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THE  
NEANDERTHALS



Friedemann Schrenk and Stephanie Müller

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## THE NEANDERTHALS

The Neanderthal is among the most mysterious relatives of *Homo sapiens*: Was he a dull, club-swinging muscleman, or a being with developed social behavior and the ability to speak, to plan precisely, and even to develop views on the afterlife?

For many, the Neanderthals are an example of primitive humans, but new discoveries suggest that this image needs to be revised. One hundred thousand years ago in ice-age Europe, there emerged people who managed to cope well with the difficult climate—Neanderthals. They formed an organized society, hunted mammoths, and could make fire. They were able to pass on knowledge, caring for the old and the disabled, burying their dead, and placing gifts on their graves. Yet they became extinct, despite their cultural abilities.

This richly illustrated book, written for general audiences, provides a competent look at the history, living conditions, and culture of the Neanderthal.

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# THE NEANDERTHALS

*Friedemann Schrenk and  
Stephanie Müller,  
in collaboration with  
Christine Hemm*

*Translated by Phyllis G. Jestice*

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Stephanie Müller, in collaboration with  
Christine Hemm)*

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## FOREWORD

This work about the Neanderthals is one of many books on the market that deal with our early ancestors. Granted, this book has nothing revolutionary to say on the subject of what we know about this archaic human variety, nor how that knowledge has been received in the scientific and popular communities. Nonetheless, a volume in this format—brief and fact-based, but still comprehensible—makes a contribution by providing a comprehensive overview of the history of the Neanderthals, their relatives, their habitat, and the century and a half of research about them. The 150th anniversary of the first publicized Neanderthal find, made in Germany in 1856, merely offers a convenient occasion for this book.

During our investigation of African pre-hominids and primitive humans, considering their significance to the regional historical consciousness of modern people, we discovered astonishing parallels in the history of the science of paleoanthropology (the branch of research dedicated to the history of our forebears) in both Africa and Europe. This can be seen, first, in modern paleoanthropology's ever greater tendency to regard not just morphology (the study of the form of a find) and its geological age but also its geographical location. The biogeography of fossils is an essential precondition to creating a scientific interpretation that also takes changes in habitat into account. This applies to the reconstruction of the early hominids of Africa just as much as it does to the Neanderthals and their contemporaries. The recognition of regional developments in human prehistory provides, so to speak, a series of signposts that can lead to a detailed picture of human evolution. Climatic shift and the changes it produces in habitats and in the availability of food provides a second factor in the evolution of our ancestors, one that is equally significant for research. Whereas 2.5 million years ago, thanks to extreme changes, cultural evolution had its starting point—with the “invention” of stone tools—the Neanderthals were the first humans to settle in the inhospitable regions of ice-age Europe. There they devised and

used tool techniques that made it possible for them to survive—for a considerable length of time. Third, we consider public opinion, the history of how these finds were received. European public consciousness was for a long time marked by a low regard for the Neanderthals. They were spoken of as stupid brutes, as animal-like beasts that, armed with a jawbone, lurked behind rocky outcroppings. In Africa too, up to the present time there has been little awareness of or public interest in the historical significance of their own African origins. Scholarship, as an intermediary between scientific research and the public, thus has an obligation to spread our state of knowledge about the heritage of human history in a form suited to general audiences. Scholarship should create knowledge, in Europe as in Africa. Thus it was also delightful for us to approach the Neanderthals with a certain scientific-geographical distance and curiosity, for the creation of this book also sprang from a desire to present to the public the significance of the continents in human evolution, and to make us conscious of the many-sided interdependence that, since the beginning of the human condition, has been a hallmark of our species. It is a forceful argument for acceptance and tolerance between humans, whether they be in fossil form or alive today, and whether they come from Africa, Europe, or some other part of the earth.

Stephanie Müller, Friedmann Schrenk  
Frankfurt am Main, May 2005

# THE HISTORY OF THE NEANDERTHAL

## DISCOVERY

Mettmann, 4. September. In the neighboring Neander Valley, the so-called "Rocks," a surprising discovery was made in recent days. During the breaking away of the limestone cliffs, which cannot be sufficiently lamented from the point of view of aesthetics, a cave was uncovered, which over the course of centuries had been filled with clay sediment. Upon digging out this clay, a human rib was found, which doubtless would have been unregarded and lost had not, fortunately, Dr. Fuhlrott of Elberfeld secured and investigated the find.

Site of find, fossil, and finder. This contemporary account of the discovery of the Neanderthal, later to be world famous, appeared in the Elberfeld newspaper on 6 September 1856. It seems rather paltry from a modern perspective. The first find of human fossils to be recognized as such was made in an era of technological and scientific upheaval. The Industrial Revolution had made its mark on Europe and the idea of evolution had already appeared. In 1758, a century before the find in the Neander Valley near Mettmann, the Swedish Christian and natural scientist Carl von Linné had classified human beings together with prosimians, monkeys, and bats in his hierarchy of mammal primates or "ruling animals." His contemporaries were indignant. After all, ever since the Middle Ages the ape had been viewed as a devil-created mockery of humanity. So to place the human being, created in the image of God, on a line with apes bordered on blasphemy. A hundred years later, in 1858, Charles Darwin threw open the question of human evolution with a single remark in his *Origin of Species*: "Light will be thrown on the origin of man and his history." A heretical sentence, which the first German translator of the work found so offensive that he did not translate it. Darwin's hidden thesis (and that of his often-forgotten fellow fighter Alfred Russel Wallace) that humans,

like all other living things, must be the result of an evolutionary process and not a unique divine act of creation, was revolutionary. Darwin himself first summed up his views on human origins in 1871 in his *Descent of Man*. In Germany, the zoologists Carl Vogt and Ernst Haeckel paved the way for the theory of evolution in scholarly circles. In 1863, Haeckel delivered a lecture in which he argued that there must have been a link, now extinct, between apes and humans. He named this “missing link” *Pithecanthropus alalus*—“non-speaking ape-man”—and foretold that the fossil remains of this ancestor would be found in southeast Asia. Haeckel’s prophecy about the place of discovery would be fulfilled.

The origin of humanity has never been discussed with complete objectivity, since of course it is an issue that touches all human beings and is closely linked to ideological and political interests. Many regarded the extension of the human family tree into the animal kingdom as scandalous. As the bishop of Worcester’s wife is supposed to have said after a conversation with Darwin’s supporter Thomas Henry Huxley in 1860: “My dear, descended from the apes! Let us hope it is not true, but if it is, let us pray it will not become generally known.” Neither the fervent hope of the pious bishop’s wife nor the 1812 pronouncement of the French natural philosopher Georges, Baron de Cuvier, that “fossil man does not exist” kept fossil humans from winning recognition. The Neanderthal discovered in 1856 provided the first “living” evidence.

The Neander Valley near Mettmann, the discovery site of the first fossil evidence of primordial humans, was named after the Bremen theologian and hymnographer Joachim Neumann (composer of “Praise to the Lord, the Almighty, the King of Creation”). As was fashionable in 1670, he used the Greek translation of his name, “Neander” (Newman), in compliment to antiquity. Joachim Neander, at that time rector of the Düsseldorf Latin School, visited the “Rocks,” as the area was called then, seeking inspiration from the mountains, crags, streams, and cliffs “with a special amazement.” Whole generations of painters from the Düsseldorf Academy did the same. The Neander Valley became a locale for seeking the muses, a place of lyric poetry, sketches, and watercolors. It was doubtless the picturesque limestone cliffs and mysterious caves along the course of the Düffel River that enticed artists and town-dwellers to the “Rocks” (also called “Dog’s Crag” locally), only two hours distant by coach. Countless excursion groups sent couriers to the nearby guesthouses to order the proprietors “to have trout for 25 people ready, and also to lay in a supply of fresh butter and bread,” so that, strengthened by a good meal, they could wander in the valley.

The picturesque limestone cliffs between Erkrath and Mettmann were formed in the Devonian Age, between 360 and 410 million years ago. At

that time, a shallow, tropically-warm sea covered the area that is now central and southern Europe. Clay and sand were repeatedly washed into the sea and laid down layer by layer. Coral reefs developed that, with the remains of their former occupants (lime-containing shells), created enormous chalk layers over the course of millions of years, finally hardening into limestone. These layers were covered over with slate. Finally, more clay and sand were washed into the sea from the land during the later Devonian Age, destroying the coral reefs' habitat. In the following Carboniferous Era (360–290 million years BP [before the present]), tectonic plate movements pushed the limestone up through the slate layers above it. The limestone cliffs became solid land; their surface eroded and was cleared away by natural processes like rain and wind. Less natural was the demolition carried out by humans millions of years later. This landscape of cliffs and caves, where the study of primordial humankind (paleoanthropology) was born, has now to a large extent vanished.

In less than fifty years a limestone quarry that was opened in the region destroyed the picturesque valley and its gold-white limestone cliffs and caves. Johann Carl Fuhlrott, the first preserver of the Neanderthal bones that two quarry workers found in 1856, both lamented and welcomed this circumstance in his first description of the fossils:

. . . the thoughtful nature lover will doubtless lament that the unstoppable industrial progress of our age has not restrained itself from sweeping through the rare charms of this little landscape and in part destroying them. He will join to his laments the deeply felt wish that at least the part of the right side of the gorge in which the Neanderthal cave lies, which has remained intact so far, should be preserved for the present generation and for posterity. But, however much people may share in these laments and wishes, they should not fail to appreciate that without the limestone quarrying set in train by the Neander Valley Corporation for the Marble Industry on the left bank of the Düssel, the interesting discovery in question would not have come to scientific attention for a long time, if ever.

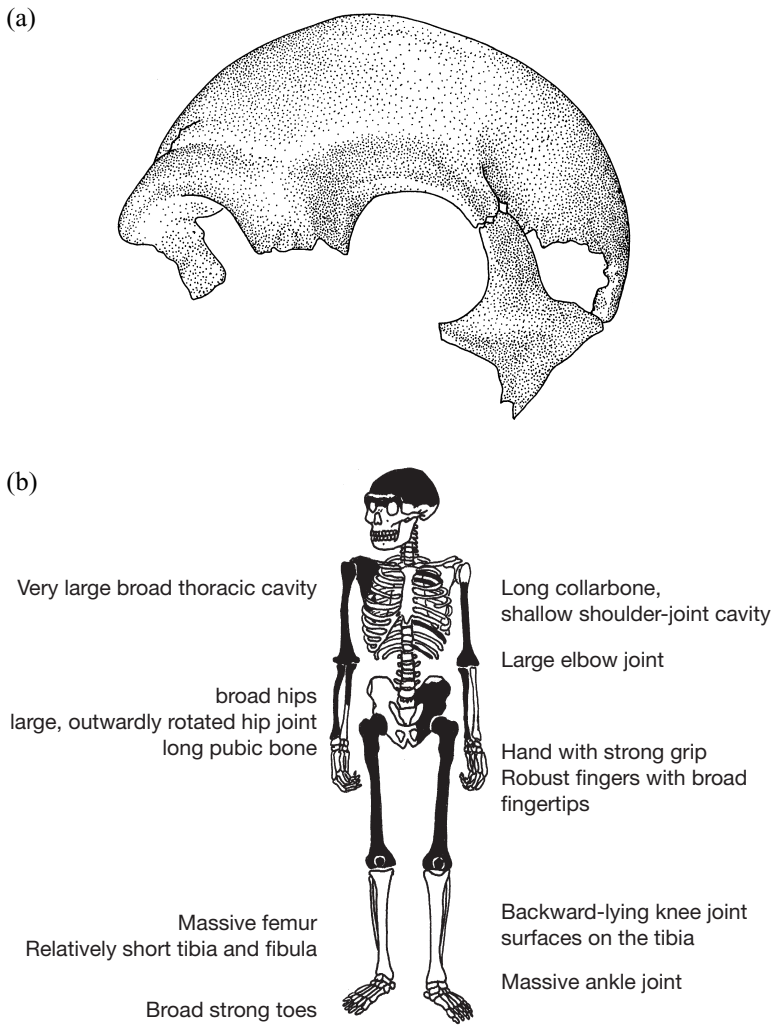
When the bones were uncovered, the credit for keeping them from being dumped into the Little Feldhof Grotto along with the limestone rubble goes to Wilhelm Beckershoff, owner of the quarry in the Neander Valley. Guided by a hunch that what had been found were the fossil bones of cave bears, he had the fragments collected from the loose rubble. At that time, fossil animal bones were no longer a novelty. Johann Heinrich Merck of Darmstadt, a good friend of Goethe, collected, described,

and reconstructed fossil animals. And the Bonn geologist Johann Jakob Noeggerath, who visited the Neander Valley and its cave-filled landscape, wrote:

The clay of caves, doubtless deposited in what scientists call the Diluvian Period of the earth, appears not to have been examined yet. By analogy to similar deposits in other limestone caves it is not improbable that in these one could find primordial animal bones of cave bears, hyenas, wolverines, and the like. This makes excavation of this clay appear highly advisable, since perhaps with a lucky find natural historical collections could be enriched.

As prophesied by Noeggerath, it became clear how fortunate the quarry-owner Beckershoff's find was when his partner Friedrich Wilhelm Pieper gave the bones to the zealous fossil collector Fuhlrott. Fuhlrott, a teacher in Eberfeld, was a child of his age. He knew about the latest findings in the new sciences of geology, archaeology, and paleontology, and did not hesitate long with his assessment. He labeled the bones that had been given him as supposedly those of cave bears—a skull cap, a fragment of a right shoulder blade, a right clavicle, as well as right and left humerus, two ulnas, a radius, five rib fragments, the left half of a pelvis, and two femurs—as unequivocally human (Figure 1).

Stimulated by the sketchy media report about the early humans, who must have belonged “to the race of the flat-heads, who still live today in the American West,” two Bonn anatomy professors contacted Fuhlrott. These men, Hermann Schaaffhausen and Franz Josef Carl Mayer, were curious about the discovery and asked Fuhlrott to send them the precious bones. Fuhlrott kept the two scholars dangling for a bit, then traveled to Bonn himself, carrying the Neanderthal in his luggage, carefully packed in a wooden chest. Mayer, sick in bed at the time of Fuhlrott's visit, missed the first scientific encounter with the Neanderthal. Nonetheless, the fossils found themselves in good hands with Schaaffhausen. He himself had already written an article, “On Stability and Change in Species,” in 1853, in which he discussed the existence of fossil humans. Only six months after this first appraisal, on 2 June 1857, Schaaffhausen and Fuhlrott presented the discovery to the scholarly world. Those who attended this meeting of the Natural History Society of the Prussian Rhineland and Westphalia witnessed a major historical moment. In his essay “Human Remains from a Cliff Grotto in the Düssel Valley,” published in 1859, Fuhlrott achieved a remarkable contribution to research on the existence of fossil humans.



*Figure 1* Bones that wrote history: (a) Neanderthal calvarium (skull cap); (b) Neanderthal anatomy. The 40,000-year-old fossils that gave the Neanderthals their name were uncovered in 1856. At that time were found: a fragment of the left temple, a skull cap, two femurs and two humeruses, a right radius, a fragment of a right ulna, a right clavicle, a fragment of the right shoulder blade, the left ulna, five ribs, and an almost complete left half of the pelvis. After the rediscovery of the original find site, between 1997 and 2000 further pieces of the Neanderthal were found, including a piece of the front of a skull that fit perfectly with the skull parts that had already been uncovered.



The discovery would not let the teacher rest. Thus, two years after the bones were uncovered he again asked the workers about the exact site of the find. It emerged that the fossil-bearing clay layer in the Little Feldhofer Grotto was about 1.5 to 1.8 meters thick and that it was therefore likely that the entire skeleton lay about half a meter below the surface of the sediment, with its head toward the cave's entrance. The published data included precisely described anatomical peculiarities in the find, such as the unusually heavy bones and brow ridges, "which were completely joined in the middle." The editors of the society's proceedings commented in an afterword that they "cannot share the reported opinions." Fuhlrott ended his essay interpreting the Neanderthal as an ice-age "primitive member of our race" with the statement that he would gladly renounce "every attempt at propaganda" to convince "and leave the final judgment about the existence of fossil humans to the future." But the German scholarly community had apparently reached its negative judgment long before this point.

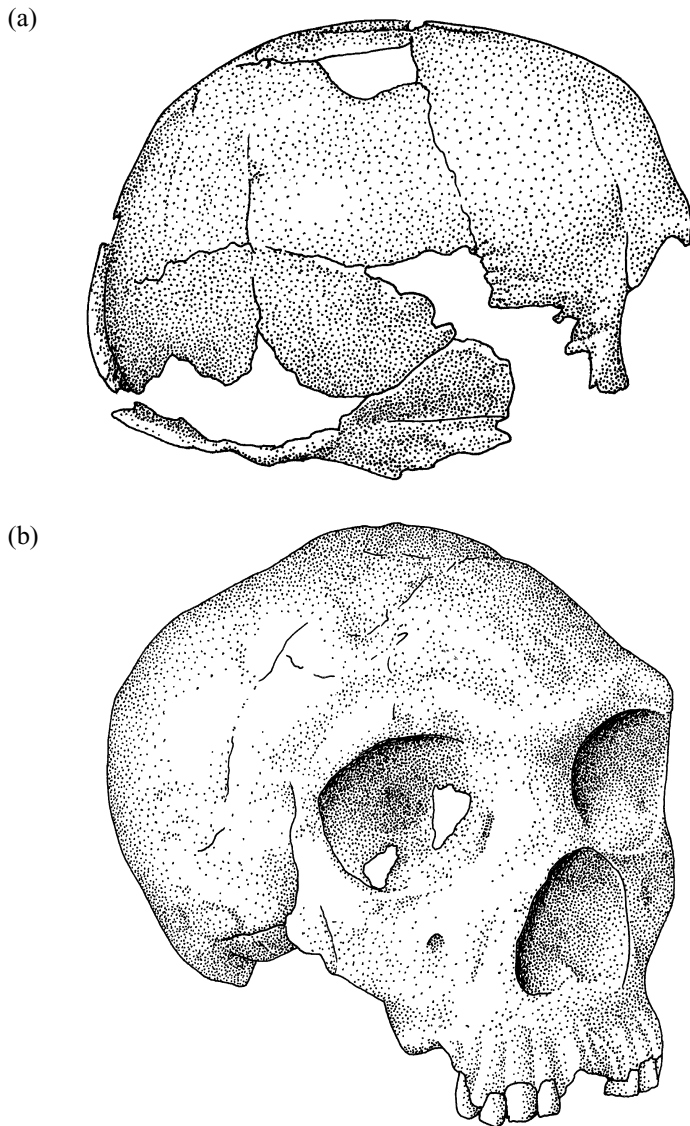
### THE NEANDERTHAL AS OBJECT OF SCHOLARLY CONTENTION

Schaaffhausen provided exact anatomical descriptions and suggested that the massive bone development of the unique fossil skeleton, perhaps dating to the Diluvian Age, gave evidence of impressive muscular development that in turn hinted at the arduous life circumstances of these raw and wild early Europeans. The influential anatomist and pathologist Rudolf Virchow, an opponent of evolution, took the opposite position in the debate over primitive humans. He personally viewed the original bones in 1872, having previously left their examination to Franz Josef Carl Mayer, Schaaffhausen's colleague in Bonn and a crucial supporter of the Christian creation doctrine. Mayer affirmed the Neanderthal's rachitic bone deformations, which established, according to Virchow, that he must "have walked only in a somewhat grotesque manner." Mayer asserted, among other points, that the Neanderthal's femur and pelvis were formed like those of a person who had ridden his entire life. The individual's broken right arm, he said, had healed badly and chronic pain could explain the prominent brow ridges. The skeleton, he speculated, might be that of a mounted Russian cossack, who had camped in the region during the confusion of the wars of liberation against Napoleon in 1813/1814. Thus the Neanderthal was no fossil, but a recent cavalryman with pathological bone deformities. Virchow, founder of the German Progress Party, socialist, and political opponent of evolution theory as an elitist idea of the

natural partiality of a “race,” could only support this interpretation. As he said: “The Neanderthal skull should provisionally be regarded only as a remarkable unique appearance. Until we gain further enlightenment from parallel discoveries, we must hold to the belief that this is a case of a completely idiosyncratic formation.”

This thesis of “remarkable unique appearance” was soon refuted. Following doubt about the fossil human find in Germany, the debate had spread widely in England. In 1860, Sir Charles Lyell, father of modern geology, had expressed interest in the fossil find. In the course of a trip to Europe he visited the Neander Valley, accompanied by Fuhlrott, and produced the only contemporary profile sketch of the site. Upon his return to England he carried a cast of the Neanderthal’s skull cap in his luggage, which soon passed through the hands of several scientists. Besides the skull cap, George Busk’s 1861 English translation of Schaaffhausen’s first anatomical description of the Neanderthal caused a sensation. Two years later Lyell published *The Geographical Evidence of the Antiquity of Man*, in which he dealt specifically with the German discovery. In the same year, 1863, Thomas Henry Huxley compared the Neanderthal to the skulls that had been discovered at Engis, near Liège in Belgium, 26 years before the Neanderthal was uncovered at Mettmann (Figure 2). In conjunction with the Belgian discovery, the Neanderthal became the prime piece of evidence used by evolution theorists, because the human bones from Belgium—the skulls of a child and of an adult—were almost identical to those of a modern human. The Neanderthal, with what Huxley called “apelike characteristics,” was thus not quite seen as a “missing link,” but still the skull was regarded as the human skull most like that of an ape of any that had yet been discovered. Huxley’s cautious hypotheses did in fact rest on the false classification of the Engis fossils. A hundred years later, in 1936, the child’s skull, which Philippe-Charles Schmerling had discovered in 1829/1830, was declared to be that of a Neanderthal about 70,000 years old. However, the adult skull found at the same site belonged to a modern human.

Geology professor William King’s view of the Neanderthal find was far more emphatic. He was of the opinion that the fossil remains represented a unique species of the human family, *Homo neanderthalensis*. This interpretation came at the beginning of the colonial period, when European scientists regarded some newly “discovered” human populations, like “Eskimos,” “Negroes,” or Australians, as less developed than others. King also thought that *Homo neanderthalensis* appeared too primitive to be classified as a subspecies of *Homo sapiens*. Thus the Neanderthal should receive its own classification. More and more convinced of the “brutish” characteristics of the Neanderthal, King revised his views the



*Figure 2* (a) As early as 1829/30 the skullcap of a Neanderthal child was uncovered in Engis, Belgium. (b) Gibraltar I followed in 1848, the skull of what appears to be a female, which is now regarded as an early Neanderthal. The scientific importance of the two finds was first recognized long after the discovery of the Neanderthal of the Feldhof Grotto in 1856.

next year and attributed the bones in 1864 to a fossil human ape. Despite his changed opinion, the scientific classification of the skeleton as *Homo neanderthalensis* survived. The zoologist George Busk, mentioned above, was more consistent in his interpretations. In 1863, this translator of Schaaffhausen's essay had the good fortune to gain possession of a skull that had been discovered at Gibraltar in 1848. The similarities between this find from the Forbes Quarries and the Neanderthal from Düsseldorf were immense (Figure 2). Busk realized the scientific importance of this find immediately: finally it was possible to place another example beside the fossil early human from Mettmann. The Gibraltar skull, now believed to be about 50,000 years old, showed that the Neanderthal was not a coincidental idiosyncratic oddity, as Virchow continued to assert until his death in 1902.

The Neanderthal as fossil human type was a reality. Even Professor Mayer could scarcely argue that a rachitic cossack from the 1814 campaign could have crawled away into the crevices of Gibraltar's cliffs, as Busk ironically pointed out. He was right. The finds from Belgium, Gibraltar, and Germany were not the only ones by which Mayer's thesis of the rachitic cossack was laid to rest forever. In 1866 the fragmentary jawbone of a Neanderthal was found in the Belgian La Naulette Cave. A further important discovery followed in 1886 with the unearthing of two almost complete Neanderthal skeletons near Spy in Belgium, now dated to 60,000 years BP. Schaaffhausen triumphed: "A recent find of great importance, which can be seen as a confirmation of my explanation of the Neanderthal bones . . ." The human remains, uncovered along with the bones of horses, deer, hyenas, and mammoths, among others, and also with stone tools, provided incontrovertible evidence that the Neanderthal was no obscure unique find, but rather should be regarded as a primitive human type.

## THE NEANDERTHAL INSPIRES SCHOLARS

Contemporary advances in the new sciences of geology, archaeology, and prehistoric research helped encourage debate about the existence of fossil humans. Charles Lyell, mentioned above, demonstrated the great age of the earth in the 1830s, thus breaking with the Christian worldview according to which people in the eighteenth century still regarded the earth as only 6000 years old. After his visit to the Neander Valley, Lyell classified the Feldhof Grotto man as belonging to the Middle Pleistocene Age (730,000 to 127,000 years BP). The foundations of Pleistocene chronology, the division of the last ice age into different periods, was only

fixed through the work of the geographers Albrecht Penck and Eduard Brückner in about 1909, but interest in a more precise dating of the layering sequence was already present before the turn of the century. Animal fossils were already known, but it was only after the mid-nineteenth century that tools were discovered for the first time: flint implements from Abbeville and Moulon-Quignon in France. Jacques Boucher de Perthes brought these into conjunction with the geological succession of layers (stratigraphy)—a scientific first.

The French Edouard Lartet was another pioneer in researching archaeological finds. On the basis of pre-existing divisions of the Stone Age (made by the English archaeologist Sir John Lubbock) into Paleolithic (Old Stone Age) and Neolithic (New Stone Age), Lartet subdivided the Paleolithic (2.4 million–730,000 BP) into several periods, named after their predominant animal finds, such as the Cave Bear Period. After further tools had been discovered, telling more about their supposed human users than about the animals they killed, Gabriel de Mortillet did not hesitate long before he separated the periods according to the tools and the techniques by which they were made. So it came about that the tools from the Neanderthal find in Spy, Belgium, were immediately classified according to Mortillet's system and ascribed to the Mousterian Period (200,000–40,000 BP). Thus the foundations of a Stone Age chronology developed as well as the geological division of the earth into different ages.

Although geological and archaeological classification systems became more complex than they had originally been thanks to further discoveries, these early findings contributed substantially to the birth of modern paleoanthropology, the study of fossil humans. The discovery of the Neanderthal in 1856 was thus the starting point for a whole branch of science, whose modern practitioners still study the origins of our primitive ancestors, the hominids. The Neanderthal (Figure 1) and his contemporaries, who first came to light with the discoveries in Belgium and Gibraltar (Figure 2), as well as the arguments over Darwinian evolution theory, gave the mid-nineteenth century the impulse to understand human prehistory, both culturally and scientifically, in a new way. The history of the Neanderthal's discovery shows how important the historical and cultural environment of a discovery is, especially when the issue at hand is the interpretation of fossil humans. Time and circumstances must indeed "be ripe" for fossil finds of our past.

While the Neanderthals were taking the world's breath away, other human fossils came to light that should be mentioned. Just before the find at Spy came the famous discovery in 1868 of at least five anatomically modern humans, called Cro-Magnon after the find's site, a cliff overhang in the Dordogne region of France. Railroad workers looking

for fill discovered the fossil fragments interspersed with animal bones and Aurignacian tools. The bones, about 30,000 years old, made the Neanderthals seem primitive and apelike by comparison.

The Neanderthals suffered another “reverse” thanks to a surprising discovery outside of Europe. The young Dutch physician Eugène Dubois was deeply influenced by Haeckel’s theory, propounded in 1863, that a missing link between modern humans and anthropoid apes would probably be discovered in Asia. With the goal of discovering remains of this missing link, Dubois arranged to be sent to Sumatra in 1877 as a military surgeon. Obsessed with Haeckel’s idea, he began to dig at a location in Java that, by contemporary views, seemed to be totally lacking in prospects. He dug in a region where not even the slightest trace of primitive humans had been discovered within thousands of kilometers. Astonishingly, he hit the right place, down to the centimeter. On the bank of the Solo River near Trinil, between 1890 and 1892, he found part of a skull cap, a femur, a jawbone fragment, and individual teeth, which he classified as belonging to a new species, the *Pithecanthropus erectus*—the upright-walking ape-man. At first, these finds seemed to solve a puzzle about humankind’s geographical point of origin, since besides coming from a new site, outside of Europe, the age of the find was unusual. Thus *Pithecanthropus* replaced the Neanderthal as the oldest ancestor of our species. The controversy that broke out after Dubois’ return to Europe and presentation of his finds around the turn of the century show plainly how little agreement there was over the morphological and systematic classification of the finds. Criticism also sprang up regarding the point of origin of the supposedly oldest human remains. At first, certain circles did not want there to be a cradle of humanity at all. But now it had been displaced from Europe to Asia with the Java find, or more specifically to the Dutch East Indies—a circumstance that certain gentlemen of the United Kingdom could not take lying down. So it is not surprising, with the gift of hindsight, that an out and out fake should at first have been accepted as genuine and have fascinated contemporaries. This was a filed-down orangutan jawbone, grouped with modern human skull fragments, and “found” in 1912 in a gravel pit near Piltdown, England. “Piltdown Man” fitted perfectly into the worldview of the time, which demanded a territorial origination point for the human species somewhere in the region of the white “races.” The Neanderthals with their boorish characteristics and massive bones simply could not be a direct human ancestor, even though they were apparently both more recent and more primitive than Piltdown Man. The Piltdown hoax was only revealed in the 1950s, thanks to the development of new dating methods. Exposure of the fraud came too late to rehabilitate the Neanderthals, though, who had now been labeled

as “primitive.” Even when it was hard to prove these characteristics, they appeared to be confirmed in chilling fashion by further Neanderthal finds in Krapina, Croatia. From 1899 on, Krapina (about 80 kilometers from Zagreb) yielded up a total of 876 fossil fragments, parts of skulls and skeletons of infants, children, and adults (Figure 12c). Based on the discovery level, the bones were between 90,000 and 130,000 years old. In his publication “The Ice-age Man from Krapina,” the paleontologist Dragutin Gorjanivoć-Kramberger pointed to the fragmentary state of the bones as evidence of cannibalism. Was the Neanderthal a cannibal? A wild, wandering beast, armed with stone weapons; in the final analysis an eater of carrion?

### THE FACE OF THE NEANDERTHALS— RECONSTRUCTION AND INTERPRETATIONS

With the discoveries described above, the scholarly world had assembled enough evidence to attempt both an interpretation of the fossil pieces and a reconstruction of the fossil human. Thus the Neanderthal came to have a face. A real fascination with reconstruction had developed from the pseudo-sciences of physiognomy (study of the face) and phrenology (study of the skull), both still popular in the early nineteenth century. Its advocates attempted, using scientific methodology, to establish a person’s character based on external features. Hermann Schaaffhausen, already mentioned several times, published one of the first drawings that attempted to show what a primitive human actually looked like. Basing his ideas on the finds in the Neander Valley and at Spy, he had the Bonn painter Philippart sketch a hairy man with a strongly projecting face (Figure 3a). There also appeared, unsupported by anthropological indicators, Neanderthal representations like that of Muston (Figure 4b), who depicted “L’homme primitif” as a romantically wandering noble savage, totally in harmony with nature and himself.

The noble savage model remained the exception, though. Especially after publication of the “cannibal finds” at Krapina, the tendency was to banish the Neanderthal from the human family tree. From then on the image of a heavy-boned brute was dominant. The French paleontologist Marcellin Boule, of the Natural History Museum in Paris, played a large role in the acceptance of this image. But with the discovery of a nearly complete Neanderthal skeleton, 50,000 years old, in a cave near La Chapelle-aux-Saints, a rehabilitation of the “cannibal” at first appeared possible. The La Chapelle site was unequivocally a burial. After all, how

could the entire skeleton of a very old individual have remained intact if not because of a burial? Boule, however, did not take this find as evidence of a more or less organized Neanderthal social system, which had cared for the “Old Man of La Chapelle” until advanced old age and buried him after his death. Instead, Boule claimed the find as evidence that Neanderthals could only walk stooped over. This error, based on a faulty interpretation of the arthritic deformations in the old Neanderthal’s skeleton, also had a lasting impact on the Neanderthal image. Based on this interpretation, Boule disavowed the placement of Neanderthals on the human family tree. He compared the anatomy of the Neanderthals to those



*Figure 3* What did Neanderthals look like? Four reconstructions of a Neanderthal: (a) Shortly after 1856, the Bonn anatomist Schaaffhausen gave instructions for a sketch of a human-like face. He modified it several times afterwards, and in 1888 arrived at a rather grim-looking reconstruction. It was soon followed by entire models, such as (b) a mother with child that was displayed at the turn of the century in the Chicago Museum, or (c) a sitting Neanderthal produced by sculptor Gerhard Wandel in 1962. (d) A recent sculpture is that of a Neanderthal woman produced by Nina Kieser and Wolfgang Schnaubelt, as shown in the sketch here.



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