



When Neanderthals and Modern Humans Coexisted: How Philosophy, Archeology and Prehistory Novels Are Working Towards a More Inclusive Understanding of Deep Human History

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Abstract

Is there something exceptional about modern humans compared to early human ancestors? Until recently, Neanderthal research focused on human uniqueness: what made us decisively different? Although Neanderthals are increasingly recognised as similar to us, researchers tended to ask whether there was a decisive difference that enabled modern humans to move from “nature” to “culture” and develop complex technology, language, art and social organisation. This question shaped both scientific debates and Neanderthal novels, where encounters between “superior” humans and “inferior” Neanderthals often explained the latter’s demise. Today, however, a shift is visible both in paleo-archeology and in Neanderthal novels. The binary opposition of “them” versus “us” is giving way to a more dynamic, interactive and inclusive view of early human history, a change that affects how we see ourselves. We address the question of whether and how a non-binary, non-hierarchical perspective on the Neanderthal–human encounter is taking shape in science, philosophy and literature. We approach this question interdisciplinarily, combining philosophy, archeology and literary studies. In research on the Châtelperronian period, when Neanderthals and modern humans coexisted, the focus is moving from competition to interaction and exchange. Likewise, Neanderthal novels show a transition from depictions of violence and superiority to narratives of connection and coexistence. For example, Jack London’s *Before Adam* contrasts with recent works that imagine shared contemporaneity in Pleistocene Europe. This reorientation matters today, as it

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fosters a more dynamic and inclusive conception of humanity—one that emphasises interaction, embeddedness and shared belonging over hierarchy and separation.

Keywords

Philosophy of deep history · Neanderthal research · Neanderthal novels · Modern human Exceptionalism · Jack London · The human revolution · Philosophical anthropology

14.1 Introduction

Reflections on the planetary place and role of human beings often tend towards exceptionalism, i.e. the conviction that there is something unique about humans compared to other living beings: a uniqueness which notably involves our capacity to think (e.g. to think about ourselves: self-consciousness) which is closely connected with language and the use of symbols, thereby distancing human existence from the rest of nature. As philosopher Martin Heidegger phrased it, whereas animals dwell in an *Umwelt* [environment], human beings have entered a *Lichtung* [clearing], a world of language. If we adopt an evolutionary perspective on human existence, however, the question emerges whether, when and how this clearing, this *leap* towards self-consciousness came about? And research into early human history is evidently highly relevant here. The question even becomes more specific: is there something exceptional about (*anatomically*) *modern humans* compared to other early human ancestors? And Neanderthal research becomes notably interesting in this respect because Neanderthals are seen as our closest relatives, and they have been the object of extensive research during the past three decades, while Neanderthals and modern humans co-existed in what is now Europe roughly between 50,000 and 40,000 years ago.¹ To address this question, we will argue, a *philosophy of deep history* is required which builds on interdisciplinary dialogue between philosophy and archeology, but also engages with literature studies and genres of the imagination, e.g. novels dedicated to the encounter between modern humans and Neanderthals (Table 14.1).

Until recently, the question concerning the uniqueness of modern humans also guided Neanderthal research: what made “us” (modern humans) decisively different? Although Neanderthals are increasingly seen as similar to us in many ways, the

¹We view (*anatomically*) modern humans, Neanderthals and Denisovans as part of a “metapopulation” (Bergström et al. 2021; Pääbo 2015) and “anatomically modern humans” as the direct ancestors of all humans alive today. To avoid taking a stance in the species debate, we will consistently use the term “modern humans” from now on and refrain from using terms like *Homo sapiens* (Meneganzin and Bernardi 2023; Langdon 2022; Pearson 2008). For us, the term “modern humans” refers to a population originated in Africa and later colonised the rest of the planet in multiple waves. We try to avoid normative connotations (e.g. modern human as “more” human) but acknowledge that neutral or unquestionable terms are not available.

Table 14.1 Overview of temporal markers for a philosophy of deep history

Years ago	Event	Practices	Worldview
~250,000	Emergence of <i>Homo sapiens</i>	Hunting and gathering; Promethean revolution (pyro-technology)	Birth of shamanism?
~100,000	Migration “Out of Africa”	Stone tools, ornaments	
~50,000	Modern humans–Neanderthals encounter	Stone tool industries and art	
~10,000	Neolithic revolution: first “biotechnological” revolution	Emergence of agriculture at various locations around the globe	Polytheism
~5000	Urban revolution (emergence of big cities)	Agriculture reaches what is now Western Europe	Invention of writing
~2500	Beginnings of empire building	Class societies	Birth of philosophical cosmologies
~1500	Medieval epoch	Monasticism	Metaphysical cosmologies
~500	Modernity	Colonisation: migration of farmers, animals and crops	Modern science
~250	“Industrial” revolution	Emergence of modern cities	Political ideologies
~50	Environmental concerns	Biotechnological (or “green”) revolution	Globalisation, bioethics

focus often tends to be on detecting the so-called factor X, the decisive difference that makes us truly human (Peeters and Zwart 2020). What made modern humans take the decisive step from natural habitats towards increasingly self-designed cultural ambiances, and capable of developing complex forms of technology, language, art and social organisation?

This question (why are “we” so similar to Neanderthals, and yet different) not only guided much of Neanderthal research but was also explored in Neanderthal novels. Here, the encounter between (culturally and genetically) “superior” humans and “inferior” Neanderthals, resulting in the demise of the latter, often served as a core literary thematic.

Currently, however, we notice a change of perspective, both in paleo-archeology² as a scientific practice and in Neanderthal novels as a literary genre. The binary logic of “them” versus “us” is giving way to a more dynamic, interactive and inclusive view of early human history, a shift, we will argue, which has repercussions for how

²Different terms are employed to refer to the research field in question, often reflecting the disciplinary background or national research traditions of the authors (archeology, paleoanthropology, human origins research, etc.). We opted for the term paleo-archeology here, i.e. the archeology of deep history, notably the Pleistocene. We see paleo-archeology as an interdisciplinary scientific field that builds on methods and concepts from archeology, anthropology, cultural anthropology, ethology, gender studies and other fields.

we see ourselves as human beings today. This, therefore, is the core question of our contribution: whether and how a non-binary, non-hierarchical, more inclusive view of the relationship between Neanderthals and modern humans is taking shape, both in scientific research and in Neanderthal novels? And, subsequently, what implications does this entail for human self-understanding today?

To explore these issues in depth, a collaboration across disciplines is important, notably involving philosophical anthropology (devoted to address the question “What makes us human?”) and paleo-archeology, but other fields, such as gender studies, epistemology, art history and literature studies, prove highly relevant as well. The structure of our interdisciplinary contribution (a dialogue between philosophy, paleo-archeology and literature studies) is as follows. First, we will discuss the importance of broadening philosophy’s temporal horizon by developing a philosophy of deep history. This requires reflection on the results of contemporary paleo-archeological research, notably the work that focusses on a period of technological innovation often referred to as the Châtelperronian, when Neanderthals and humans co-existed in what is now France for thousands of years. Subsequently, we will indicate how the tendency towards a more inclusive view on early human history is noticeable in Neanderthal novels as well. Here, we will compare Jack London’s Neanderthal classic *Before Adam* with more recent literary enactments of the encounter between Neanderthals and modern humans. Finally, we analyse how these shifting views challenge the exceptionalist tradition in human self-understanding.

14.2 The Emergence of Historical Thinking

Although archeology in the broader sense can boast an impressive track record, including for instance the antiquarianism that flourished during the Song dynasty (960–1279) in China or during the Renaissance in Europe, the birth of archeology in the modern sense (of archeology as a systematic science) is often situated in the nineteenth century and associated with the work of scholars such as Augustus Henry Lane Fox Pitt Rivers (1827–1900), who adopted the methodological principle that *all* artefacts (not only the beautiful and exceptional ones, the collectors’ items if you like) are relevant when it comes to studying the evolution of human craftsmanship during various epochs as they are unearthed in archeological strata (Bowden 1991).

This connection with the nineteenth century is no coincidence because it is not only the century when the word “scientist” was introduced for the first time, but also the century of *historisation* (cf. Sera-Shriar 2018), both in the natural sciences (*Naturwissenschaften*), notably the life sciences (e.g. Darwin’s theory of evolution), and in the humanities (*Geisteswissenschaften*), e.g. the rise of critical philology. In philosophy, this tendency towards *historisation* is noticeable in the writings of historically minded authors such as Hegel, Marx and Nietzsche. Hegel’s thinking for instance builds on the conviction that humanity’s present condition can only be

understood against the backdrop of a profound understanding of our history: the present must be grasped as a historical *result*.

At the same time, a difference can be pointed out between the life sciences on the one hand and the humanities on the other in terms of scale. Philosophically speaking, a very important aspect of Darwin's theory was the tremendous expansion of our temporal horizon it entailed, for which the geological work of Charles Lyell and others prepared the ground. Until then, natural history was often discussed in terms of thousands of years, using *Genesis* as a frame of reference, but Darwin convincingly argued that the concept of evolution only becomes credible when we realise that it may take millions of years to sculpt new species and that nature has "incomprehensibly vast periods of time" available for "the work of natural selection" (Darwin 1859/1985, p. 147, p. 293). In philosophy, however, given its dependence on written documents, reflections on the historical nature of human thinking tended to stay within a much more limited timeframe. Here, the so-called "axial age" (twenty-five centuries ago) was often taken as point of departure. In his concise world history of philosophy, for instance, Hans Joachim Störig (1961) argued that philosophy as we now know it began around 550 BC at different locations around the globe. In China and India for instance, but also along the shores of Asia Minor and Southern Italy, the world suddenly began to think in the philosophical sense of the term, so that mythical worldviews (i.e. the tendency to attribute changes and events to supernatural powers) were replaced by maxims such as "for every change, there is a natural cause". What was remarkable, however, was that this awakening was a worldwide phenomenon. Störig emphasises the global scope of the transition. The rise of Greek thinking was not a stand-alone event. Buddha, Confucius and Lao-Tse were contemporaries of Parmenides and Heraclitus, as were Jeremiah and Zarathustra. Karl Jaspers likewise argued that, during the axial period, thinking *as such* suddenly came into existence (Jaspers 1949). This idea, that at several places on earth, simultaneously more or less, but independently and at great distances from one another, human self-consciousness suddenly seemed to make a leap, also implied that systematic reflection, once spurred into action, managed to reach impressive heights in a relatively short period of time (e.g. the miraculous birth of Greek mathematics and philosophy, seemingly *ex nihilo*). We notice the same conviction in Oswald Spengler's comprehensive conception of history (Spengler 1918/1923).

Although the axial epoch represents a remarkable event in human history, there is a drawback to this emphasis on the axial revolution as well, because it tends to obfuscate everything that must have occurred before that time (cf. Grosos 2023). Authors such as Hegel and Spengler do not have much to say about what came before: about "archaic" culture as they call it. Spengler does mention that archaic cultural forms emerging in "immense natural landscapes" (art, dance, music, poetry) were meant to adjure natural forces or deities ("*Beschwörung*"), but of the songs and dances of archaic cultures, hardly anything remains, he argues, and the little that remains concerns mostly the ornamental side. Hegel likewise surmises how, with the help of particular words and gestures, shamans once tried to implore the inscrutable powers of nature and to move them to pliability, hypnotising nature as it were (Hegel 1969), but the empirical basis for his reflections was quite limited at the time. In

other words, “archaic” culture was considered a lost world, beyond the scope of philosophical reflection.

14.3 Broadening Philosophy’s Temporal Horizon

This has evidently changed during recent decades, due to important developments in archeological research. Philosophers may try to keep track of archeological investigations so as to broaden their perspective, not only geographically (aspiring to supersede their Eurocentric bias) but also temporally, trying to become more inclusive, for instance by reflecting on the importance of the neolithic revolution (the emergence of agriculture), again in various parts of the globe, independently from one another, around ten millennia ago. The shift from a nomadic to a sedentary existence, and from hunter-gatherer to farming cultures, must have resonated with a different mindset or style of thinking as well, as humans began to drastically reshape their environment and human existence settled in self-supportive village communities—a relatively stable agricultural way of life that lasted for millennia across the globe, until it was disrupted by the industrial revolution in the eighteenth and nineteenth century (Zwart 2009; Grosos 2023).

In other words, while authors such as Hegel focussed on what was traditionally known as “history” (characterised by the presence of written documents), later authors began to push the starting point of their reflections increasingly deeper into pre-history, e.g. authors such as Arnold Gehlen (1964) in *Urmensch und Spätkultur* (“Primordial man and late culture”) or Hans Blumenberg, author of *Höhlenausgänge* (*Coming out of the Cave*) and multiple other writings (Velasco 2023). More recently, Philippe Grosos argued that the “birth” of philosophy in ancient Greece, twenty-five centuries ago, was actually the culmination of extensive prior processes (Grosos 2023; cf. Geneste et al. 2023) so that Heraclitus, Parmenides, Plato and Aristotle (inhabitants of large urban centres of agricultural societies dominated by males), was not the beginning, but rather a late culmination. Using paleolithic and neolithic art for guidance, Grosos aims to reconstruct the obfuscated origins of philosophy in pre-history, emphasising for instance how in paleolithic and neolithic art the human way of being in the world shifts from an ontology of *participation* to an ontology of anthropocentric presence, and while in neolithic art the vast majority of humans represented were male, Paleolithic artworks mainly depicted female figures. Thus, while in earlier days pre-history was equated with mythology, and rational philosophy with ancient Greek philosophy, we are now challenged to include “pre-historic” ontologies as well, so that archeology as the study of prehistorical remains becomes increasingly important as a source of information for philosophical reflection. *Philosophy of archeology* (literally: the logic of beginnings) thus becomes an *archeology of philosophy*.

The prefix “pre-” does not seem very functional in this regard, however, not only because archeology often combines and compares written sources with material findings, but also because the vast period referred to as “pre-history” is evidently much more expanded than “history”,—a relatively recent epoch in the journey of

human evolution, if we consider that modern humans entered the scene around 200,000 years ago,—230,000 years ago according to a recent *Nature* publication (Vidal et al. 2022). Therefore, in this contribution we will prefer to use the term “deep history” rather than “pre-history” (cf. Zwart and Soressi 2025).

French philosopher Michel Foucault argued in the 1960s that we should reverse our perspective by also studying written sources in an archeological manner (Foucault 1969). In the history of written discourse, Foucault argues, strata can likewise be discerned. For an archeological philosopher, *all* documents are equally relevant, not only the exceptional ones, written by “great thinkers”. The focus should shift to the enormous layers of (often anonymous) “discourse” accumulated in libraries and archives. Adopting an archeological approach, Foucault argues, allows us to determine the typical manner of speaking, observing and thinking in vogue during a particular epoch: the logic, the basic vocabulary all its authors have in common (rather than emphasising their theoretical differences). Again, however, by focussing on written sources, the starting point of his efforts, gargantuan as they may seem, is fairly late.

In order to gain access to deep history, and to enter worlds of human experience where written sources (the usual window of access for philosophical reflection on particular historical ambiances) cannot be found, intense forms of collaboration between archeology and philosophy are evidently pivotal, at least from the philosophical point of view. Whereas hermeneutics (the traditional method of the *Geisteswissenschaften*) presupposes the availability of texts, a philosophy of deep history requires the adoption of different sets of tools and is only possible as an intrinsically interdisciplinary endeavour, involving collaborations with archeology first and foremost, but also with evolutionary theory, semiotics and art history.

Although a philosophy of deep history faces many obstacles (such as the absence of written source materials, as indicated), it at the same time entails a number of important potential benefits. During the past decades, philosophers began to realise that, from Plato and Aristotle onwards, philosophy has been subject to a series of biases (Corbey 2005; Porr and Matthews 2019). Increasingly, philosophy (notably: modern Western philosophy) is now seen as *egocentric* (obfuscating the dependence of humans on social networks), as *anthropocentric* (obfuscating the embeddedness and connectedness of human existence within the web of life), as *Eurocentric* (tending to see European concepts and categories as the standard) and as *androcentric* (identifying “human” with “male”, and humanity with masculinity). These biases are far from being a typical philosophical predicament. Rather, they are discernible in other research fields as well, including archeology, evolutionary theory and art history. Precisely here, an interdisciplinary approach to deep history may broaden our perspective and spur us to overcome these implicit biases, for instance by situating human symbolism within the broader field of biology, while replacing a view of human history based on exceptionality with a more inclusive understanding. In the next section, we will describe how in paleo-archeological research a similar strive towards a more dynamical and inclusive understanding of deep history is emerging.

14.4 Paleo-archeology: Challenging the Human Revolution Model

Until the 1990s, the *human revolution model* was the dominant paradigm in paleo-archeological research. Its proponents (Mellars 1989; Donald 1993; Noble and Davidson 1991; Klein 1995) argued that, at a certain point in human evolution, a leap-like shift occurred in human cognition, resulting in the birth of language, art and symbolism. In their book *In Search of the Neanderthals: Solving the puzzle of human origins*, for instance, Chris Stringer and Clive Gamble (1993) claimed that Neanderthals did not have culture in the sense that we understand it today and still recognise it in the remains of early modern humans such as cave art, thereby solidifying the “them vs. us” dichotomy. This has changed. As Andra Meneganzin and Adrian Currie (2022) argue, the archeological expectation of discovering a “Rubicon” event, i.e. evidence of the sudden emergence of “modern behaviour as an integrated package”, is giving way to a view which sees the origin of behavioural modernity as a spatially and temporally distributed process. Yet, although the Rubicon model has been criticised and debunked (Cartmill 1990; King 1994; McBrearty and Brooks 2000; Roebroeks and Corbey 2001; Nowell 2010), and even Stringer and Gamble themselves adapted their views considerably since the publication of their book, the human revolution model was not very favourable for the Neanderthal image and its impact on Neanderthal discourse is still noticeable today (Meneganzin and Currie 2022; Nowell 2010; Shea 2011). “Policing boundaries” (i.e. defining a number of attributes that are unique and qualitatively exceptional for humans) is still an important trend, not only between humans and other primates (Cartmill 1990, p. 178), but also between modern humans and other early human populations including Neanderthals. Whenever a particular trait is under threat of not being uniquely human, the trait is often redefined, thereby effectively moving “the goal posts” to ensure that the exceptionality of humans remains intact.

A telling example of this logic of policing is the debate concerning symbolic behaviour (Kuipers et al. 2024). Many scholars agree that *symbolic behaviour* is a core defining trait of *modern behaviour*, i.e. the behavioural repertoire of modern humans (Nowell 2010). Therefore, symbolic behaviour became the new synonym for humanness for many archeologists (Bushozi 2020; Finlayson et al. 2012; Rodríguez-Vidal et al. 2014). Yet, again, the claim that symbolic behaviour is exceptional proves problematic (Kuipers et al. 2024). How to determine that a series of notches found on bones or antlers should be considered as symbols? And if symbolic behaviour is attributed exclusively to (modern) humans, how to assess evidence of symbolic behaviour in other early human populations? Indeed, evidence of symbolic behaviour can be found in many animals as well (Hersh et al. 2022; Pardo et al. 2023). The focus on some “essential” human trait which allegedly sets modern humans apart from others proves counterproductive. Commonalities are at least as interesting and allow us to re-embed early human history in a more comprehensive ecological and evolutionary perspective.

Therefore, to answer our questions, our aim is to reconnect the philosophical question “What makes us human?” with the evolutionary framework of archeological research into human origins (“How did we become what we are?”). Philosophers must familiarise themselves with the advancements made in human evolution research, while archeologists may benefit from close collaboration and dialogue between disciplines when it comes to reconsidering their conceptual frameworks. An additional advantage of interdisciplinary work is that we can critically consider the biases outline above (exceptionalism, anthropocentrism, androcentrism) across research fields. This is evidently an ambitious programme. Therefore, we will focus on one particular case study, namely, Neanderthal research.

We can summarise our argument (already outlined above) as follows. Until recently, the logic of binary and hierarchical thinking (humans vs. animals, males vs. women, Greeks vs. barbarians, masters vs. slaves, etc.) was not only noticeable in philosophy, but in Neanderthals research as well. While modern humans were seen as exceptional, Neanderthals tended to be seen as inferior, in the sense of insufficiently human, and the focus was on detecting decisive behavioural, technological and genetic differences between “them” and “us” (Peeters and Zwart 2020). Moreover, whereas modern humans were seen as taking the decisive revolutionary step from nature to culture (with the help of technology, language, art, complex social organisation, etc.), Neanderthals were basically seen as remaining embedded in nature, and as not yet having taken that decisive step. An important decisive factor, defining our humanity, was symbolism, moreover. Although Neanderthals evidently used tools, the difference between them and us was allegedly noticeable in symbolic behaviour (defining symbolic behaviour as that which makes us human, an argument which can already be found in Aristotle, e.g. in the first book of his *Politics*). Last but not least, human exceptionalism was connected with masculinity, based on the idea that the traits that supposedly made us human (or more human than Neanderthals) were notably to be found in males (innovation, competition, intelligence, cooperation, art, craftsmanship, etc., cf. Peeters and Zwart 2026). We will argue that, building on recent developments in Neanderthal research, this binary way of thinking has become increasingly untenable at all levels.

First of all, for many of the differences posited (language use, music, burial practices, art, ornaments, etc.), there is mounting evidence of Neanderthals having developed such practices as well. Moreover, in an era of global environmental crisis, we are becoming increasingly conscious of our embeddedness and dependence on nature, notwithstanding our technological prowess, while the idea of human history as an exceptional evolutionary “success story” is under siege. In addition, basic conceptual markers that have framed this discussion so far (e.g. “symbolic behaviour”, “modern behaviour”, “humanity”, and their numerous interconnections) are in need of thorough reconsideration. Also, we are becoming aware of how our understanding of Neanderthals (both in scholarly discourse and in the literary domain) is tainted by gender stereotypes, as indicated for instance by how gender roles are imagined and enacted in deep history novels. Concrete archeological evidence of gender roles in the deep past is sparse (Coltofean-Arizancu et al.

2021), but the discovery of female big-game hunters highlighted uncritical assumptions about past gender roles (Haas et al. 2020) that echoed the “paleo-fantasy” of *Man the Hunter* (Lacy and Ocobock 2023). That gender roles in history may diverge considerably from persistent assumptions was confirmed by the discovery that the individual buried in a high-status Viking warrior grave was not male—as had been assumed since its excavation in 1878—but female (Hedenstierna-Jonson et al. 2017; Price et al. 2019; Brown 2021).

In the following sections, we will zoom in on the modern humans–Neanderthals encounter: did it take place at all, was it necessarily a violent and competitive event or did it rather involve mutual learning and technological and cultural exchange? We will compare how the modern humans–Neanderthal encounter was envisioned by novelists such as the American writer Jack London (who wrote his Neanderthal classic *Before Adam* more than a century ago) and the Neanderthal best-sellers by Jean Auel, and compare these fictional enactments with emerging insights into the extensive period of co-existence of modern humans and Neanderthals in contemporary archeological research.

14.5 The Beginnings of Neanderthal Fiction

The first deep history novel, entitled *Paris avant les hommes* (“Paris before the arrival of humans”), was written by the French botanist and geologist Pierre Boitard (1789–1859) and published posthumously in 1861 (Boitard 1861). It is a time-travelling story. The narrator, after reading Cuvier, dreams that he is taken back 12,000 years in time by a demon who warns him to leave his preconceptions about human prehistory at home. In the *Grotte de Souvignargues* in southern France, he is confronted with a revolting creature resembling an orangutan. Boitard’s intention was to show that our ancestors were not Adam and Eve but ape-like cave dwellers. His book contained a notorious illustration of a hideous caveman standing in front of his cave, loosely dressed in animal skin and wielding a stone axe to protect a frightened cavewoman with child hiding inside.

Dreams also play an important role in the novels of American novelist Jack London (1876–1916) who suggests that there is an alternative pathway to access lost Pleistocene worlds of experience apart from science. Besides archeological research based on excavations, unconscious ancestral memories offer an alternative route. Jack London’s novels can be regarded as paleo-archeological experiments with literary means (Zwart 2019). This notably applies to two of his most remarkable novels, namely, *Before Adam* (1907) and *The Star Rover* (1915). Both novels rely on a technique that can be referred to as “active imagination”. In *The Star Rover*, the protagonist Darrell Standing introduces himself as a former scientist, a “precise laboratory scientist” employed by the University of California in Berkeley as a “laboratory slave” (p. 16). Running into conflict with a colleague from another university, he kills his competitor in a surge of anger and is sent to the California State Prison at San Quentin for life. Here he proves to be an impossible and “incorrigible” prisoner (p. 15), rebelling against the prison regime and subjected to

stringent disciplinary measures, such as spending long hours in isolation, wrapped in a straitjacket. In response, he develops a mental technique, putting himself in a state of trance, which allows him to wander off into distant times and places, entering the consciousness of alter egos who lived in a distant past, exploring vanished worlds of experience in which these alter egos once dwelled.

Initially, Darrell experiences this as a liberating “orgy of the imagination” (p. 83), but gradually his experiences become more concentrated, directed and controlled. He discovers inside himself an “awareness” of other times and places (p. 9), of other persons, of distant memories and previous selves and, in the course of the novel, he becomes increasingly apt at conducting time-travelling “experiments” (p. 79, p. 84, p. 156). His technique is reminiscent of what C.G. Jung refers to as “active imagination” (Jung 1968, p. 96; 1959, p. 356). All human beings have the potential to enter other worlds, Darrell Standing argues, and to experience vistas of other times and places (p. 9), but in normal life we tend to suffer from “forgetfulness” (p. 10). It is only in our dreams that we see “glimpses of other worlds and previous manners of life” (p. 9).

In *Before Adam* the narrator focusses on a particular dreamscape, which he explores systematically and in detail. As long as he can remember, the narrator is tormented by nightmares of fear, exposing him to “a fear of long ago”, the fear that “reigned supreme in that period known as the mid-Pleistocene” (p. 9). Initially, he experiences these dreams as a “screaming incoherence” (p. 10), but gradually he discovers how to explore these nocturnal visions in a more systematic manner. During the day, he is a modern city dweller, but in his dreams, he wanders through interminable oak forests. These dream images originate in a previous existence, and he gradually recognises that his dream personality, his alter ego, “lived in the long ago”, before humans as we now know them came to be (p. 18). Somehow, our cerebral cells still retain memories of the life once lived by remote ancestors. These reminiscences are “stamped into the stuff of our heredity” (p. 20).

As indicated, the narrator’s alter ego lived during “the Mid-Pleistocene” (p. 21), the period of “our becoming” (p. 25), and somehow his experiences are still accessible, although going back to that early world of experience via what seems to be a jumble of nocturnal images requires considerable training and exercise. He decides to take his dreams seriously and discovers that his “uncanny” (p. 21) dream experiences guide him back to a transition stage in human evolution, with early humans dwelling in caves. He discovers that he retains a vision of his ancestor mother, formidable of build, with stout legs, swift, swinging muscles and a furious temper (p. 30), and that he somehow remembers the language spoken in those days, when the vocabulary was limited to a minimal set of sounds, modifiable by intonation, pitch and pantomime (p. 39). But he also remembers how his “horde” of cave dwellers was tyrannised by an enormous aggressive male. Although the horde buried its dead, they had not yet developed any form of cooperative action. They had a capacity for “great laughter” (p. 65), however, and “played along through life” (p. 79). There was no seriousness in them, and they had not yet become sufficiently human-like to work out a problem or to innovate, so that little or no progress was made. They did enjoy collective singing in the sombre twilight of their caves, and

they would strike a unanimous rhythm for a moment, but soon the “art nascent” of their primordial chorus would disintegrate into pandemonium (p. 144).

At a certain point, the horde is attacked by what the narrator refers to as the “fire people” (i.e. modern humans), who not only know how to use fire, but are much more advanced socially, while their faces are more pleasing because “their nose-orifices open downward and the bridges are more developed, so that they look less squat”. They have speech and co-operation, while their bows and arrows are “enormous extension of their leaping and striking muscles” (p. 154). Indeed, these artificial fangs turn them into “the most terrible of all the hunting animals that ranged the primeval world” (p. 155). They rapidly exterminate the horde, although a small number manages to survive the cataclysm (p. 183). Somehow the narrator’s genetic stuff must have mingled with theirs, stamping into “the cerebral constitution of one of his progeny all the impressions of his life”, so indelibly that the enormous laps of time failed to obliterate them (p. 187).

Evidently, Jack London’s novels, and the genetic and neurophysiological theories on which they build, raise a host of questions, but if we are willing to *suspend our disbelief* for a moment, it is not difficult to read *Before Adam* as a description of an imaginary encounter between early humans, Neanderthals perhaps, apparently not fully human, and modern humans. Thus, we might see *Before Adam* as an early example of a Neanderthal novel, a Neanderthal *classic* if you like. If we subject Jack London’s novel to a quick analysis, some features are fairly typical for Neanderthal novels as a genre. First of all, the novel stages an *encounter* between Neanderthals and modern humans and this event (the first encounter as a primal scene) is a basic component in many Neanderthal novels (Peeters et al. 2025). Also, we notice that the Neanderthals as depicted by London as having developed a culture of their own, which includes language, music (cave singing) and burial practices. Yet, compared to the culture of modern humans, Neanderthal culture is presented as deficient. Neanderthals use language, but their vocabulary is limited, while their social organisation is not very advanced (they are a horde rather than a tribe). Their faces are not quite human, moreover, and although they developed primitive tools, advanced human artifacts (e.g. arrows) are unknown to them. The encounter is sudden, violent and short-lived, moreover. The Neanderthals are eliminated or expelled, although some interbreeding must have taken place. The Clan People (Neanderthals) were in the process of becoming human, but the Fire people (modern humans) are depicted as far superior in terms of language, tool-use and cooperation, while Neanderthals represent an evolutionary dead end (Drell 2000).

This is how Jack London imagined the Neanderthals–modern humans encounter, more than a century ago. Let us now briefly compare his version with the image of this encounter as it emerges from paleo-archeological research, notably as it has evolved during recent years. First of all, although archeologists still devote multiple debates to distinctive differences between Neanderthals and modern humans, these differences tend to be seen as considerably less dramatic nowadays than London depicted them. In addition, increasingly often, they are no longer framed in such a way that Neanderthals are seen as deficient, as not yet human. And a third striking tension between London’s early twentieth-century fantasy and contemporary

scholarly discourse concerns the encounter as such. Instead of seeing it as a single, dramatic and violent event, with our ancestors in the role of invading predators and Neanderthals as inferior victims, scientific research suggests that Neanderthals and modern humans co-existed in what is now Europe for thousands of years, while during this period, various kinds of interaction and exchange (ranging from technologies to genes) took place. Let us have a closer look.

14.6 The Encounter According to Current Paleo-archeological Research

Neanderthals were Pleistocene hunter-gatherers who lived in (western) Eurasia between ~400,000 and 40,000 years ago (Roebroeks and Soressi 2016). Hundreds of thousands of years of relative separation between African and Eurasian humans led to the emergence of different phenotypes, yet Roebroeks and Soressi argued that genetic evidence and archeological data suggest that the biological and cultural gaps between Neanderthals and modern humans were smaller than previously thought. The cultural capacities of the late Middle and early Late Pleistocene populations in Africa and Eurasia were remarkably comparable (Villa and Roebroeks 2014). It is only around 40 ka, tens of thousands of years after the modern human phenotype appeared outside of Africa, and thousands of years after the first interbreeding between modern humans, Neanderthals and Denisovans occurred, that we see a major change in the archeological record. Explaining this transformation solely in linear terms, in the sense that innovative and advanced technocomplexes are consistently attributed to invading modern humans, must give way to a more fluid and interactive understanding of this period of transition.

Although the disappearance of Neanderthals during the Upper Paleolithic coincided with the spread of modern humans, Neanderthal presence persisted in what is now Europe for several millennia after modern humans entered Europe from the East. And rather than a clear Neanderthal–modern humans divide, research suggests a “patchwork” of human populations and technocomplexes in Europe during a transitional period which lasted for thousands of years (Myopotamitaki et al. 2024), although debates concerning whether Neanderthals were “replaced” or rather “assimilated” by modern humans are still ongoing (Zilhão et al. 2024). The dispersal of modern humans occurred during a “transition” period which lasted a few thousand years, eventually resulting in the replacement of indigenous Neanderthals around 40,000 years ago (Abrams 2023). We emphasise, however, that, although his transition period, during which Neanderthals and modern humans coexisted in Europe, coincided with an epoch of technological transformation, it would be a simplification to say that this was solely due to innovations introduced by modern humans. Archeological evidence suggests a more complex dynamics of transition.

The Châtelperronian industry (emerging at the end of the Middle or the beginning of the Upper Paleolithic) was especially interesting because, whereas traditionally Neanderthals were often seen as “conservative” compared to “innovative” modern humans, Châtelperronian industries demonstrate Neanderthal capacity for creativity,

innovation and change (Soressi and Roussel 2014). The traditional view among researchers was more or less “London-like” in the sense that the arrival of modern humans in Europe allegedly resulted in the demise of Neanderthals due to modern humans’ technical superiority (e.g. London’s ‘arrows’), but according to Roussel and Soressi almost every behaviour previously thought to be unique to modern humans was shared, at least occasionally, by Neanderthals—although they also notice a tendency to interpret this period in terms of a contrast between Neanderthals and modern humans, rather than as a unique Neanderthal culture, a tendency which concurs with how the Neanderthal–modern humans encounter is often depicted in popular sources (p. 2680). Since 2014, however, more findings and interpretations have become available that allow us to further develop our understanding of this intriguing epoch in early human history. While concrete evidence of interaction between Neanderthals and modern humans is sparse, the scenario of a sudden emergence of a “modernity package” is giving way to seeing early human history as an intricate mosaic of multiple and temporally variable pathways of technological practice (Scerri and Will 2023). Or, as Finlayson et al. (2023) formulate it: traditional narratives about human migrations and the biological and/or cultural advantages of our own species over the Neanderthals are now giving way to the study of the biological and cultural dynamics of past human populations and the nature of their interactions in time and space.

14.7 Shifting Scenarios

As indicated earlier, during the 1980s, the arrival of modern humans in Europe and the concurrent demise of Neanderthals was viewed as a “revolutionary” event, characterised by the rapid and straightforward replacement of one species (Neanderthals and their Middle Paleolithic stone tools) by another (modern humans and their Upper Paleolithic tool kit) (Mellars and Stringer 1989). However, already by the late 1970s, the discovery of Neanderthal remains in a layer with Upper Paleolithic stone tools (Lévêque and Vandermeersch 1980) suggested a much more complex history, possibly pointing toward “acculturation” of Neanderthals under the influence of modern humans before their demise (Demars and Hublin 1989). In the early 1990s, new dating techniques revealed that some of the latest Neanderthals were indeed contemporaneous to the first modern humans in Europe (Mercier et al. 1991). On the basis of these data, scientists cautiously concluded that “the possibility of contact between the West European Neanderthals and the intrusive modern humans who replaced them [could not] therefore be excluded” (Mercier et al. 1991: 737).

Since then, efforts have continued to further our understanding of the duration of coexistence of Neanderthals and modern humans and to identify biological and cultural changes in the last Neanderthals that might reflect hybridisation and interactions (Stringer and Grün 1991). In 1996, the attribution of a piece of skull found in a layer with personal ornaments (perforated and grooved mammal teeth) to Neanderthals confirmed that they were using decorative objects (Hublin et al. 1996),

possibly due to trading or imitation. Although this could be interpreted as empirical evidence for contact and acculturation, Neanderthals could also have independently invented and manufactured these beads (d'Errico et al. 2005; Hublin 2007). In the early 2000s, the analysis of one of the oldest modern human skulls found in Europe revealed a mosaic of morphological traits suggesting possible interbreeding with Neanderthal, though not conclusively (Trinkaus et al. 2003).

14.8 DNA Sequencing: How Currently Living People Inherited Genes from Long-Demised Neanderthals and Denisovans

In 2010, the advent of high-throughput sequencing enabled the extraction and successful sequencing of nuclear DNA from Neanderthal bones (Green et al. 2010). This breakthrough showed that genomes of modern humans living outside of Africa contain a few per cent Neanderthal DNA, indicating that modern humans interbred with Neanderthals more than 40,000 years ago. Science journalist Rex Dalton concluded in *Nature* that this discovery significantly changed our views on humanity (Dalton 2010). Subsequent years provided further confirmation through in-depth analyses of living humans (Vernot and Akey 2014; Sankararaman et al. 2014) and the sequencing of early modern human remains (Hajdinjak et al. 2021), including the remains of a 40,000-year-old modern human with Neanderthal ancestry, possibly as close as a great-great-grandparent (Fu et al. 2014). Science journalist Ewen Callaway summarised the results by stating that “our inner Neanderthal was revealed” (Callaway 2014). In 2018, the sequencing of DNA from a hybrid individual with a Neanderthal mother and a Denisovan father (Slon et al. 2018) highlighted the interbreeding between Neanderthals and other hominins besides modern humans as well. Denisovans are a population of extinct humans who lived in Asia from approximately 300,000 to circa 25,000 years ago (Brown et al. 2022). Recently, it was confirmed that intermingling between modern humans and Neanderthals may have occurred as early as 200,000 years ago, with another major period of mixing around 100,000 years ago (Li et al. 2024).

The past fifteen years have seen numerous discoveries that have reshaped our view on the origin of our genetic makeup. These discoveries were triggered by technical advancements—specifically the development of high-throughput sequencing—and the dedicated work of scholars like Svante Pääbo and his team at the Max Planck Institute in Leipzig, Germany. Pääbo received the Nobel Prize in Physiology and Medicine in 2022 for his work, which highlighted the lasting impact of Neanderthal (and other fossil hominin) DNA on the immune systems of modern humans. Initially, genetic studies focused on Neanderthal bones, and then broadened to early human remains older than 40,000 years (Peyrégne et al. 2024). Yet, while evidence for the mixing of different hominin populations in the deep past has become abundant over the past fifteen years, evidence for cultural interactions remains elusive. Chu et al. (2024) for instance report that in present Romania, bones of modern humans with recent Neanderthal ancestry have been found, while there is no evidence of interaction in tool use.

14.9 Cultural Legacies and Exchanges

Over the past decade, improvements in radiometric dating have enabled more accurate dating of layers attributed to the last Neanderthals and the earliest modern humans in Europe. The latest evaluations suggest that Neanderthal and modern human presence in western Europe overlapped between one thousand and three thousand years before the Neanderthals disappeared (Djakovic et al. 2022). Recent discoveries also indicate that some modern humans could have reached France as early as 50,000 years ago (Slimak et al. 2022) and Greece as early as 200,000 years ago (Harvati et al. 2019). Despite this temporal potential for cultural interactions, evidence for interactions remains limited so far.

In 2013, one of us (M.S.) and colleagues published the discovery of bone tools known as *lissoirs* and used to soften hides in layers associated with Neanderthals and dated to circa 50,000 years ago (Soressi et al. 2013). Interestingly, similar bone tools are still used today by humans to work leather, representing some of the oldest evidence of a technology invented long ago that remains in use (Callaway 2014). These *lissoirs* were the most ancient ever discovered. Since they had not been found in Africa or in the Near-East but became common in western Europe by 35 ka, the authors suggested they might be the first evidence of Neanderthal technology transmitted to modern humans. However, similar objects, albeit broader and *spatula-like*, were later discovered in North Africa in layers dated to 120,000 to 90,000 years ago (Hallett et al. 2021) and in Eastern Europe in layers younger than 50,000 years (Martisius et al. 2022), suggesting that similar tools may also have been independently invented by modern humans. The hypothesis of Neanderthals inventing *lissoirs* and transmitting them to modern humans has neither been contradicted nor reinforced in recent years, indicating the need for further study to flesh out a more complex scenario than the one originally suggested. Still, we notice a shift of emphasis from the late 1980s view of Neanderthals being “acculturated” by modern humans to considering how modern humans may also have been influenced by Neanderthals and how population contact was a driver of cultural change at the time of the Neanderthal demise (Greenbaum et al. 2019; Creanza et al. 2017).

In 2016, Marie Soressi and colleagues also published stone tools found in layers then associated with the latest Neanderthals in France. These tools mimicked the shape of those used by modern humans in the same area during that time period. However, the manufacturing process for these Neanderthal tools differed from that of the modern human tools, suggesting superficial contact between the two groups (Roussel et al. 2016). Despite the extended interaction period in Western Europe, more evidence of interactions has yet to be found. One possibility is that it has not been researched extensively enough—the theoretical framework for identifying cultural interaction in the Pleistocene archeological record is still in its infancy (Tostevin 2000, 2007; Gravina et al. 2022). To further complicate matters, several scholars have suggested that these types of assemblages may not have been produced by Neanderthals, but by *Homo sapiens* instead or a mixture of both (see Djakovic et al. 2022). Yet, compared to research in the past, the impact of

Neanderthals–modern humans encounters is now symmetrically considered in both archeology and paleo-genomics, reflecting a more balanced view of the cultural exchanges between these ancient populations. Another difference is that the perception of Neanderthals has evolved from that of an extinct and inferior species to the view of Neanderthals as humans with behaviours as sophisticated and unique as their modern human counterparts (Villa and Roebroeks 2014; Roebroeks and Soressi 2016; Zilhão et al. 2010; Hoffmann et al. 2018). For instance, Neanderthals likely invented the first stone strike-a-lights (Sorensen et al. 2018), discovered the fire-starting chemical properties of manganese dioxide powder (Heyes et al. 2016) and operated in large social units for the butchering of large animals as early as 125,000 years ago (Gaudzinski-Windheuser et al. 2023). Thus, instead of a one-sided cultural transmission from modern humans towards Neanderthals, there is some evidence demonstrating independent innovation by Neanderthals or cultural diffusion from Neanderthals to modern humans. Last but not least, the collaboration between paleo-genomicists and archeologists is intensifying, which may allow for a more refined understanding of interactions in the deep past.

If we compare current paleo-archeological research with previous approaches focussing on modern human superiority (a focus that was amplified in *Before Adam* as an early Neanderthal novel), we may conclude that the traditional understanding of the Neanderthal–modern humans encounter is being revisited. Rather than a single, revolutionary event, resulting in the elimination of “inferior” Neanderthals by “superior” modern humans, communities of early humans co-existed and interacted with one another in what is now Europe for thousands of years. And rather than seeing their interaction as unidirectional (explaining the technological revolution that occurred during this period solely in terms of Neanderthals adopting “superior” industries developed by modern humans), there is ample evidence for Neanderthal dexterity and creativity as well, and the traffic of ideas may also have occurred the other way around.

14.10 More Recent Literary Versions of the Encounter

A similar trend, towards a more dynamic and interactive view of the coexistence of Neanderthals and modern humans, can be discerned in Neanderthal novels as well, although hierarchical and binary scripts (pitting an inferior “them” against a “superior” us) still prove quite tenacious. As indicated earlier, both in research and in literary fiction, the tendency had been to depict Neanderthals as “not yet us”, which meant that they offered a way of defining ourselves by contrasting “us” with “them” (Peeters and Zwart 2020). This also tended to be the focus of attention in literary visions of the encounter of (late) Neanderthals and (early) modern humans. The idea that our ancestors once were face to face with a more “primitive” human species has long captured the imagination of archeologists, novelists, filmmakers and broader audiences alike, although this fascination tended to reflect a progressivist view on history (the encounter occurred when the Neanderthal chapter was about to be closed while the advance of *Homo sapiens* would continue). Many works of fiction

revolving around the encounter are stories of competition, of winners and losers, where modern humans emerge as heroic victors (Hackett and Dennell 2003). This is a common narrative in stories about human evolution (Landau 1993). Apparently, they appeal to our sense of progress and affirm our sense of exceptionality and superiority.

This scenario is also quite evident for instance in the 2018 BBC documentary *Neanderthals: Meet Your Ancestors*, staging a *fight club* where a Neanderthal male has to compete with a modern human male in a life-or-death combat. The documentary starts by explaining that Neanderthals were not the brutish ape-men of popular imagination, but “surprisingly” like us. The combat that follows is nonetheless a combat between unequally equipped males, between brawns (them) and brains (us), where our cognitive advantage allows the victorious human male to deliver the knock-out blow. This example also emphasises how the alleged superiority of modern humans is closely connected with stereotypically masculine traits (e.g. innovation, expansion, competition, aggression). This heroic identity is not only problematic from a scientific point of view, where archeology offers evidence of coexistence, interaction and admixture, but it also reinforces a one-sided and stereotypical view of what it means to be human.

More recent Neanderthal novels often try to offer an alternative view. Interestingly, although the first articles providing evidence for long-term coexistence and interactions between early *Homo sapiens* and late Neanderthals in Europe were published during the 1990s (e.g. Hublin et al. 1996), already in the 1980s two novels appeared that explored this coexistence, namely, *Dance of the Tiger* by paleontologist Bjorn Kurtén (Kurtén 1980/1995) and Jean Auel’s world-famous *The Clan of the Cave Bear* (Auel 1980). In both novels, Neanderthals are comparable to modern humans, although Auel’s Neanderthals are doomed to extinction because of their conservatism.

With the modern human protagonist Ayla, Jean Auel created a heroine who has many of the qualities traditionally associated with male heroes, e.g. independence, physical strength, a gift for innovation and intelligence.³ However, precisely these qualities are also the reason why she finds it difficult to adapt to the traditionalist expectations of her adoptive Neanderthal clan. Physically and intellectually, Ayla (an athletic beauty, both feminine and strong) is more evolved than the Neanderthal Clan people and struggles to live up to the Clan’s rigid gender norms. Being more emancipated than the Neanderthal clan, she experiences the Neanderthal clan culture as claustrophobic and oppressive. Neanderthals have a different brain capacity and

³In an interview, Auel (1986) explains that she wanted to write about “a heroine that I didn’t have when I was growing up, because when I read books very often, if there were woman, or girls in them, they were kind of sitting around in the background being Heroines! Waiting for someone to come and save them.” Likewise in books about cave men, feminine characters “were always in the background”. The androcentricity of Western culture entails that the masculine (with a focus on autonomy and rationality) is seen as universal, as the standard, while the feminine (with a focus on emotion, the body and relationships) is traditionally constructed in a hierarchical opposition to masculinity, also in novels.

find it difficult to learn new things. Males are in charge, and women are submissive by nature. Contrary to Jack London's version, Neanderthals neither laugh nor cry. They do not understand "abstractions" and can hardly count. Cave males dislike Ayla (the rebel) because she is seen as one of the "Others" (the Cave term for modern humans), no longer constrained by the traditions wired into the Neanderthal brain ("a brain that was nearly all memory"). Her forward-thinking frontal brain provides her with insight and allows her to forge ideas which Clan members never even dreamt of. She represents a new manner of being woman and being human, destined to supplant "the ancient, dying race", as is the way of nature (p. 162). Although her first novel in many ways continues to reflect the "conservative Neanderthals" versus "innovative human" scenario, the contemporaneity of Neanderthals and modern humans remains a key ingredient of Auel's later novels, which are informed by more recent archeological findings and interpretations.

14.11 Jean Auel and the Châtelperronian Novel

Like other Jean Auel Neanderthal novels, *The Shelters of Stone* is set in a Châtelperronian landscape precisely during this archeological period, when the presence of protective limestone shelters made this part of present-day France "among the most heavily populated in all that cold ancient world" (Auel 2002/2011, p. 136). Rather than on active imagination, as in the case of Jack London, Jean Auel relies on paleo-archeological expertise to gain access into the Châtelperronian world where modern humans and Neanderthals encountered one another. She mentions the support of several archeologists in her *Acknowledgements*, and she also mentions *The Shamans of Prehistory* by Jean Clottes and David Lewis-Williams (1998), who argued that polychrome Cro-Magnon cave paintings were part of Shamanistic rituals. After reading papers and manuscripts by professional archeologists and visiting sites, Auel relied on her imagination to fill in the blanks.

To a considerable extent, Auel's description of modern humans (the Zelandonii) and Neanderthals (the Clan people) continues to adopt a "them" versus "us" approach similar to what happens in her first novel and in archeology during the reign of the human revolution model. Zelandonii (modern humans) have fair skins and blue eyes, and the women decorate their bodies and faces with charcoal and ochres in front of polished wooden mirrors (2002/2011, p. 117), while Neanderthals are brown-eyed and dark, with prominent brow ridges and noses, and are referred to by the Zelandonii as "flatheads". While Neanderthals live in small groups (clans), the Zelandonii dwellings are much more populated, and their crafts include "the production of small sculptures [that] seemed to be made for themselves" (p. 15), resulting in figurines and necklaces, a novelty for Ayla (the modern human female protagonist who was raised by a Neanderthal clan), while modern human tools and sculptures are "carved with symbols" of animals and plants. Whereas the Zelandonii worship the Great Earth Mother, Neanderthals are devoted to Ursus, a mythical Cave Bear, supposedly a more primitive cult. And while Zelandonii women play a prominent role in the daily life of the tribe, Clan women "quietly fade into the

background and seem to disappear” (p. 113). Finally, while Zelandonii communicate by means of language, Neanderthal Clan people only use a limited number of “very ancient words” (throaty, guttural sounds pronounced with a low-pitched voice), combining them with onomatopoeic phrases, signs, gestures, facial expressions and other forms of non-verbal communication (p. 182 and elsewhere).

Gradually, however, the difference becomes less hierarchical. Throughout the novel, there is a discussion among the modern humans whether “flatheads” are animals or humans, and the consensus gradually slides towards the latter. Neanderthals bury their dead and their storytelling actually proves to be quite intricate and advanced. Their signs and gestures evolve into a form of dance (p. 71, p. 80). Their culture is different (they “talk with their hands”, p. 71), but not necessarily inferior to modern human communication. Whereas Neanderthal traditions change slowly (p. 79), they do change, and while both modern human and Neanderthal women have acquired medicinal knowledge, only modern humans (notably males) are given to a rather bad habit: brewing and drinking alcoholic beverages. Still, modern humans definitely have an advantage when it comes to the use of art (paintings, carvings, decorations) and the development of new crafts and skills. Contrary to humans, the Clan people create “no legacy of art” (p. 201).

The most decisive difference between the Pleistocene worlds as depicted by Jack London and Jean Auel, however, is the temporal dimension. Modern humans and Neanderthals share the same landscape for extended periods of time. They co-exist and interact, via trading, occasional encounters, mutual learning and sexual intercourse.

In the final book of the series, *The Land of the Painted Caves* (Auel 2011), Ayla (who already had a reputation as a horse, wolf and cave lion whisperer) becomes the Zelandonii shaman and in this role, she embarks on a pilgrimage to visit sacred caves (Cro Magnon painted caves in Southern France) as part of her training to become a spiritual leader. A hallucinogenic liquid sends her on a three-day psychedelic trip that ends in one of these caves, where she experiences her calling by the Great Earth Mother. This gift of knowledge changes the scene, however, because due to Ayla’s insights, human males become aware of their role in procreation, which leads to the collapse of matriarchy and the rise of patriarchy, while Neanderthals (Clan people) end up at the wrong side of history and are bound for extinction.

Auel’s novels could be seen as intermediary novels, still sharing much of the “them” versus “us” logic so characteristic of London’s classic, while on the other hand depicting Neanderthals as humans. More recent novels move further away from the logic of human (masculine) exceptionalism and tend to focus even more on issues of connection, interaction and vulnerability. An interesting example is *The Last Neanderthal* by Claire Cameron (2017), a story of two women separated by millennia (a Pleistocene Neanderthal woman and a modern archeologist) but connected by shared experiences of early motherhood. The story follows Girl and her Neanderthal family as they struggle to survive, and archeologist Rosamund Gale who, living in the present, excavates Neanderthal remains while being pregnant. Rather than reinforcing the “them” versus “us” divide, the novel enacts

communalities and encounters between women then and now, bypassing fantasies of sex and war while emphasising empathy and vulnerability.

Ghost Species by James Bradley (2020) likewise questions long-standing assumptions about human exceptionalism. Here, de-extinction of Neanderthals with the help of paleo-DNA becomes a core theme. What does de-extinction imply for our existential loneliness as modern humans, in a world where so much is lost? Set against the backdrop of a rapidly escalating climate catastrophe, scientists and partners Kate Larkin and Jay Gunsekera are recruited by tech billionaire Davis Hucken to explore the forests of Tasmania. Davis has ambitious plans to save the planet by reintroducing long extinct creatures such as thylacines and mammoths, thus reversing the damage done by modern humans in the course of deep history, and this includes a secret program to recreate Neanderthals with the help of paleo-DNA. By focussing on Kate and Eve, the child that is born, the novel focusses on compassion and connectedness. In short, both in contemporary scientific discourse and in recent Neanderthal novels, we notice a shift from reinforcing the “Neanderthal versus modern humans” divide towards a more inclusive emphasis on connectedness and interaction.

14.12 Conclusion

Our understanding of early human evolution is changing, and this has repercussions for how we see ourselves as human beings. Although we are now the only humans on earth, our story is part of a broader history, where the extended period of contemporaneity of Neanderthals and modern humans emerges as an epoch of special significance. As we argued in a previous publication (Peeters and Zwart 2020), Neanderthals are more like us than other early humans, but the guiding conviction was that they somehow missed something “we” (our early ancestors) allegedly had. Precisely this (genetic, behavioural and cultural) difference allegedly confirmed our exceptionality as modern humans. The overall trend was to frame modern humans as favoured evolutionary “winners”, whose alleged “superiority” led to the demise of Neanderthals (Villa and Roebroeks 2014). The human revolution was attributed exclusively to the innovativeness of modern humans, and especially of males.

As indicated, research in paleo-archeology is rapidly questioning this scenario. Neanderthals and modern humans co-existed in what is now Europe for an extended period of time, and more data concerning interactions and transmissions are becoming available. Whereas in traditional novels encounters between Neanderthals and modern humans tended to be depicted as violent and brutal, resulting in the elimination of the culturally and biologically “inferior” Neanderthals by “superior” modern humans, more recent novels put more emphasis on contemporaneity, interaction, creativity and mutual exchange, although in the Neanderthal novels by Jean Auel (the most popular Neanderthal novels perhaps), Neanderthals are still depicted as people with limited brain capacity, conservative and narrow-minded rather than innovative and emancipatory, and therefore bound to extinction.

Images of Neanderthals in novels and in scholarly discourse evolve in parallel, but in an interactive manner. While novelist Jean Auel (2002/2011) for instance acknowledges the support received from several archeologists in her *Acknowledgements*, Rebecca Wragg Sykes emphasises in her book *Kindred* (2020) that it is precisely the interaction between imaginative and academic interpretations that has revolutionised our understanding of the vanished world of Neanderthal culture, convincing us that Neanderthal culture wasn't a "dead end", even though the question whether apparently artistic Neanderthal remnants (Bruniquel etc.) can be considered as art the way *we* understand it continues to be a matter of debate.

Both in archeology and in Neanderthal novels, we notice the need for a more inclusive perspective on early human history, where cultural, technical and behavioural similarities and differences are studied in a non-hierarchical manner. Rather than on Neanderthal extinction (caused by their alleged cognitive disabilities and behavioural deficits, compared to modern humans), the focus now centres on their extended history and presence: on how Neanderthals *lived*; on their manual dexterity, technical competence and cognitive versatility (Carrión et al. 2019). This will foster a non-hierarchical conception of difference and a more inclusive and fluid conception of human identity, no longer dependent on the disqualification of otherness. In this manner, paleo-archeology becomes cultural anthropology of the past, sensitive to diversity and difference, but refraining from assessing such differences as "inferior" or "superior" on the basis of resemblance with modern human behavioural patterns. The emergence of modern symbolic behaviour is a gradual and multifaceted process involving a broad variety of expressions across space and time. Stability or a slower pace of change has often been interpreted as a lack of progress or capacity for innovation and has even been equated with backwardness (Montón-Subías 2024), but stability may well have been a strength under Pleistocene circumstances. The predilection for innovation reflects assumptions about masculinity and Enlightenment (suggesting that "progress", i.e. change, is good by definition) that are open for reconsideration, while putting more emphasis on the importance of cooperation, interdependence, bonding and care (Montón-Subías and Hernando 2018) rather than competitiveness.

This shift from exceptionalism towards a more inclusive view has conceptual repercussions as well, notably for concepts such as humaneness. Neanderthals were humans. Their manner of being in the world, their language and their crafts may have differed from those of modern human communities, but not in the sense of being deficient, given that Neanderthals were able to maintain themselves in challenging Pleistocene environments for extended periods of time, relying on their cultural and technical dexterity. Moving away from the idea of sudden and brutal encounters, more attention is now given to the *contemporaneity* of Neanderthals and modern humans in the immense natural landscapes of the Pleistocene (Conard 2006). This will also allow us to move away from the traditional androcentric focus on "masculine" characteristics, e.g. violence, competition and expansion. The title *Before Adam* as such is already symptomatic of the focus on masculinity in London's novel, seeing the Pleistocene world as dominated by aggressive males. Research

into what actually was an extended period of co-existence (referred to here as the Châtelperronian period) opens up a different cultural landscape, with diverse but coexisting and interacting technocomplexes.

There is an additional reason, albeit a somewhat speculative one, why Neanderthal research and Neanderthal novels draw so much attention among scholars and the broader public alike. Both the late Pleistocene past and the Anthropocene present are precarious periods of crisis and transition. The current interest in Neanderthal extinction in deep history may resonate with concerns about our own future. The possibility of modern humans becoming extinct is widely discussed from multiple perspectives, and perhaps we would like to consult them. A much stronger awareness of our human embeddedness in and dependence on nature is something we might learn from them.

While we increasingly see Neanderthals as human, for us the question is not whether Neanderthals should be “out” or “in”. Rather, we advocate a more fluid and dynamic understanding of the concept of humanity and related concepts such as symbolic behaviour and modern behaviour, encompassing various manners of being human evolving in a Pleistocene ambiance. Thus, Neanderthal research provides us with an opportunity to reconsider our basic categories and frameworks for self-reflection. Besides a shift of focus from competitiveness to cooperation and dependence, future research will need to reconsider our definitions of humanness (which doesn’t necessarily mean being comparable to contemporary humans). And while most Neanderthal findings come from what is now Europe, the abundance of insights from Africa and Asia must be incorporated more systematically as well, as the focus on Europe as the culmination point of history echoes Enlightenment thinking. The Châtelperronian for instance refers to a relatively well-studied but specific area within the immense Neanderthal world that reached from Gibraltar up to the Altai Mountains.

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