips away like a gently tipped table, blending into the distant sea. Only the spire of Chichester Cathedral far to the right, and water towers and light industrial buildings on the outskirts of Bognor Regis to the south rise above the trees. Further along the coast to the left are white cliffs where the hills behind us meet the English Channel. From

there, if the air is clear, France can be seen, where the same hills rise again.

There was a time when there was no France or England, no gap in the hills, just a wide bay coming from the right to meet a long white cliff. If we could peel back the landscape before us, we would see that time: a million years of history spreading away into the blue haze.

Old gravel quarries sprawl on either side of the track. Below in the pits, beneath soft orange cliffs, shrubs cluster round weedy heaps spattered white with rain-washed flint. It's difficult to appreciate at once how the site used to be before quarries ate the land around. The most complete building is a long barn – black corrugated asbestos and iron on the roof and walls, its open side facing east. To the south is an open rectangle of flint walling, another barn, this time roofless – the tiles fell in last winter. Other buildings run off from it. A brick feeding-shed for cattle, a couple of bull pens, a stable block for four horses and more low brick and flint structures that enclose a concreted quadrangle. Dark green algae smother broken glass in a window; nettles sprout in one corner of the yard.

On the weedy concrete apron to the east of the old parlours and animal sheds, as we turn from the long black corrugated barn – is something that looks marginally newer: a pair of battered portable tin sheds. The smaller, with square wire-grilled windows, is bare inside save for an unmade camp bed and a scatter of clothing. The other's windows are covered by solid metal shutters. Its door says 'Site Office'.

And the quarries themselves, to the left of the track? There's a rattle of flints underfoot as we descend the firm, sandy ramp. Dirty clays and stones rise around in every shade of orange: rusty tones of sunset, tanned flesh, tinned fruit segments, varnished pine. New growth edges up the slopes – birch, sycamore and hazel. There is another portable hut, this time silvery, shiny, new, with shovels,

mattocks and a wheelbarrow against its wall. The ground is lighter and cleaner than elsewhere. This is what we came to see.

It’s like a Greek amphitheatre with fragments of bleached sculpture rolling amongst the parched weeds, surrounded by sandy red hills. Towards the west end of this part of the quarry, machines have opened up a level floor 30 by 50 metres, backed by two steps each about a metre high cut into the vertical scrubby slope of the north side. As the clays and gravels are all gone, the chalky white marl exposed beneath glares painfully in the sun. Here, 17 months and 27 days before, retired assembly line worker and archaeological volunteer Roger Pedersen found a bone that English Heritage were to tell the world’s media was the greatest archaeological find of the century. And this is where today, 15 May 1995, the search begins for more of a creature known up to now only by a small part of one leg.

The old flint barn with only three walls and no roof is Ounces Barn. It’s stuck out in what used to be fields on the southern edge of the chalk hills of West Sussex, circled by villages. The nearest is Halnaker; to the east is Eartham; and to the south Crockerhill – shrunken hamlets all. The largest is Boxgrove. And because the quarries are in Boxgrove parish, when news of the find was announced, on the front page of *The Times* of London of almost exactly a year before, the creature identified only by a small part of one leg was referred to as Boxgrove Man.

Chapter 2

Before Boxgrove: Myths and Men

giant shrew

AS THE 1960s recede they seem increasingly to be years when the basis for so much of life in the industrial west was set: economic planning, art, music, transport, education, technology (in particular computers), energy use, sex. For so many areas the 1960s seem a turning point. We wanted to forget the past because the future was good. Many thought that if only we believed in love, peace and friendship, all would be well. Yet at the same time we were being told by bestselling books that we were really aggressive, territorial animals driven by instinctive, uncontrollable urges. According to such writers as Robert Ardrey and Desmond Morris – drawing on earlier work by Raymond Dart, Konrad Lorenz and others – we were no more than jumped-up savage apes.

What happened to these two divergent schools of thought? Faith in peace and love did not last. Furthermore, some popular scientists tried to argue against the idea of the instinctive killer, too (a notable attempt being Richard Leakey and Roger Lewin's *People of the Lake*, published in 1978), while academic archaeologists abandoned it almost entirely in the 1980s. But it was an old, deeply engrained idea, and many, of all ages and levels of education, still believe, with Robert Ardrey, that the human genus 'is a

predator whose natural instinct is to kill with a weapon'; and that archaeology confirms it.

This book is about archaeology, and some of the things it reveals of the northern fringe of the world occupied by hominids half a million years ago. (A 'hominid' is a member of the family Hominidae, which comprises all species from us to our remotest ancestors after the split with the apes. Pongidae, great apes, and Canidae, dogs and wolves, are examples of other families. We will use this term often, in preference to 'Early Man', for example, because it avoids any judgements about the 'humanity' of extinct species; it encompasses the australopithecines – see below – and all *Homo* species, including *Homo sapiens*. Not so much because of the European setting, but more on account of the unique quality of the evidence, the archaeology has much to say that is new. We see in unusual detail aspects of the daily lives of these early human-like creatures and the world they lived in. We are confronted again with questions about the nature of our origins: but here the messages, if we read them rightly, are not at all what most of us would expect. We find an ancestor in the family that would not be recognized by Ardrey or Morris; but neither is it the creature that most archaeologists are now conjuring up. This is nothing to do with bones: you could say that it represents the lost intellectual link between our primate forebears and us.

Africa has played centre stage in the modern quest for what we are and whence we came. The African Rift Valley stretches from north of Sinai to the southern tip of Mozambique. About two thirds of the way down, in Tanzania, is a fissured canyon known as Olduvai Gorge. This was where the Leakey family discovered hominid fossils of major importance. They used the Swahili word 'korongo', meaning gully, for their sites and named them

after members of the team. One of the most significant and contentious gullies was Frida Leakey's Korongo: FLK.

The first stone tools had been picked up at FLK in 1931, but it was not until 1959 that Mary Leakey, Louis's second wife, found there the fossilized skull that would transform the nature of their research. *Zinjanthropus*, as Louis called it, was then by far the oldest hominid remain associated with tools (at first said to be older than 600,000 years, the skull was soon dated by the then new technique of potassium-argon analysis to nearly two million years ago). However, the skull did not look in the least bit human; did this mean that tool-making predated the origin of Man? Was *Zinjanthropus* the Missing Link, an ape-like, tool-using creature that came before *Homo?* Or were these tools made by a more human-looking creature (*Homo habilis*) whose skull also appeared from the earth a few years later?

It was a scientific controversy played out in the unaccustomed glare of *National Geographic* coverage. 1959 was the centenary year of Darwin's *Origin of Species*, and Louis Leakey took the new-found skull on tour around the United States. The National Geographic Society was impressed, and responded in a style that made certain the Leakeys were well funded, and any professional disagreements well publicized.

Louis had no doubts about what the tool-makers were doing at FLK. From an excavated area of more than 250 square metres came thousands of stone artefacts and animal bones. The arrangement on the ground suggested there had once been a brushwood shelter. The FLK site was a home base from which hunters had roamed the ancient landscape in search of huge grazing animals.

Louis Leakey was making assumptions that were implicit in just about every archaeological discussion in the 1950s and 1960s of finds such as those from Olduvai Gorge: our early ancestors were hunters; the males brought kills back to camps; at these camps the meat was shared out with

females and children. Indeed, it is probably true that most of us still imagine our distant ancestors behaving in some way like that. It was these assumptions that Robert Ardrey exposed and inflated in a gripping tale of scientific conspiracy published in 1961 called *African Genesis*.

He espoused what had been the lost cause of an Australian anatomist, called Raymond Dart, who had ended up in South Africa. Late in 1924, Dart was given some rocks from a lime quarry at Taung, near Kimberley. Among these he recognized the cast of a brain that looked half ape and half human, and some skull fragments that fitted onto it. His name for this fossil creature, *Australopithecus africanus*, was accepted, and the australopithecines are now seen as lying at the core of the hominid tree, originating over four million years ago ('Lucy', found in Ethiopia 50 years almost to the day after Dart got his first Taung specimen, is probably the best known) (*see* fig 1).

Even now, few if any stone tools have been found unequivocally associated with fossils of these creatures. Dart, however, became convinced that the australopithecines he was finding in South Africa had used *bone* tools. His evidence consisted of the broken animal bones, jaws and antlers found with the hominid fossils, ready made weapons, he thought, for a life of bloodthirsty killing, in which australopithecines ate both other animals and their own kind. It was on this that Ardrey built his idea of the killer ape, the instinctive murderer whose progress marked the early stages of hominid evolution and whose urges still lurk in the modern human psyche. In his own words: 'We are Cain's children, all of us.'

Twenty years ago, after Ardrey's 'confirmed killer' idea had been so publicly promoted, some of archaeology's leading intellects considered the issues again. How *did* the earliest hominids behave? How strong is the evidence for hunting and meat eating? Indeed, is it even possible to tell?

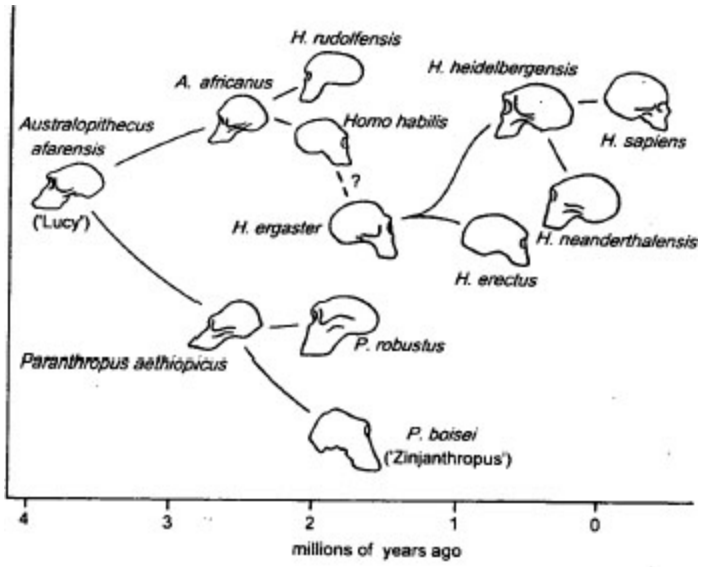

fig 1: Perhaps the one thing on which anthropologists who study hominid evolution agree is that any attempt to picture a complete evolutionary tree is destined rapidly to become history. Current opinion tends to favour a multiplicity of species, anticipating the discovery of new fossils that will add to the complex paths of evolutionary changes and extinctions. In the view that we follow here, *Australopithecus afarensis* evolved into two groups, from one of which emerged the first *Homo* species, which evolved through other forms, including regional variants that became extinct (*neanderthalensis* in Europe, *erectus* in Asia). *Homo sapiens* may be the only species in hominid history to have existed in isolation, (adapted from I Tattersall)

When the evidence from Taung was critically examined, it did not support Dart's or Ardrey's case. Bob Brain, director of the Transvaal Museum in Pretoria, showed that Dart's supposed australopithecine carnage was no more than an imaginative interpretation of a natural accumulation of debris. None of the bones showed any artificial working or damage – just crushing under the weight of the cave fill and gnawing and crunching from carnivores. No object could be held up as an artefact that had been used to attack another creature. One of the few genuine sudden deaths was that of a hominid taken by a large cat: a skull cap had distinct punctures that fitted the teeth of a leopard jaw found in the same deposit. Meanwhile, Richard Leakey, pointing to the large grinding teeth in the back of the *Zinjanthropus* jaw, wrote in the

pages of *National Geographic* that some early hominids (*Zinjanthropus* is now seen as an australopithecine offshoot: (*see* fig 1) were vegetarian and not carnivorous at all.

But it was in east Africa where most of the action was to be found. Glynn Isaac, sometimes working with Richard Leakey, excavated important sites there in the 1970s. He is particularly well known for projects at Koobi Fora and Olorgesailie, where he found well preserved and extremely ancient deposits (ranging between about three and one million years ago) that consisted of large amounts of stone tools and animal bones, with very occasional hominid remains. He called these deposits 'dense artefact-plus-bone patches'. When first found in the 1960s, such deposits were automatically taken to be occupation sites where, amongst other things, hunters retired to consume their kills. But, said Isaac, how right were they to make such assumptions? 'The notion that in times before civilization', he wrote, 'men were mighty meat-eating hunters, is deeply embedded in the folklore, sacred myths and philosophy of West European cultures.' So were archaeologists just peddling a fable? What, asked Isaac, did these 'dense patches' really mean?

One of the first things to be noticed by Isaac and his colleagues was that many of the animal bones had what appeared to be cut marks: fine grooves and scratches that suggested the action of sharp stone tools. Animals ranging in size from gazelles to elephants had been dismembered and filleted. One researcher working with the bones from the Olduvai *Zinjanthropus* site found two or three hundred fragments with such marks. And, interestingly, cut marks were sometimes found at sites where there was otherwise no indication of a hominid presence.

There was plenty of argument about the significance of these scratches. Some came to feel that early claims had exaggerated the number of genuine knife marks. Some

might be from the effects of gnawing rodents or damage caused by trampling by other animals. Nonetheless, some cut marks refused to go away: there could be no doubt that somebody had been removing animal flesh with stone tools. But this threw no light on how the creatures had died, whether naturally or killed by hominid hunters.

As a result, every aspect of these excavated sites was taken apart. If some of the animal bones had been butchered, what about all the others that had not? Was it just coincidence that stone tools had been found in the same deposits? And anyway, why did so many bones and stones accumulate in one place, regardless of how the animals might have died, and whether they had been eaten by hyenas or leopards, or carved up by tool-wielding hominids?

The debate was not just an academic exercise. Archaeologists learnt to make stone tools, dissected elephants, threw things into rivers, crawled into hyena dens and hung around African water holes after dark. For Isaac, the outcome was that ‘dense patches’ probably did, after all, have something to do with early hominids gathering at ‘home bases’ or ‘central foraging places’. But he found no evidence for big game hunting. Rather, he felt, hominids were efficient scavengers of dead animals.

‘This research movement began with the aspect of a drawing-room card game’, wrote Isaac in 1983, only a couple of years before his untimely death; ‘but the recent entry into the stakes of a well-known player has brought the game to a much wider audience.’ That renowned punter was American anthropologist and archaeologist Lewis Binford, who subtitled his first book on the subject ‘Ancient Men and Modern Myths’. He wasn’t just destroying legends: he promoted his own tales, but with scrupulous attention to material evidence.

Binford was as sceptical of visions of savage hunters as Isaac. Finding animal bones with stone tools was no reason

to assume that the makers of the tools had killed the beasts. As he said, three-and-half-million-year-old footprints of hominids beside those of animals, found remarkably preserved in fossil ash at Laetoli in Tanzania, did not mean the former herded elephants.

Isaac, a South African who had studied archaeology at Cambridge, England, had a background of excavating in Africa; Binford of living with Arctic Inuit, talking to hunters and trappers in remote parts of Alaska. When he looked at excavation reports, Binford remembered scenes he'd witnessed in the Arctic: men hunting caribou and wolves tearing at flesh. He thought of people sitting round fires in modern southern Africa, gossiping and sharing food. But he couldn't see the hunters in the boxes of old bones and stones. Like Isaac, he thought it more likely that early hominids had scavenged carnivore kills or natural deaths. But, unlike Isaac, he couldn't see a home base either.

He chose Mary Leakey's excavations at Olduvai to test his ideas (he wrote to the Louis Leakey Memorial Institute – by then Louis was dead – for help, 'but never received answers' to his letters). After looking at the way in which different body parts of animals were variously represented in the collections, he felt he had 'demonstrated what will most certainly become a point of controversy – a new and perhaps "unflattering" view regarding the nature of tool use' among the early hominids.

'Earliest man', he wrote, 'far from appearing as a mighty hunter of beasts, seems to have been the most marginal of scavengers.' They began by using unshaped stones to break bones for the marrow (picking over what was left at kills after lions, hyenas and other carnivores had gone), then over many generations came to appreciate the potential of broken stones for cutting meat. But they showed no abilities to plan and cooperate in a hunt, and had no 'camps': tools occurred in heaps simply because animals tended to die in restricted places, such as near water holes.

Binford later analysed another excavation, at Klasies River Mouth in South Africa. Here, he argued, was evidence that only 40,000 years ago, the first anatomically modern humans were still living largely by scavenging. And when he came to consider European excavations, Binford found the same thing: no convincing evidence for hunting much before the era of *Homo sapiens*. Hunting, in fact, had little to do with ancestral hominids at all.

So Binford and Isaac, and their supporters and detractors – mostly American – battled it out. The high profile of the debate meant that by the early 1980s hardly anyone in academia contemplated an early hominid past of brutal killing. Discussion centred on the type of scavenging. Did they actively seek out and defend carcasses against carnivores, or did they salvage what they could after other creatures had had their fill? Research had shown that, at least in contemporary Africa, a life of scavenging would be viable. Robert Blumenschine, an American working at Olduvai, had argued for two opportunities for early hominids: big cat kills in woodlands near rivers, and carcasses of very large animals that died of disease or by drowning.

The relative importance of animal products in the diet remains an open question – direct evidence for plant foods just does not survive. Parties are still divided on matters of detail. A paper published while we were writing this book, for example, reconsiders (again) the evidence for the differing roles of hominids and carnivores in accumulating bones at the FLK *Zinjanthropus* site. But the creatures that Raymond Dart described as ‘human … in their love of flesh, in hunting wild game … slaking their ravenous thirst with the hot blood of victims and greedily devouring livid writhing flesh’; such chimeras, it seems, are dead.

It was a major shift in attitude, prompted by thinking carefully about how to make sense of archaeological assemblages, studying finds from excavations and

experimenting. Mary Leakey was unmoved. ‘I never thought interpretation was my job,’ she said in a recent interview. ‘What I came to do was to dig things up and take them out as well as I could’. But the debates echoed round the world of palaeolithic archaeology, which would never be the same again.

Of course in 1980 nobody had even heard of Boxgrove. Still less would anyone have guessed that one day, consideration of animal bones and stone tools from over a decade of excavations at this site, would be prompting another major change in thinking. There were always a few eccentrics almost obsessed (as some other archaeologists saw it) with making stone tools. But it would have surprised most academics 20 years ago to learn just how much new understanding of this most ancient of technologies is affecting the way we think about early hominids. And to understand *that*, we will have to get right into the heads of the creatures who made those tools. Impossible? As we will see, there’s more to a flint axe than meets the eye.

PART TWO
FOUR CENTURIES OF FOSSILS

Chapter 3

Boxgrove: a Fossil World

Wild cat

MARK ROBERTS' FIRST small survey at Boxgrove was in 1982, when he was still a London Institute of Archaeology undergraduate struggling to find money for beer and pencils. Two years later his work attracted English Heritage funding. Since then he had been digging every summer with teams of students, six or seven months of opening new test pits, expanding areas already started in previous seasons, following the archaeology while trying to keep ahead of the quarrying. All this time the geology and the extraction programme had acted together in his favour. The layers the archaeologists were most interested in were sandwiched between two much thicker commercially valuable deposits of gravels, above, and sand below. Amey Roadstone Corporation (now ARC) would remove the coarse gravels down to just above the archaeology-rich silts, making these readily accessible to Mark and his team. It might be months or years before ARC later moved in with their machinery to extract the sand; in some areas, it was not clean enough or deep enough to be worth taking out at all.

The result for the archaeologists was an extremely rare, if not unique situation. At a typical dig – for example, at a Roman villa a few centuries old – you start at modern ground level and hope to find, preserved beyond the reach of ploughs, or of sewers or the foundations of buildings, evidence that people in the past had themselves dug that deep, and left clues to what they were doing in their pits and trenches and the rubbish that filled them up. Almost everything that occurred in Europe in the past 10,000 years – since the last ice sheets moved north into the Arctic or high into the Alps and the Pyrenees – did so on the same ground that we know today. About 8,000 years ago hunter gatherers chased deer in the forests that grew in the soils where Boxgrove is now, and fished in the streams that still flow out to the same sea channel. Neolithic farmers cultivated these soils, and generations came and went as the forest slowly fell away to first the stone axe and then the bronze. Then 3,000 years ago people built chalk-banked enclosures on the hills above Boxgrove to defend their stored grain and stock from attack; the grass covered banks are still there, the subterranean store pits filled with refuse. Around 2,000 years ago, to connect their city at Chichester with London, Roman engineers laid a road at the foot of the hill, and cars today drive this route. Boxgrove is a village with church, shops, school and sports field. This community began before the Norman Conquest. By the time of its entry in Domesday Book in 1086 the meaning of ‘Boxgrove’ may already have been forgotten, so that only a probably coincidental hint at a grove of box trees remains. What in the twelfth and thirteenth centuries was a huge sprawl of sophisticated ecclesiastical architecture that grew from a church first built around 1115 as an outpost of a Benedictine Abbey in Normandy, is now largely ruinous, except for part of the priory that today is still a place of worship for parishioners. These people from past times have shaped the landscape we see today,

and left their clutter in the buildings, the roads and ditches and even the language that make this present world.

But all of this is very, very remote from the times that Mark was trying to reach in the gravel quarries. Deep in the ground below Ounces Barn, the special geological history at Boxgrove meant that there was another completely separate land surface, a parallel world to the 10,000 year palimpsest of the present, buried and preserved hundreds of thousands of years ago. This surface was a fossilized storehouse of information, beyond the reach of Victorian drains or cable television trenches. If an ancient hominid knelt down and chipped out a flint axe, the debris they left might well still be there in a scuffed heap. And as you knelt on this same surface once all the layers above had been removed, carefully trowelling out the fine silt, you were in a very real physical sense on the Earth of 500,000 years BC.