

PENGUIN BOOKS

## HOMO BRITANNICUS

Chris Stringer works at the Natural History Museum in London, where he leads the Department of Palaeontology's research into human origins. He also currently directs the Ancient Human Occupation of Britain project, a collaboration of scientists and experts around the country, aimed at reconstructing the first detailed history of how and when Britain was occupied by early humans. His previous books include *African Exodus: The Origins of Modern Humanity* and *The Complete World of Human Evolution*.

CHRIS STRINGER

# Homo britannicus

*The Incredible Story of Human Life in Britain*



PENGUIN BOOKS

To Katy, Paul and Tom, the latest generation of  
Homo britannicus

PENGUIN BOOKS

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*It had been a long, dry summer and the huge river had shrunk to a single deep channel, its many meanders now forming isolated water holes and reed beds. The land around the river estuary sloped gently down to a coast as it curved eastwards in a sweeping bay for a hundred miles, the sun shimmering brightly on the calm sea. A solitary man, naked and powerfully built, perched amongst the reddening leaves of a maple tree. He glanced briefly up to the sky, looking for the clouds that might at last promise that autumn rains were on their way to cool the parched landscape. But his most intense gaze was on the grassy riverbank below, where the women and children were hacking with small stone tools at the carcass of a baby hippo. They had smashed the skull open and were pulling out the brain, which was still warm and moist to their fingers and lips. His brothers and the older children had driven the hyaenas away, and the rest of the hippos, including the mother of this baby, had moved into deeper water. The man had eaten his fill already, but he kept his guard up – there were lions and wolves not far away, not to mention elephants, to judge from the sounds of splintering wood coming from the trees behind him.*

This is not some scene from our ancestral African homelands of two million years ago, nor even from southern Europe a million years ago, although there are similarities in the animals and the climate. This is Suffolk, about 700,000 years before the recent emergence of evidence from sea cliffs near Lowestoft provided such a vivid picture of the landscape inhabited by the first Britons.

## ***Prologue: The Mystery of the First Britons***

The ancient history of Britain seems to be all around us today. Newspapers, magazines, television documentaries and websites vie for our attention with stories of Vikings, Saxons, Romans and older tribes, stretching back to the Neanderthals of the last Ice Age. But away from homes and high streets, secrets of Britain's ancient history still lie waiting to be prised from under our feet, as we walk across roads, along cliff paths, on beaches and in quarries and caves. This book is about an entirely new prehistory of Britain being pieced together from the hidden evidence teased from layers of soil and rock accumulated through many millennia.

*Homo britannicus* presents the work of the Ancient Human Occupation of Britain project (AHOB). This project has brought together thirty archaeologists, palaeontologists, geographers and geologists at Institutes across the country in a unique collaborative network to reconstruct the most detailed calendar of human presence and absence in Britain yet achieved, using the latest techniques of scientific investigation. Although human fossils are very rare in Britain, evidence of human occupation is scattered over the landscape, preserved in ancient river deposits, and stored up in caves, in the form of stone tools and animal bones. Fossil remains can tell us what people looked like, stone tools can reveal details of their behaviour and adaptations, while associated sediments and animal remains can be analysed to unlock the secrets of ancient climates and environments. During the course of the project, many of the mysteries and uncertainties in our early history have been resolved. By showing the vulnerability of humans to past climate and environmental changes, AHOB is also providing a warning for the future, for the human race will face challenges every bit as serious in the near future.

Britain seems a verdant and timeless land for its inhabitants today, and we know from artefacts and fossils that our Stone Age predecessors lived here

many hundreds of thousands of years ago. We might think, therefore, that the roots of the British people lie deep in British soil. Astonishingly, we now know they can be traced back less than 12,000 years, roots far more shallow than those of our neighbours on the Continent. The native peoples of America, Australia and Japan can all claim to have lived longer in their own lands than the British in theirs. Before 11,500 years ago, Britain was subject to some of the most rapid and violent swings in climate and environment in the entire history of the Earth. So vicious and challenging were these changes that time and time again people could only ever establish a temporary foothold here before being completely swept away, and Britain had to be recolonized about every 100,000 years. We have evidence that between 500,000 and 12,000 years ago humans were only here at all for about 20 per cent of the time; between 180,000 and 70,000 years ago, Britain was abandoned, completely empty of people for over 100,000 years.

For most of the last one million years, Britain was not an island. There would have been a wide land bridge to the European continent, so we cannot study the British record in isolation. The plants, animals and humans that we find in Britain during the ice ages, and the warm periods between, came via western Europe. The rich ice age records of neighbouring countries can thus provide us with valuable data on the sources for migrating populations, and the refuges to which early British inhabitants might have fled during the bad times.

AHOB is investigating a series of key questions about the first Britons, and this book looks at those questions, who is addressing them (see the [Appendix](#)), and how they are being answered. We have remarkable new evidence from East Anglia showing that humans arrived here earlier than anyone would have believed even a few years ago and lived in an environment with a balmy climate like that of southern Europe. This will be the subject of [Chapter 1](#). An ancient buried landscape in East Anglia is being re-exposed and reconstructed to reveal a human presence that goes back a staggering 700,000 years – the oldest definite evidence of humans in northern Europe. These early

inhabitants belonged to a primitive species whose only tools were shaped stones. At this time Britain was a peninsula of western Europe, when the now-vanished Bytham River flowed eastwards across East Anglia to a vast delta, draining into a northern sea where its waters joined those of the ancient Rhine.

The rich site of Boxgrove, in what is now Sussex, shows us that 500,000 years ago big game hunters also lived near the coast in a climate similar to the present day. Their story is told in [Chapter 2](#). These strongly built people belonged to the species *Homo heidelbergensis* and hunted and used handaxes to butcher horse, deer and rhino. But their time came to an abrupt end when Britain soon afterwards suffered its worst ice age. About 450,000 years ago, a huge ice cap spread from the north, extinguishing the mighty Bytham River and pushing the proto-Thames southwards to its present course. Every human inhabitant must have fled southwards or perished, and it was not until about 400,000 years ago that a warm climate, and people, returned. In the intervening time, evolution had changed the peoples of Europe, and the new arrivals are recognizable as ancestors of the later Neanderthals. Some of them were still making handaxes, and on the banks of the nascent River Thames, at Swanscombe in north Kent, over 100,000 of these stone tools have been found. The climate of Britain was warmer than at the present day, with a very distinct fauna and flora, and life must have been good for the hunter-gatherers of the time – the subject of [Chapter 3](#). There is evidence from stone tools that suggests more than one group of people may have entered Britain at this time, and comparing the fossil and archaeological records of France and Germany shows that there was considerable diversity in humans and their behaviour about 400,000 years ago.

The descendants of the Swanscombe people suffered the same fate as their predecessors when an ice age returned about 380,000 years ago. Again they came back when the climate allowed it, about 320,000 and 240,000 years ago. But for some reason these early Neanderthal people were now struggling to maintain their foothold in Britain, and, compared with the golden times

represented by Boxgrove and Swanscombe, life seems to have been harder. One of the major focuses of AHOB research is this neglected and little-understood period of prehistory, since evidence is sparse compared with earlier and later periods. We do not yet know what lay behind the serious population crashes of this time, but we can speculate. The population crisis after 200,000 years ago was uniquely severe. Another ice age peaked about 140,000 years ago, but when the climate warmed and the big game returned, there were no people – the only time Britain was empty of humans in an interglacial period in half a million years. Deer, rhinoceros, elephants, hyaenas and even hippos were here, but no one was hunting them – not a single stone tool or butchered bone has been found from a period lasting over 100,000 years. This is perhaps the biggest puzzle that AHOB is trying to solve. We think Britain was an island for some of this period, perhaps even for the first time in its history, but can that alone explain the whole extent of human absence? What kept the Neanderthals out of Britain when they were apparently well established in neighbouring regions such as France and Belgium? Human decline and absence are the focus of [Chapter 4](#).

Whatever the reason for their earlier absence, the Neanderthals did finally make it back to Britain. We know from the evidence of an extraordinary site in Norfolk that they were eating mammoth, reindeer and horse here 60,000 years ago. The rich record from Lynford even includes the remains of thousands of beetles that lived off heaps of mammoth dung, in a climate of mild summers but arctic winters, and these insects provide a vivid picture of the environment and climate of this time. But as the fluctuating climate moved towards a peak of severity 20,000 years ago, new kinds of people with different kinds of stone tools entered Europe and eventually Britain – the modern-looking Cro-Magnons. They were *Homo sapiens*, like us in appearance and behaviour and part of a global dispersal of our species that is being tracked in increasing detail through fossils, artefacts and genes in every inhabited continent. The Neanderthals may have clung on here until about 30,000 years ago but, soon after that, they disappeared for ever. New evidence is emerging across Europe of a time of dynamic change and even

interaction between these distinct human species. With the wealth of new archaeological, environmental, dating and even genetic evidence, we are finally close to solving the mystery of the disappearance of the Neanderthals and the part we played in it. These topics are the subject of [Chapter 5](#).

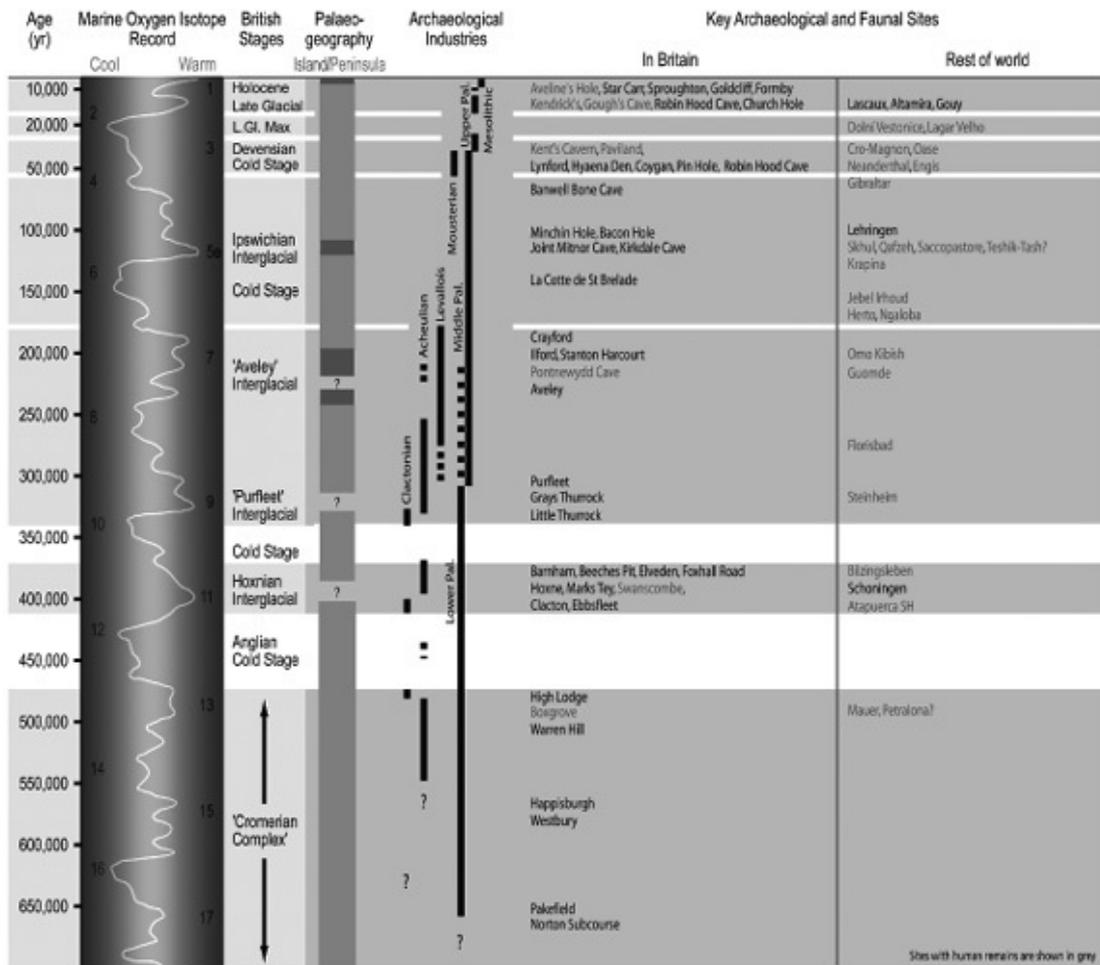
Our species *Homo sapiens* is known for its resourcefulness and adaptability, and yet the British Cro-Magnons were no more capable than their predecessors of surviving the worst of a British ice age. They vanished 25,000 years ago, as an ice cap a mile thick built up in Scotland, but returned as the climate briefly improved, about 15,000 years ago. At Creswell Crags in Derbyshire, the creativity of the Cro-Magnons is further revealed by cave art, the most northerly known in Europe, while in Somerset's Cheddar Gorge a darker picture emerges of cannibalism of both adults and children 14,000 years ago. These sites are the focus of [Chapter 6](#). But the ice suddenly re-advanced one last time for a final cleansing of humans from Britain, some 13,000 years ago. Only after that, in the last 11,500 years, can we really talk about British ancestors living on British soil with real continuity. In Europe there is greater evidence of human persistence by the Cro-Magnons, and rich records of their culture in the form of campsites and cave art are found in France, Spain and Germany across to Russia. Archaeological and genetic evidence suggests, however, that even in mainland Europe the Cro-Magnons suffered change and crisis.

We have been truly fortunate to enjoy one of the most stable periods of climate during the last 11,000 years. This stability has allowed the development and spread of farming and urbanization across much of the world, and the accompanying explosive growth in human numbers. As we come to understand the sensitivity of the Earth's climate system, and particularly that of the North Atlantic, we can predict that the present stability will end very soon. The history of Britain and Europe over the last 700,000 years is littered with rapid and severe climatic changes, when apparently settled plant, animal and human communities were swept away in periods as short as ten years – much less than a single human lifespan. Some

of the world's leading climatologists predict that we will see more climatic change in the next hundred years than we have seen in the previous 700,000. Experts are divided as to whether the whole Earth will experience a 'super-interglacial', warmer than anything over the last 50 million years, or whether developing changes in North Atlantic circulation will trigger a rapid and major cold event in the USA and western Europe, with much of the Atlantic freezing over in winter, as it did when the Cro-Magnons were last driven from Britain. This book will finish with an examination in [Chapter 7](#) of how such changes would affect these regions and their human populations, showing that the effects will be every bit as severe as those that caused our predecessors to flee or die out. Chance events have been important in shaping our evolution, but we are now gambling with the future of the whole planet.

Let us begin our quest for *Homo britannicus* (the first Britons) with an introduction looking at how our knowledge of the prehistory of Britain has developed, and how the search for our earliest ancestors has involved many twists, turns and dead ends over the last two hundred years.

*An AHOB chart showing the geological subdivisions and key archaeological sites in Britain*



## INTRODUCTION

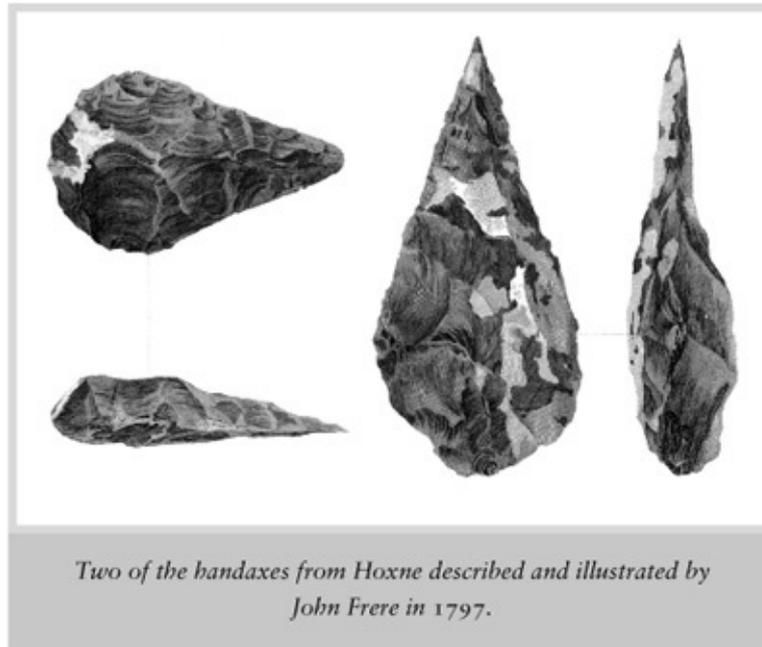
### **In the Beginning**

Our understanding of ancient history evolved in fits and starts, with faltering progress until a major watershed was reached in 1859. In that year a series of key papers was presented that finally established the antiquity of humans and the process of evolution. Those studies laid the groundwork of our present understanding of humanity's ancient beginnings. But 250 years ago, few were aware of, let alone interested in, the prehistoric landscapes waiting to be unveiled. Then, the Bible, and Greek and Roman sources, were seen as the ultimate authorities on ancient history.

'All that is really known of the ancient state of Britain is contained in a few pages. We can know no more than what the old writers have told us,' were the dismissive words of Dr Samuel Johnson in 1780, as reported by James Boswell. At that time, most people in the western world relied on the Bible as their primary source for ancient history, ranging from the Creation and the Garden of Eden, through the epic story of the Flood, to the dispersal and diversification of peoples following the collapse of the Tower of Babel. The idea of a catastrophic global flood seemed to explain the widespread sequences of rocks containing marine fossils and, through inundation, the remains of creatures that lived on land as well. But the Bible said nothing particular about the history of Europe and Britain. As the Danish Professor of Archaeology Rasmus Nyerup put it in 1806, 'Everything which has come down to us from heathendom is wrapped in a thick fog; it belongs to a space of time which we cannot measure. We know that it is older than Christendom, but whether by a couple of years or a couple of centuries, or even by more than a millennium, we can do no more than guess.' Using imaginative extrapolations from the Old Testament, ancient stone monuments in Britain were sometimes linked via the Celts to Japhet (one of the sons of Noah), while from the New Testament there emerged the legend that the young Jesus visited Glastonbury in Somerset with Joseph of Arimathea. Otherwise, for

their local ancient histories, European antiquarians turned to classical writers such as Caesar and Tacitus, who wrote of ancient Britons, Gauls, Celts and Druids. The Druids in particular became associated with standing stones such as those at Avebury and Stonehenge in Wiltshire, and this is still with us today in the ceremonies of the Bards at the Welsh Eisteddfods, and the solstice festivals at Stonehenge, which are recent re-creations of lost histories.

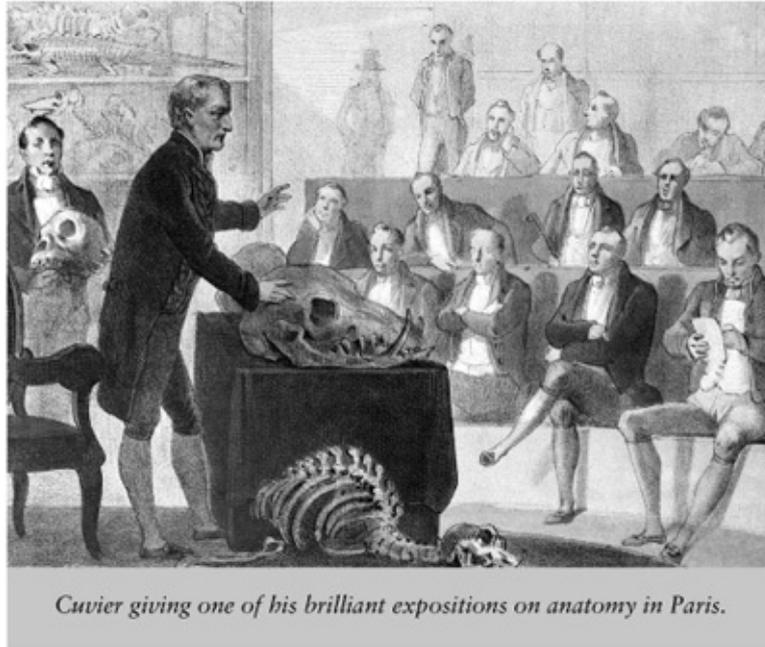
The first step towards archaeology was the recognition that shaped stones, found when digging ditches or foundations, or ploughing fields, were not 'ceraunia' (thunderbolts) or elf shot but were actually tools shaped by ancient humans. Around 1590 Michele Mercati (Director of the Vatican Botanic Gardens) illustrated ceraunia, which we now recognize as stone tools ranging in age from 5,000 to 30,000 years old. But he broke with convention in saying that while most men believed that ceraunia were produced by lightning, he considered they had been 'broken from very hard flints in the days before iron was used for the follies of war'. Mercati was largely ignored, but sixty-five years later the Frenchman Isaac de la Peyrere was less fortunate when he wrote that ceraunia were the work of a pre-Adamite race of man – his books were publicly burnt in Paris in 1655. Around the same time, in Britain, Sir William Dugdale argued in his *History of Warwickshire* that such stones were 'weapons used by the Britons before the art of making arms of brass or iron was known'. This idea that there could have been a Stone Age before metal was discovered or used was reinforced as collections of artefacts brought back to European museums from colonies during the ages of exploration and



*Two of the handaxes from Hoxne described and illustrated by  
John Frere in 1797.*

enlightenment showed that there were peoples still alive who used stone rather than metals to make tools.

Possibly the first British description of a specific ancient stone artefact was of a handaxe. In 1715, John Bagford reported that an antique dealer, Mr Conyers, had found a 'British weapon' and the tooth of an elephant near what is now Gray's Inn Road in London. Bagford imagined that it had been the spear point of an ancient Briton who had used it to kill one of the Roman emperor Claudius's elephants. At the end of the same century John Frere of Norfolk sent some flint implements that he had found just across the Suffolk border at Hoxne to the Society of Antiquaries in London. In an accompanying letter he said, 'if not particularly objects of curiosity in themselves, [these] must... be considered in that light from the situation in which



they were found.’ Frere observed that they had been found in undisturbed deposits twelve feet deep with strange animal bones, and presciently reported that ‘the situation in which these weapons were found may tempt us to refer them to a very remote period indeed; even beyond that of the present world’. We can now recognize these as 400,000-year-old flint handaxes, but most of Frere’s contemporaries in Britain were still content with biblical timescales for prehistory. Sir Thomas Browne spoke for the majority when he wrote in 1635, ‘Time we may comprehend,’ tis but five days elder than ourselves, and hath the same horoscope with the world.’ In 1650, using Old Testament genealogies, Archbishop Ussher calculated a date for the creation of the Earth and Man that received wide currency and was even inserted in the margins of subsequent editions of the Bible: 4004 BC. This meant that Man had then been in existence for less than six thousand years, and similar calculations showed that the post-Flood world had been in existence for only some four thousand years.

By about 1820, a more complex model was developing that suggested there had been successive ‘creations’ of living things, each one destroyed by a separate Flood. During the European ‘Age of Enlightenment’, between about 1750 and 1820, a wealth of knowledge about the natural world not only

began to accumulate in private collections and public museums, but was also investigated systematically for the first time. The seeds were sown for the revolutions in geology and biology that were to follow a few decades later. Rather than rely on the voices of biblical and classical authority, antiquaries (the archaeologists of the day) began critically to compare the evidence they observed with the ancient sources of their education, and natural philosophers (the scientists of the day) began to look at life and the universe in completely new, and analytical, ways. Geology was still in its infancy but some scientists recognized that the biblical accounts might not be telling the whole story. A few tried to reconcile the developing fossil record with the different days of creation, while others developed a catastrophic explanation for the geological succession.

In 1771, Father Johann Esper discovered human bones underlying those of extinct animals in the Gailenreuth Cave near Bayreuth in Germany. In a 1774 publication he asked himself, 'Did they belong to a Druid or to an Antediluvian or to a Mortal Man of more recent times? I dare not presume without any sufficient reason these human members to be of the same age as the other animal petrifications. They must have got there by chance together with them.' The most influential French geologist and naturalist of the time, Baron Georges Cuvier (nicknamed 'The Pope of Bones'), argued that the human bones had indeed become mixed with the more ancient fossil ones. Even easier for Cuvier to dismiss had been the 1731 claim by Professor Johann Scheuchzer of Zurich, who believed he had uncovered the 'bony skeleton of one of those infamous men whose sins brought upon the world the dire misfortune of the deluge'. Cuvier showed that the fossil '*Homo diluvii testis*' (human witness of the Flood) was in fact the remains of an extinct giant salamander! He believed there had not been just one flood but several, each destroying a world that God had created earlier. Since humans were only present during the last of these (the Noachian Flood), it was hardly surprising that the biblical account was incomplete. This also meant that human bones could not have been fossilized during the earlier geological events and Cuvier strongly opposed any attempts to prove otherwise.

As influential in Britain in the 1820 s as Cuvier was in France, the Reverend William Buckland, Professor of Geology at Oxford University and later Dean of Westminster, brought the beginnings of a scientific approach to the study of fossil bones from British caves. In *Reliquiae Diluvianae* ('Relics of the Flood: observations on the organic remains contained in caves, fissures, and diluvial gravel, and on other geological phenomena, attesting the action of an universal deluge'), he argued that superficial deposits of sands and gravels were evidence of the global Great Flood. Like Cuvier he favoured the idea that there could have been earlier creations and floods, but that human remains would not be found in flood deposits (diluvium) except, perhaps, near the location of the Garden of Eden, after humans had been created. A brilliant but eccentric man, Buckland carried out some of the first proper investigations of diluvial deposits in caves, and excavated one of the first fossil human skeletons known to science, although the evidence was subjected to his own idiosyncratic interpretation. He must have been an extraordinary sight, travelling the length and breadth of Britain for his geological and mineralogical studies, astride a horse and dressed in top hat and professorial gown.

Buckland's view that geology was not only consistent with the Book of Genesis, but would also prove its truth, was reinforced by the conclusions he drew from his excavations at Kirkdale Cave in Yorkshire. Quarrymen had exposed a cave entrance and were using 'cattle bones' from the cave to stabilize muddy tracks. Buckland, however, had heard that these bones were peculiar and very numerous; were they perhaps the remains of creatures drowned in one of the great deluges? He set about exploring the complex web of cave passages, sampling and excavating as he went, and everywhere he found diluvial deposits packed with fossil bones. In keeping with his expectations, there were no human bones, but he found the remains of over twenty species of mammal, some native to Britain, some very exotic, and some quite extinct: they included deer, elephant, hyaena, lion and hippopotamus. Big game from Africa is very familiar to us now from zoos and wildlife documentaries, but this was not the case in 1821, and their discovery

in a cave in Yorkshire was considered quite extraordinary. How such a peculiar mixture of creatures had arrived there was a challenging question – whether caused by a flood or not. One obvious but naive answer to this assemblage of alien bones would have been to assume that they had been washed from afar by the swirling flood waters. Buckland, however, made a brave scientific leap and argued that the bones represented animals that were alive at the same time in or around the cave. When the catastrophic Flood arrived, their remains outside the cave had been swept away but, in its deepest recesses, they had survived destruction.

The modern science of taphonomy is the study of the processes that occur from the time an organism dies to its burial and potential fossilization: these processes can include the manner of death, decomposition, movement, burial, and chemical alterations. Buckland was one of the pioneers of this science, although the Russian scientist Ivan Efremov did not coin the term until some 120 years later. Buckland noted that many of the bones in Kirkdale Cave were broken into small fragments and apparently had been gnawed, and he also noted that one of the most common animals represented as a fossil was the hyaena. He wrote to a colleague about the behaviour of modern hyaenas: ‘As we know they do not dislike putrid flesh, we may conceive they took home to their den fragments of those larger animals that died in the course of Nature, and which from their abundance in the Deluge gravel we know to have been the Antediluvian inhabitants of this country.’

Not only was Buckland an early practitioner of taphonomy, he was also one of the first to conduct proper taphonomic experiments. He started by feeding various parts of animals to a Cape hyaena that was brought to Oxford in a travelling circus, and observing what was regurgitated from one end of the animal or