KINDRED

NEANDERTHAL LIFE, LOVE, DEATH AND ART

Rebecca Wragg Sykes
Gritty roof-dirt scratches under your feet, for we stand atop a vertiginous space-
scraper. Beyond any dream of Babel, this tower has grown up from the earth like
a hyper-stalagmite, a metre for each year of humanity’s history. Atop its three
hundred kilometre-high roof, the International Space Station streaks overhead,
almost faster than you can blink. Peer over the tower’s edge, and along its full
length you see a halo of light from thousands of openings. Towards the top are
LED-lit apartment windows, but farther down – deeper in time – the quality of
light shifts. Your eyes adjust as amber fluorescent bulbs give way to luminous gas
lamps, then massed choirs of candles begin.

You’re squinting now but perceive, even farther below, a softening. Old light
from tens of thousands of clay lamps gleams out, their smoky trails wreathing
the tower, yet we’re still not all the way to the depths of human history. You take
out a small telescope and as your pupils expand, greedy for ancient photons, you
see the flickering of hearth fires begin some thirty kilometres down, and continue
for ten times that depth, all the way back to three hundred thousand years ago.
Flames and shadows twist and arch, reflecting on stone walls, until there is only darkness and the years are uncounted.

Time is devious. It flees frighteningly fast, or oozes so slowly we feel it as a burden, measured in heartbeats. Each human life is marbled with memories and infused by imaginings, even as we exist in a continuously flowing stream of ‘now’. We are beings swept along in time, but to emerge and view the whole coursing river defeats us. Not so much counting or measuring; today’s science can calculate values to brain-imploding levels of accuracy, whether the age of the universe or a Planck second.* But truly comprehending the scale of time on an evolutionary, planetary, cosmic level remains almost impossible, as much as for the first geologists, staggered at glimpsing earth’s true age. Connecting to the past beyond three or four generations ago — the boundary of ‘living memory’ most of us manage — is challenging. Relating to more ancient ancestors gets even harder. Old photographs embody how our perspective becomes fuzzier, and even this visual archive extends just a couple of generations farther back. Then we enter the realm of painted portraits, and another gauze layer of unreality settles onto the past. Comprehending the gobsmacking hugeness of deep archaeological time is much, much tougher.

Handy mental tricks exist to bridge this gap between our mayfly existences and the abyss of time. Shrinking the universe’s 13.8 billion years to a single 12-month period puts the dinosaurs shockingly close to Christmas, while the earliest Homo sapiens arrive only a few minutes before New Year’s fireworks. But plotting time on that relatable scale doesn’t communicate the immense, yawning stretches of years. Surprising juxtapositions push it home a bit: for example, fewer years lie between Cleopatra’s reign and the moon landings than between her and the building of the Giza pyramids. That’s only the last few thousand years, whereas the Palaeolithic — the archaeological period before the last ice age — is even more mind-bending. Lascaux’s leaping bulls are closer in time to the photos on your phone than to the panels

* The shortest measurable unit of time.
of horses and lions at Chauvet. Where do the Neanderthals fit in? They take us way back beyond fingers tracing beasts on stone walls.

While it’s impossible to pinpoint the ‘first’ of their kind, they became a distinct population 450 to 400 thousand years ago (ka). The night sky then hanging over earth’s many hominin populations would have been alien, our solar system light years away from its current position in a never-ending galactic waltz. Pause halfway through the Neanderthals’ temporal dominion at around 120 ka, and while the land and rivers are mostly recognisable, the world feels different. It’s warmer and ice melt-swollen oceans have flooded the land, shoving beaches many metres higher. Startlingly tropical beasts roam even the great valleys of Northern Europe. In total, the Neanderthals endured for an astonishing 350,000 years, until we lose sight of them – or, at least their fossils and artefacts – somewhere around 40 ka.

So far, so dizzying. But it’s not just time: Neanderthals also spread across a remarkably vast swathe of space. More Eurasian than European, they lived from north Wales across to the borders of China, and southwards to the fringes of Arabia’s deserts.

The more we find out about Neanderthals, the greater range and complexity we uncover. But following all this can get confusing: there are thousands of archaeological sites. So we’ll hold on to anchors: key sites that offer touchstones in the Neanderthal story, while also looking outwards at the enormous scope of the field. Some – whether Abric Romani in Spain or Denisova Cave in Siberia – tell us incredible stories of twenty-first-century discoveries. Others, like the Le Moustier rockshelter in the heart of the south-west French Périgord, offer chronicles of Neanderthal life woven through the history of archaeology itself. Two extremely important skeletons we’ll meet later were found there, and it’s also a stone artefact (lithic)* type site, where a particular Neanderthal culture was defined. Le Moustier has witnessed over a century of research, hosted a succession of scholars and even been a flashpoint for massing geopolitical anxieties just before the First World War. But neither Le Moustier nor France in

*‘Lithic’ means stone, and researchers prefer the term ‘artefact’ to ‘tool’, which is more specific to something actually used in the hand.
1914 are where the Neanderthal story truly begins. We need to go back another five decades, to the 1850s.

**Ground Zero**

Everyone loves a ‘how did you meet?’ story. The knotty tale of our entanglement with Neanderthals is tousled by threads of intuition and perplexity: birthed by the Industrial Revolution, scorched by wars, glittering with treasures lost and found. From forgotten meetings tens of millennia ago when we saw each other as human, to the comparatively recent rediscovery of these ancient kin, our infatuation is perennial. Impatient for hoarfrost and mammoth breath, it’s tempting to fire up a time machine and speed straight back into the Pleistocene.* But we need to start in the midpoint of this grand and convoluted history, before we can clearly see a beginning, or an end.

Let’s journey just five or six generations back to witness the birth of human evolution as a science. Fundamentally narcissistic – a child of the Victorian worldview, after all – it’s always been about asking who, and why, we are. Amid perhaps the greatest socio-economic upheavals the world had yet seen, nineteenth-century scholars struggled to wrap their minds around the strange bones coming out of European caves. But one thing was certain from the start: the Neanderthals detonated growing debates over what it meant to be human. There are few bigger questions, and beyond mere curiosity the answers matter deeply. Tracing how early prehistorians wrestled with categorising these confounding creatures helps us appreciate the many contradictory things believed about the Neanderthals, and explains preconceptions that still persist today.

This history begins in late summer, 1856. Quarrying to meet demand from burgeoning marble and limestone industries had progressively consumed the deep gorge south-west of Düsseldorf, a once-famous Prussian beauty spot. Towards the cliff tops a cavity – known as the

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*The Pleistocene is a geological division of time, and is the first epoch of the Quaternary, beginning around 2.8 million years ago, until around 11,700 years ago when the epoch we’re living in – the Holocene – began.*
Kleine Feldhofer Cave — was revealed, plugged by thick, sticky sediment requiring blasting. One of the quarry owners’ eyes was snagged by large bones workers cast down from the cave mouth. Being a member of a local natural history association, he speculated that they could be old animal remains of scholarly interest, and so rescued a motley assortment — crucially including the top of a skull. The founder of the natural history club, Johann Carl Fuhlrott, visited and realised the bones were human. Moreover, they were fossils and thus must be very ancient. *

It seems that the Feldhofer discovery caught local imaginations as press reports appeared, and scholars further up the intellectual hierarchy began asking to view the mystery bones. At the start of 1857, a cast of the skull cap was sent to anatomist Hermann Schaaffhausen in Bonn, whose mind was thankfully open to the possibility of fossil humans. Eventually, a wooden box containing the real remains, chaperoned by Fuhlrott, travelled to Bonn on the barely 10-year-old railway. Schaaffhausen’s expert eye immediately focused on the bones’ abnormal bulk — especially the skull — while other features like the sloping forehead reminded him of apes. Given their patently ancient condition and origin in a cave, he was inclined to agree that they must be a primitive kind of human. That summer he and Fuhlrott presented their findings to the General Meeting of the Natural History Society of Prussian Rhineland and Westphalia. Just a few years after this unofficial debut into society, more serendipitously rescued bones would become the first scientifically named fossil human: *Homo neanderthalensis*.

The word ‘Neanderthal’ is so familiar today, yet its history is full of strange congruence. The Neandertal ‘thal’ (valley) containing the bones’ original resting place was named for a late seventeenth-century teacher, poet and composer, Joachim Neander. A Calvinist, his faith was partly inspired by nature, including the famous ravine of the Düsseldorf River. Its geological wonders — cliffs, caves, arches — were so beloved by artists and romantics that it developed its own tourism industry. Joachim Neander died in 1680, but his celebrated hymns — performed three centuries later for Queen Elizabeth II’s diamond

* Even in fossils ‘just’ a few tens of millennia old, textural differences are apparent.
jubilee – were an enduring legacy. By the early nineteenth century one of the gorge’s formations was named Neanderhöhle after him, yet within a few decades the surroundings would have been unrecognisable to Joachim. Consumed by massive quarrying, the ravine disappeared and the new valley became known as the Neander Thal. Here’s the weird bit: Joachim’s family name was originally Neumann, later converted by his grandfather to Neander following the fashion for more classical names. Neumann – and Neander – literally mean ‘new man’. Could there be any more fitting moniker for the place where we first discovered another kind of human?

Yet even if the anatomical case seemed obvious, proof that the bones really were incredibly old was needed. Fuhlrott and Schaffhausen returned to the quarry to interview the workers, who confirmed that the remains had lain about 0.5m (2ft) deep in undisturbed clays. Interpreted within a hybrid biblical-geological framework, for Fuhlrott this pointed to an age before the Flood, making the skeleton enormously ancient. It gave them confidence to publish the explosive claim that a vanished human species had existed before *H. sapiens*. More convergence: the same year, 1859, witnessed another convulsion of the scientific community with the natural selection theories of Darwin and Wallace. But it wasn’t until around two years later that Feldhofer really hit the big time, when the fascinating biologist George Busk translated the original German article.

Little known today, Busk was at the heart of the nineteenth-century scientific elite, and like many contemporaries his interests were multi-disciplinary in a way virtually impossible now. A member of the Geological Society, President of the Ethnographic Society and by 1858, Zoological Secretary for the Linnean Society (the foremost learned society for biology), Busk added a commentary to his 1861 translation of the Feldhofer discovery. He pointed out that extreme human antiquity was well established by artefacts found elsewhere alongside extinct animals, and specifically compared the skull to chimpanzees. He also noted the urgent need to find another.

In fact, earlier, unrecognised discoveries already existed. Humanity had forgotten its long-lost cousins for millennia, then – something like buses – three appeared in the first half of the nineteenth century. The first came in 1829 at the hands of Philippe-Charles Schmerling,
One of a growing number of ‘fossiling’ hobbyists, he also had a medical background, and at Awirs Cave near Engis, Belgium, found parts of a skull. Together with ancient creatures and stone tools, it had lain sealed beneath 1.5m (5ft) of flowstone-cemented rubble.*

Despite its unusual elongated shape, the Engis skull didn’t attract wider notice because it was from a child: like us, young Neanderthals had to ‘grow into’ their adult form. The adult Feldhofer skull was more obviously heavy-looking, and furthermore it came with other body parts.† Although the Engis child was to remain unclassified until the early twentieth century, happily for Busk someone else had already found another adult Neanderthal; and it came from British-controlled soil.

In 1848, while stationed in Gibraltar, the exquisitely named Lieutenant Edmund Flint came into possession of a skull. Once again, limestone quarrying – this time to reinforce British military fortifications – set the discovery in motion, but Flint’s rank and personal interest in natural history ensured it was not disposed of.‡

The Rock spikes up from the peninsula like a vast hyaena’s tooth, and its flora and fauna attracted the interest of enthusiastic natural historians among Flint’s fellow regimentals; he was Secretary of their Scientific Society. Minutes for 3 March 1848 record his presentation of a ‘human skull’ from Forbes’ Quarry, above the eighteenth-century artillery battery. No doubt the officers passed it around, gazing into the huge eye sockets, but despite being essentially complete (unlike Feldhofer) it apparently wasn’t considered extraordinary. A coating of cemented sediment may have obscured details, but the inability to ‘see’ its exotic shape is noteworthy.

The Forbes skull sat unremarked in the Society collections until 1863. That December, Thomas Hodgkin,§ a visiting physician with ethnographic interests, saw it amongst other objects. Perhaps primed

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* This material is known as breccia.
† In total the original Feldhofer bones consisted of both thighs, the left hipbone, parts of the collarbone, a shoulder blade, most of the arms and five ribs.
‡ It was very probably unnamed quarry workers rather than the Lieutenant who made the find.
§ The describer of the condition Hodgkin’s lymphoma.
by his friend Busk’s translation of the Feldhofer report, he did see something remarkable in the skull, which at this point was probably in the care of Captain Joseph Frederick Brome, a respected Gibraltarian antiquarian and governor of the military prison. Passionate about geology and palaeontology, Brome had been sending finds from his own excavations to Busk for several years, and so the Forbes skull duly set sail for Britain, arriving in July 1864.

Busk must have immediately realised that the large nose and pushed-forward face were strikingly similar to features hinted at by the Feldhofer skull, which consisted only of the upper cranium plus a partial eye orbit. He also understood that these vanished people must have lived ‘from the Rhine to the Pillars of Hercules’. Just two months later, the Forbes skull made its own scientific debut, although someone received a special preview. Thanks to the prodigious correspondence habits of Victorian gentlemen, we know that the Forbes skull had very likely been in the hands of Charles Darwin, conveyed by a palaeontologist colleague of Busk – Hugh Falconer – as Darwin’s ill health prevented his travelling to the grand scientific unveiling. Darwin thought it ‘wonderful’, yet in keeping with his reticence on human origins there is no record of his scientific reaction to the Neanderthals.

Anxious to establish the skull’s geological context, Busk and Falconer rushed back to Gibraltar before the end of the year. What they saw gave them confidence to publish that this was a second extremely ancient ‘pre-human’. However, their intended species name of *Homo calpicus* was not to be. William King, ex-curator of Newcastle’s Hancock Museum and Chair in Geology and Mineralogy at Galway, had studied casts of the Feldhofer remains and, just as the skull from Gibraltar was docking in Britain, his suggested name *Homo neanderthalensis* was published. Following the ‘first dibs’ rules of science, this remains the one that we still use today.

But the appellation of these peculiar fossils was the least controversial thing. Assigning them as extinct members of our own genus, *Homo*, had profound implications that reverberated beyond the scientific

*Calpicus being a reference to the ancient Phoenician name for Gibraltar; had the earlier Belgian find been recognised, we might be referring to ‘the Awirians’.*
world. Dramatically at odds with nineteenth-century Western world views, the idea faced passionate opposition. Scathing criticism rapidly appeared from August Franz Josef Karl Mayer, a retired anatomist colleague of Schaaffhausen, and a creationist.

Mayer claimed that the remains were simply from a diseased and injured – but otherwise normal – human. Somewhat later in 1872 the eminent biologist Rudolf Virchow examined the Feldhofer bones and agreed that their anatomical peculiarities could be explained if a lost Russian Cossack with arthritis, rickets, a broken leg and bowed limbs from his cavalry career had secreted himself in the cave and died. This sounds absurdly far-fetched today – and ironically underlines just how human-like the bones are – but Virchow was a widely respected medical pioneer in cellular pathology and designed the first systematic autopsies. Perhaps, then, it’s not surprising that he was inclined to interpret the Feldhofer anatomy as illness and injury, even suggesting the formidable brows resulted from excessive frowning due to chronic pain.†

Yet Busk was also a medical man. Decades as a navy surgeon treating varied injuries, illness and parasites surely made him just as likely to see Neanderthals through a pathological filter, but this was tempered by a zoological background and experience in species classification.‡ Busk was certain no disease or physical trauma could account for the anatomy he saw, and noted with some satisfaction that those refusing to accept Feldhofer must admit there was little chance of a sickly Cossack expiring in Gibraltar. These debates smouldered on well into the twentieth century, yet in some ways Neanderthals weren’t burning arrows shot out of the dark, entirely unexpected. Doubts had been coalescing in Western intellectual communities that the world might not precisely mirror biblical accounts.

* The editors of the original Feldhofer article anticipated this, adding a polite note pointing out that not everyone shared the authors’ outlandish interpretations.
† Virchow once used his scientific research to defend himself after being challenged to a duel by Bismarck; Virchow was allowed to choose the weapon and selected two sausages, one of which contained parasitic larvae he’d shown could infect humans. Bismarck dropped his challenge.
‡ Busk performed specimen identifications from Darwin’s ‘Beagle’ collection, and edited his and Wallace’s papers on natural selection.
Diverse revelations since medieval times about nature – from unknown continents to the identification of previously invisible astronomical bodies – forced the restructuring of knowledge and philosophy. And while fossils had been noticed for millennia, by the eighteenth century biologists began treating them as once-living creatures that could be studied. Earth’s deep places were increasingly explored, such as the great Gailenreuth Cave in Germany as early as 1771, adding to dawning comprehension of ‘lost worlds’ populated by extinct beasts. Theologically inspired cycles of disaster and renewal remained influential, but the unfamiliar nature of pre-Flood worlds was apparent by the early nineteenth century. Not only had Arctic creatures like reindeer once lived thousands of kilometres farther south, but the inverse was true, with hippopotamus bones found in decidedly non-tropical Yorkshire. Yet not everyone was convinced creatures truly evolved. Some – including scientists with religious leanings, like Virchow – even perceived moral risk in such theories, fearing it would lead to social Darwinism.

Nevertheless, as more fossils emerged, the case for another sort of human began to solidify. Just the year after King officially named the Neanderthals, a heavy, chinless lower jaw from Belgium found with mammoth, reindeer and rhinoceros was proposed to be from the same species. But it was another two decades until mostly complete skeletons were found. Again in Belgium, remains of two adults came in 1886 from the Betche-aux-Rotches Cave at Spy, showing that flat, long skulls, sloped-back jaws and robust limbs previously known from other sites all belonged to the same creatures. This cemented scholarly acceptance of Neanderthals as an anatomically defined extinct population. But the fossils are of course only half the story.

**Time and Stone**

Early prehistorians faced a fundamental problem: time. Lacking methods to tell exactly how old anything was, they relied on relative chronologies: fossils or artefacts found with extinct animals were obviously older than the current world. British geologist Charles Lyell knew that Earth’s deep past must extend far beyond the biblical confines of a few millennia, and showed in his great work *Principles of*
Geology that – given enough time – simple, observable geological processes were entirely responsible for creating the world. A complete planetary history could therefore be deciphered through the principle of stratigraphy: since sediments accumulate on top of each other through time, greater depth must correlate to greater age. Lyell was intensely interested in Feldhofer, and in 1860 – even before Busk’s translation – he visited to examine remaining deposits. Fuhlrott showed him the skull and gifted him a cast: Victorian-era data sharing. By then the cave itself was on the cusp of destruction, and Lyell’s expert opinion was crucial to gaining scientific acceptance that it was truly ancient.

More than this, Lyell’s concept of stratigraphy formed the bedrock of archaeology as a discipline. It could provide structure to deep time processes, establish relative ages across landscapes and illustrate how deposits within sites form. During excavation, variation in sediment colour or texture as well as the contents of each layer – artefacts and animal bones – are signposts for how conditions changed through time. For many decades, proof Neanderthals were as indecently old as many suspected rested purely on such reasoning. It took nearly a century for scientists to finally develop methods that could directly date things. Beginning in the 1950s with radiocarbon, myriad other approaches have followed that are applicable to almost anything: bone, stalagmites, even single grains of sand.

Some categories of lithic artefacts can even be directly dated, though none of the early Neanderthal fossils seemed to be accompanied by cultural objects. In fact, we now know there were plenty of lithics at least at Feldhofer, but the discoverers weren’t familiar enough with stone tools to tell the difference between naturally shattered versus intentionally knapped rock.

As with fossils, humans had long been interested in prehistoric artefacts before the first Neanderthals were found. In metal-focused societies, chance discoveries of hefty handaxes or delicate stone arrows required an explanation. People looked to both natural and supernatural

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9 Radiocarbon is probably the most familiar type of direct dating method to most non-specialists. Based on the predictable decay rates of the carbon-14 isotope, it can now be used to date organic materials up to about 55,000 years ago.
causes, calling them thunderstones and believing them capable of deterring lightning,* or weaving tales where they were elfshot: weapons of the ‘Little Folk’. Historians on the other hand understood such objects within available chronologies. One of the first recorded descriptions of a prehistoric stone tool comes from 1673, when a triangular-shaped artefact was discovered near ‘elephant’ bones at Gray’s Inn Lane, London. Despite understandings of geological time beginning to crystallise around then, the find was nevertheless interpreted as a Roman elephant attacked by a Celtic warrior. The notion that such an object was made by hands thousands of generations before Rome was founded simply wasn’t in anyone’s range of possibilities. Yet a century or so later, understanding had developed enough for deeply buried handaxes to be described as likely from ‘a very remote period indeed, even beyond that of the present world’.† The true importance of lithics for understanding ancient humans was, however, still to come.

The first known person to intentionally excavate Neanderthal artefacts, albeit unknowingly, was the Frenchman François René Bénit Vatar de Jouannet. Between 1812 and 1816 he excavated the rockshelters of Pech de l’Azé I and Combe Grenal, south-west France, finding burned animal bones and remnants from lithic production. Crucially, he noted they were embedded in obviously ancient flowstone, but because even the Engis skull wouldn’t be found for over a decade, he had no concept of Neanderthals or indeed any extinct hominins. His best guess for the chronology of the artefacts – ‘very old Gaul-ish’ – was surprisingly similar to the Gray’s Inn interpretation nearly 150 years earlier.‡

After de Jouannet, evidence mounted that such finds could be stuffed neither into historical nor biblical chronologies. In south-east France, antiquarian Paul Tournal had been digging up cave bear and

* This isn’t as outlandish as it seems, since in the right silica-rich sediment lightning can produce a mineral called fulgurite.
† The words of John Frere, who in 1797 discovered lithic artefacts in association with extinct animals in Norfolk, Britain.
‡ He was working just before the ‘three ages’ of stone, bronze and iron were proposed in 1817 by Christian Jürgensen Thomsen.
reindeer bones alongside clearly human-made artefacts in the Bize caves, leading him to propose in 1833 an ‘anté-historique’ age. Around the same time, knapped flints entombed deep in river gravels of the Somme valley, northern France, were being found by the French archaeologist Jacques Boucher de Crévecœur de Perthes. It was hard to imagine they could have arrived there recently, nonetheless even evidence of elephant and rhinoceros fossils garnered little scientific acceptance. It wasn’t until around the same time that news of the Feldhofer find began spreading that things changed.

We meet here once more Hugh Falconer, who would bring the Forbes skull to Darwin. Like Busk, he remains little known today, but was central to the origins of human evolution as a science. After years in colonial India where he’d pursued palaeontological interests, by 1858 Falconer was excavating Brixham Cave, Devon, finding lithics and extinct fauna sealed under a stalagmite floor. The same year he visited de Perthes’ gravel pits, and convinced of their great age then advised the geologist Joseph Prestwich to take the trip. By chance, Prestwich met stone tool expert John Evans there – together with Charles Lyell, who’d made his own de Perthes pilgrimage – and in 1859 they published expert opinions verifying that the time of the lithics and extinct beasts truly lay together in the deepest past. As far as the ‘scientificos’ were concerned, the matter was settled, but sceptics persisted: was it possible the toolmakers, albeit ancient, had lived after creatures like mammoths were already dry bones?

Absolutely incontrovertible – and utterly spine-tingling – testimony soon proved humans had indeed witnessed extinct beasts in all their vital, hairy glory. More than 560km (350mi.) south of the Somme gravel pits is the village of Les Eyzies-de-Tayac, at the confluence of the Beaune and Vezère rivers. Today in January it’s quiet enough to hear peregrines cry over the massive cliffs rearing above, but summer sees narrow sun-baked pavements heaving with tourists, for the village is the capital of a prehistoric wonderland, surrounded by hundreds of caves and rockshelters in spectacular limestone gorges and plateaux. After sampling truffle omelettes at the Café de La Mairie, visitors

* Darwin’s correspondent, the botanist and explorer Joseph Hooker, uses the term ‘scientificos’, versus ‘plebs’.
amble up to the National Museum of Prehistory, built round a ruined chateau hunkering below the limestone overhang. Elaborate fireplaces remain, a strange echo of the prehistoric ashy layers stacked metres deep beneath. From the old ramparts, a huge art deco sculpture of a Neanderthal stares inscrutably out: like the statue’s secret thoughts, this landscape has hidden many things.

Les Eyzies’ relative isolation ended in 1863 when an ambitious railway linking Paris to Madrid opened a branch into the Périgord, initiating its transformation from sleepy hamlet to epicentre of debates over Western civilisation’s origins, and eventually a World Heritage listing. To follow the trail today, near where the railway line arcs gracefully southwards from the station, you can rent a canoe and paddle up the snaking route of the Vezère. After a few kilometres and opposite a hilltop chateau is the La Madeleine rockshelter. Famous medieval remains receive the tourists today, but adjacent is a prehistoric site, still concealed by vegetation, much as it was in 1864.

That summer Falconer was at the scene, visiting an archaeological collaboration between two passengers who arrived on shiny new trains the year before. A British financier, Henry Christy’s wealth allowed him to assemble ‘one of the choicest private archaeological collections in Europe’, giving him unusually good knowledge of stone tools. His French partner, Édouard Lartet, was already something of a celebrity prehistorian, digging ancient sites since the 1830s. Based on rumours of a local vicomte’s collections and finds in a Parisian antiquarian shop, they began collaborating in the Vezère valley. Initially investigating the upper shelter at Le Moustier, on their return one day they noticed across the river another large shelter, visible only because it was winter and the branches in front were bare.

Known as La Madeleine, this site turned out to contain hugely rich archaeology made by early *H. sapiens* tens of millennia after the Neanderthals. Nevertheless, it included an object critical to acceptance of their place in our evolutionary past. Until then, those sceptical of

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*From Falconer’s memoirs (p. 631).*

† Lartet was originally trained in law, but allegedly developed a passion for palaeontology after receiving a mammoth tooth from a farmer in payment for his services.
deep human antiquity had explained away carved reindeer antler objects found elsewhere in France as resulting from already fossilised material collected and engraved much later. That argument collapsed at La Madeleine when Lartet and Christy’s workers turned up a shattered piece of mammoth tusk with markings on it. That very day, Falconer – the world’s most eminent fossil elephant expert – happened to be visiting. As the soil was brushed off the ivory, he immediately saw that sweeping engraved lines formed the distinctive domed head of a mammoth, complete with carefully rendered shaggy fur.* This single artefact proved that humans had lived alongside extinct species, and that all the ‘rejectamenta’ of their lives being hauled out of caves across Europe really were from a prodigiously ancient world.

The La Madeleine discovery laid the final foundation stone of today’s discipline of human origins. It would take another 50 years or so for prehistorians collecting lithics to really begin grasping who made what, and when. But they had already crossed a Rubicon between two cosmologies: the old view of a universe made for us, and a new world where we were the children – with many sisters and brothers – of the earth itself. The path into the latter is where the rest of this book will take us, to learn how Neanderthals morphed from scientific oddities to the strangely immortal, oddly beloved creatures we’ve both discovered and also somehow created. But first we need a family portrait, to help place the Neanderthals into their frankly immense evolutionary context.

*Eighteenth-century Russian permafrost finds had already shown that mammoths were hairy.