# Re-evaluating Neanderthals in Europe

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THE NEANDERTHALS REDISCOVERED
HOW MODERN SCIENCE IS REWRITING THEIR STORY
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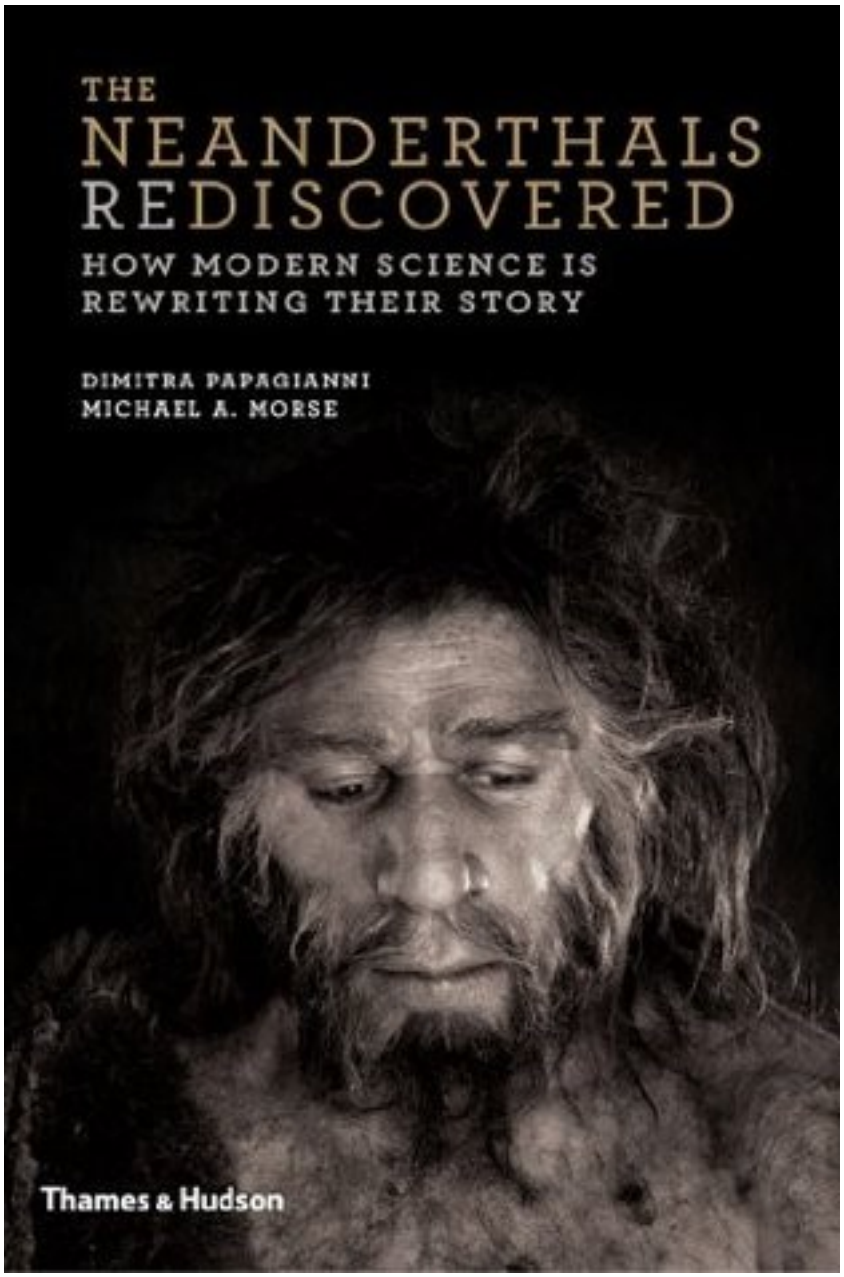
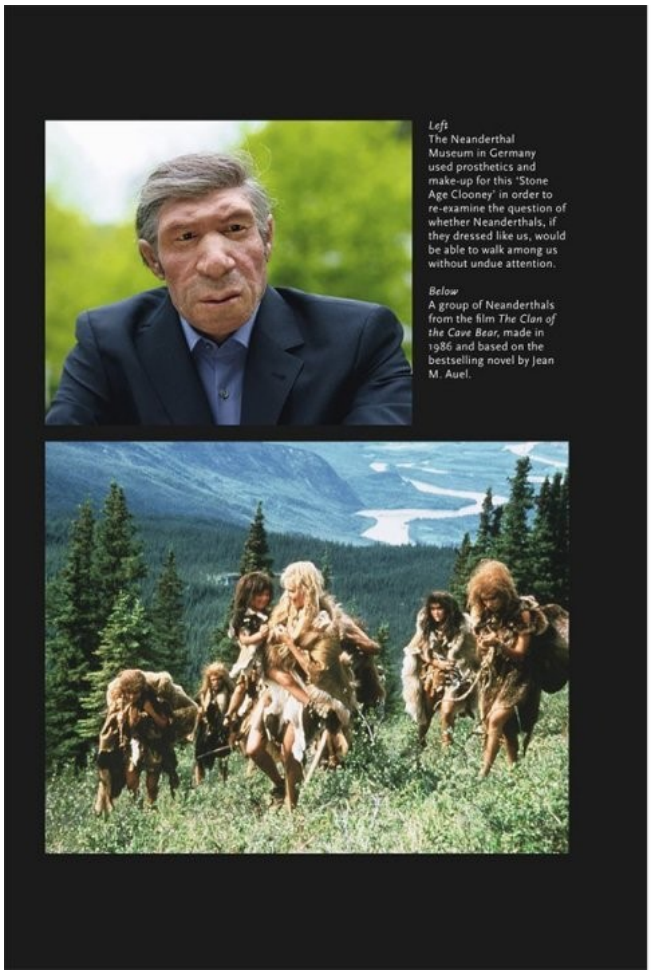
# DIMITRA PAPAGIANNI – MICHAEL A. MORSE – THE NEANDERTHALS REDISCOVERED – 2013-2015

This small book is fundamental and it brings up ideas that force us to reconsider what we may have too easily accepted or remembered. Research in the archaeological field is going so fast that we may feel some kind of vertigo in front of this constant reevaluation. The book is concentrated on Neanderthals and at times that makes it Europe-centered since the main first idea is that, for the authors, Neanderthals have evolved and matured in Europe to go back to the Middle East later on. That will explain some of my critical remarks because this centration is deeply frustrating. For one example, though the authors actually state migration from Black Africa to Northern Africa, as for Homo Sapiens (there was another migration out of Black Africa as for Homo Erectus), the authors keep the formula “Out of Africa” which is definitely wrong. But we’ll come back to it later.




The authors state that archaeology today cannot work but with numerous scientists from numerous fields, and they quote (p. 15) “geologists, archaeologists, geneticists, and archaeology students.” And here

too this is a real problem for their approach, but it is a problem also in the field itself, I mean in archaeology. I would quote the following scientists that should be included and involved in such research, and they are not, or not the proper specialists: phylogenists, and not only in biology or botany, general phylogenists who study the inner evolving logic of any living organism, including of course social organisms and cultural organisms, and language in general, languages, in particular, are here concerned; linguists and I mean phylogenic and psychogenetic linguists who can follow as linguists the development of language among Hominins or in any human subject; anthropologists; gynecologists; pediatricians; and etc. is the most important case. We will see how these specialists could help along the way in the discussion.



*Left*
The Neanderthal Museum in Germany used prosthetics and make-up for this 'Stone Age Clooney' in order to re-examine the question of whether Neanderthals, if they dressed like us, would be able to walk among us without undue attention.

*Below*
A group of Neanderthals from the film *The Clan of the Cave Bear*, made in 1986 and based on the bestselling novel by Jean M. Auel.



This chapter concerns events that took place between 11.20 pm and 11.45 pm, just twenty-five minutes out of the twenty-four-hour compressed 'day' of the entire human past. During this brief time the Neanderthals reached the pinnacle of their existence and enjoyed their final eight minutes (or 13,000 years) of isolation in Europe, they were joined in Europe by *Homo sapiens* with whom they shared the continent for perhaps six minutes (10,000 years) and they met their doom some one to two minutes (3,000 years) after the Gravettian culture became widespread across the continent. The final stand of the Neanderthals may have been in Spain, or, to be geopolitically correct, in a small British protectorate near the southern tip of Spain. The Gravettian culture reached the Iberian Peninsula a few thousand years after its initial spread through much of the rest of Europe. Whether these modern humans pushed the Neanderthals to extinction or merely took advantage of the empty land left behind by the dying species is just one of many unresolved questions about the fate of these former masters of Europe.

The cause of the Neanderthal extinction has been one of the enduring mysteries of archaeology, ever since the species was first identified in the 19th century. Were they directly killed by *Homo sapiens*, outcompeted for resources, absorbed into the modern human population or were they dying out already on their own? In recent years archaeologists have been able to test many of these ideas and have come closer to understanding this momentous period.

Here, we will run through the principal suspects in the mystery of the Neanderthals' extinction. Were their bodies maladapted to a changing planet? Was their diet unsustainable or did it leave them vulnerable to competition? Did they live in too restricted a range of environments? Was their cultural life somehow deficient, indicating cognitive shortcomings? What was the impact of the arrival of *Homo sapiens*?

As we examine these possible causes of their demise, we will develop a new understanding of the Neanderthals. It is an unfortunate truth that extreme stress can be the best test of character. In learning



The timeline is not always very clear but let's put some order in what we get, at times scattered over the pages and chapters. Some humans – it would be more accurate to say Hominins – left Africa two million years ago and reached South East Asia then. That's fundamental but it is said once page 20 and it will never be exploited anymore. One million years ago the first humans – Hominins would be better here too – entered Europe. Note these very earlier Hominin migrations are not specified. We assume these Hominins were Homo Erectus, though these Homo Erectus were probably less evolved in South East Asia than in Europe. But this is not specified. The authors say that this timeline is going to be repeated for modern humans who will reach South East Asia, and even Australia by the way, before they reach Europe. The times appear to be in hundred thousand years, but it is not clear because the first migration to North Africa is not stated and this one happened long before the two the authors quote. We can assume there were then in North Africa some Homo Ergaster or even Homo Erectus left along the Mediterranean after they moved out of Africa altogether, and the Homo Sapiens who moved from Black Africa to North Africa found these older Hominins and in a way or another they integrated the modern human arriving communities or were caused to become extinct the same way it happened in Black Africa, in several ten thousand years somewhere around 200,000 years ago, or earlier. These earlier surviving Hominins had only one choice, to integrate or just become extinct. That's the main difference with Black Africa where the older Hominins evolved into Homo Sapiens and thus disappeared by becoming Homo Sapiens. North Africa was different. This first migration – and the authors do not say a word about it because their Hominins are mute, do not speak – covers the territories where today all Semitic languages are traditionally spoken. It would be interesting to ask WHY?

The authors then shift to Europe and Neanderthals. The first Neanderthal traits appeared, they say, around 500,000 years ago and the Neanderthal distinctive form is stabilized around 250,000 years ago, and they clearly say in Europe. They say that they evolved from a certain Homo Heidelbergensis, but they do not specify if these Heidelbergensis migrated to Europe before or if they descended from an older Hominin, Homo Erectus for example. This unspecified origin becomes very fuzzy when they actually bring up the hypothesis that these Homo Heidelbergensis could have migrated to Africa later on, implying that Homo Sapiens could have evolved from them. That sounds greatly debatable. I would favor rather the evolution of Homo Erectus in Europe and in Africa along the same phylogenetic line and the traits of Homo Heidelbergensis could then have been produced both in Europe and in Africa (maybe in Asia too but we are not up-to-date about Asia), and these Hominins were rather evolving fast, hence they were not particularly stable and they evolved in more advanced Hominins, Homo Neanderthals for example in Europe if we accept the authors' hypothesis. In Africa they may have been pockets of mutating Hominins who did not survive, who became extinct fast because of the competition with other Hominins around them, or the evolution there produced now and then some Heidelbergensis traits that have survived archaeologically though they had no future at the time because the evolution to Homo Sapiens was more dynamic and stronger.. What I want to insist on here is that if you state Neanderthals evolved in Europe you have to state the presence before them of an older Hominin and you have to specify how these older Hominins arrived there in Europe to evolved later on into Neanderthals, assuming what is accepted by everyone that Hominins initially evolved in Black Africa. The authors do not say much on this question that remains misty.

Then the authors state the expansion of Neanderthals in Europe and their migrating to the Middle East around 130,000 years ago. Since they know all non-African natives have Neanderthal genes (3 to 5%) and we should also speak of the fact that all Asians, hence a good proportion of all Native Americans, have some genes from Denisovans: one contribution for Southeast Asians and two contributions for the Chinese,

and some Denisovan jaws were found recently in Tibet expanding tremendously their territory and explaining why they transmitted a gene to the later Homo Sapiens in the Himalayas that enables them to live at high altitudes. The Denisovans evolved from the same genetic basis as Neanderthals and they could not have evolved from Homo Heidelbergensis. So, we here have a problem. Denisovans seem to have evolved from some Homo Erectus but along their own line, which implies natural selection enables each evolving group to adapt to their local conditions. But to come back to the genetic exchanges between Homo Sapiens and Homo Neanderthalensis it must have taken place in the Middle East (the vast Middle East that includes Iran and Pakistan) because all Homo Sapiens going out of Black Africa will eventually, one way or another, cross the Middle East and stay there for some time before moving on.

But the book is very disappointing on this subject. If we still today carry 3 to 5% of Neanderthal genes, that means there was some inbreeding, but then the children and probably their mothers were integrated in Homo Sapiens communities, hence taken away from Neanderthal communities, hence depriving Neanderthals from the new genes necessary not to genetically decline (inbreeding) and what's more, some of the women were taken away. I can say – and here gynecologists and pediatricians would be useful – because Hominins having from the very start broken the natural rule of reproducing to the level permitted by locally available resources, which enabled them to expand and thus to fuel the migrations, to become and then be a migrating species, but not migrating like migrating animals. Migrating in order to conquer new territories and new resources. To do that with species that were fertile from 13 onward up to death with a life expectancy of 29 years, the women had to be pregnant many times (8 to 10 times at least). Only this level of procreation could guarantee the community to have three adults born from each woman, understanding infantile death, death when delivering for the mothers, predators against young children or babies, accidents, and of course diseases, not to mention death of men and women before the normal life expectancy of the species, all these and even some more (like sterility for some women) might have reduced the procreative level of women on the average. That means as soon as 13 years old, all women, all at once, were pregnant, had a child they were breastfeeding for twelve to fifteen months, and one or two other children who needed some care, as long as they were alive. That is only possible if women are the beneficiaries of a sexual division of labor. Women collectively take care of children and since one woman can breastfeed two children or three from time to time, the mothers could rotate in that childcare and those who were freed from child care for the day could do other things, and one thing women did was paint the caves (proved both in Europe and Indonesia in the same historical period) in which they lived, or buried their dead, or contacted the spirits from the other side of reality. With that logic in mind, the hybrid Sapiens-Neanderthal child was kept by the Homo Sapiens community, and the mother, it the Neanderthal parent was the mother, moved along to be able to take care of the child. That was I think an important cause of the

decline of Neanderthals. Some today speak of a decline of fertility among Neanderthals. This becomes very simple then. The hybrid children were integrated into Homo Sapiens communities and in three or four generations their specific Neanderthal genes got diluted to reach today 3 to 5%.

In spite of what the authors say, in spite of the new time measuring with new techniques that can finally reach beyond the 40,000-year deadlock of carbon reading, we still have a lot of re-measuring to do but the overlapping period must have been at least a few thousand years and maybe even ten thousand years, as researchers in Bordeaux say.



Between 130,000 and 60,000 years ago modern humans using symbolic behaviours had exploited a coastal environment and expanded along a north–south axis, stretching from Morocco to South Africa. What was the Neanderthals' own range as they pushed eastwards during this period?

Tabun, Kebara and Amud in northern Israel are some 4,000 kilometres (2,500 miles) east of Gibraltar. About 1,000 kilometres (600 miles) further east we arrive at the cave of Shanidar in Iraqi Kurdistan, close to the Iranian border, where nine Neanderthal skeletons were unearthed in the 1950s by Ralph Solecki of Columbia University (evidence for a tenth was discovered in a subsequent study). You have to travel the same distance again to reach Teshik-Tash, Uzbekistan, where a Neanderthal child was excavated by the Soviet archaeologist Alexey Okladnikov in 1938. Another 2,000 kilometres (1,200 miles) further east still, thanks to DNA testing on bones of ambiguous affiliation from Okladnikov Cave (named after the Siberian-born excavator of Teshik-Tash), we now know that Neanderthals who were closely related to their European kin reached the Altai Republic of Siberia.

It is ironic that as the Neanderthals headed towards extinction, they were also extending to their maximum range, and doing so in inhospitable areas such as Siberia while the global climate was trending

Shanidar I, the skull of a male Neanderthal found in the cave of Shanidar, Iraq. This individual had suffered substantial injuries, which had partially healed, suggesting that he had been cared for by others in the group. He was the inspiration for Creb, the disabled shaman in Jean M. Auel's novel The Clan of the Cave Bear (1980).



AN END TO ISOLATION: 130,000 TO 60,000 YEARS AGO

Shanidar Cave in Iraq. A total of ten Neanderthal individuals have been discovered in this cave, dating to 70,000 to 40,000 years ago.

colder. Shanidar is dated to 70,000–40,000 years ago, Teshik-Tash to the earlier end of this range and Okladnikov is carbon-dated to over 30,000 years ago. The Neanderthals ultimately reached about the same distance of 8,000 kilometres (5,000 miles) along an east–west axis that *Homo sapiens* achieved on a north–south axis within the confines of Africa. As we will see in the next chapter, by the time of the later Neanderthal dates in Siberia, modern humans had not only left Africa but had worked their way through the Neanderthal homeland of Europe.

The humanity of the Neanderthals was becoming increasingly evident in these Asian sites. Citing discoveries at Shanidar and Teshik-Tash, archaeologists started attributing the Neanderthals with human qualities such as compassion and sentimentality. Not all of the evidence has stood the test of time, but there remains plenty of support for the notion that Neanderthals shared many of the qualities that we once thought separated us from them.

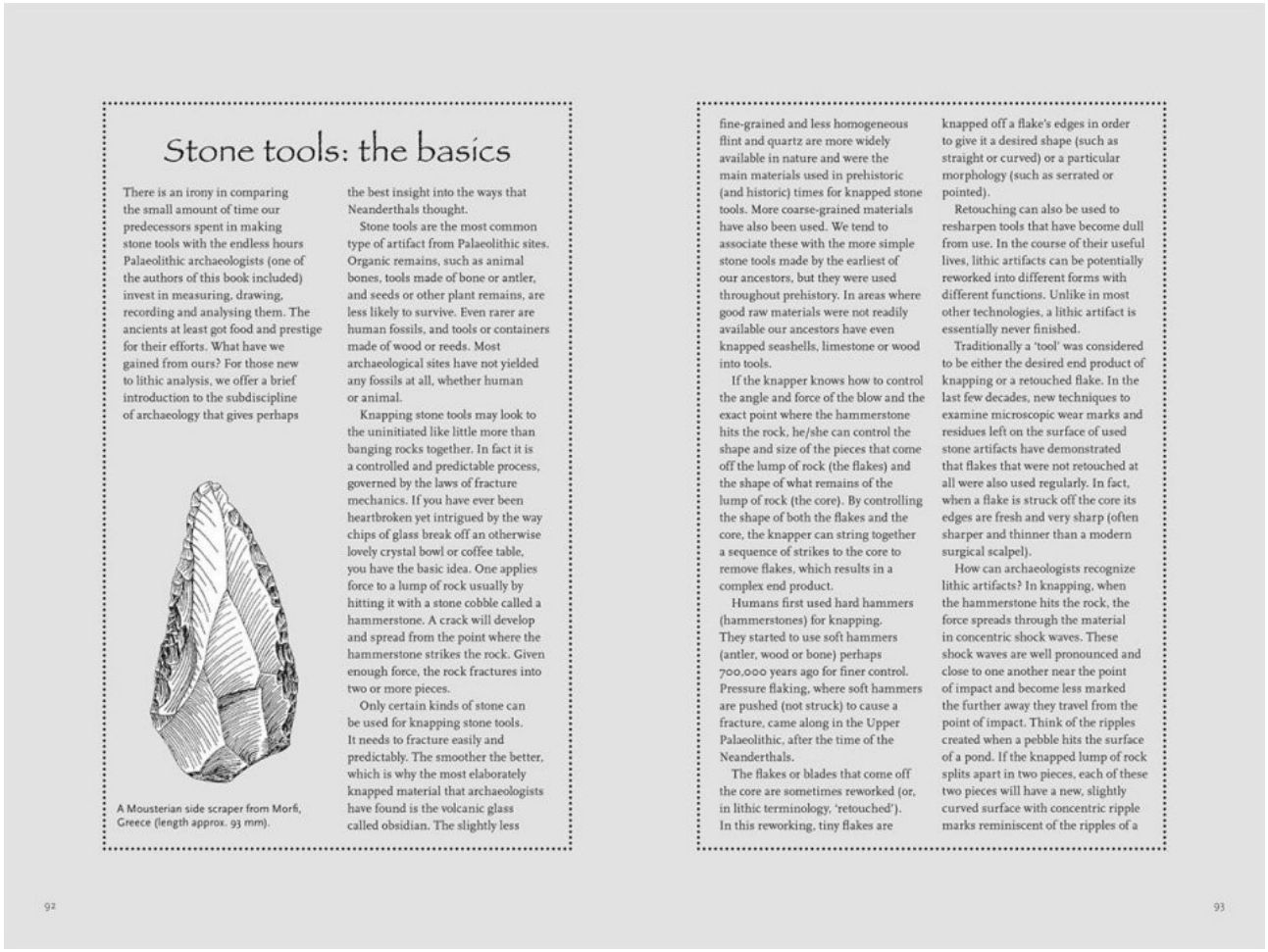
At Shanidar the remains of ten individuals (some buried, others apparently crushed by rock falls) were found in association with



Then we come to the question of the brains of Neanderthals and Homo Sapiens. The authors repeat all the time that the size of the brain is similar or even bigger for Neanderthals. They never mention the fact that the size of the brain has to be measured in proportion with the mass of the body, what we call Encephalization quotient (EQ). I have calculated that the bigger brain of Neanderthals is in fact 11% smaller in EQ than Homo Sapiens' brain. They insist on the fact that Homo Sapiens is slender, an expert runner over long distance and can run-hunt animals they can bring down to exhaustion, though the running hunters don't reach that point of exhaustion, maybe because they could relay along the way from one runner to another, which would have implied a lot of planning to foresee the route the animal was going to be chased into. They insist on the shape of the Neanderthal brain that is flatter meaning  with probably less cortex, particularly in the frontal area where the skull is definitely flatter and that's the frontal lobe that contains the famous Broca area that is the coordinating area for all complex activities that require a lot of coordination among many organs, muscles, and limbs. One particularly complex activity is breathing for a long-distance runner, and this coordination concerns the various organs that will collaterally produce speech. We can then assume that, since Neanderthals cannot run long distance because his Broca area is flattened, he cannot coordinate complex activities with his hand and thus cannot improve his stone tool production, and cannot produce the same articulated language as Homo Sapiens, not to speak of the jaw structure that may make some consonants difficult to pronounce.

That explains why I am not satisfied with formulas like "complex speech" or "have language." Language has a phylogeny and this phylogeny cannot be negated because if that phylogeny is not respected, human articulated language will never be produced. First, before even the first articulation

Hominins must be able to rotate vowels and consonants, so with four or five consonants and three or four vowels monkeys actually produce seven or eight calls, but humans can produce up to five power four items of the simple pattern CVC, hence 625 items. And it is this rich capability that leads Hominins, and of course Homo Sapiens at the top, to the first articulation: each item becomes a word attached to a referred entity outside the brain. And it is only when this articulation is reached that the next ones can be envisaged: first differentiating spatial hence nominal items from temporal hence verbal items and articulating one nominal item with one verbal item. That's the basic sentence structure. But to produce a rich sentence and not a two-word sentence like two-year-old children, we have to invest into the various nominal elements functions (the relationships between each nominal element and the verbal element at the center of the sentence), and the tense and mood conjugation into the verbal elements. Language thus grows after the rotation of vowels and consonants, and because of it, from root to stem to foliage from the first to the third articulations. And this Is essential when connected to the three migrations out of Black Africa. The first one around 200,000 years ago to North Africa (all first-articulation Semitic root-languages), the second around 130,000 years ago to the whole of Asia meeting Denisovans there (all second-articulation isolating stem-languages), and the third around 80,000-50,000 years ago in two waves (all third articulation agglutinative Turkic frond-languages, and then third-articulation synthetic-analytical Indo-European and Indo-Aryan frond-languages).



## Stone tools: the basics

There is an irony in comparing the small amount of time our predecessors spent in making stone tools with the endless hours Palaeolithic archaeologists (one of the authors of this book included) invest in measuring, drawing, recording and analysing them. The ancients at least got food and prestige for their efforts. What have we gained from ours? For those new to lithic analysis, we offer a brief introduction to the subdiscipline of archaeology that gives perhaps the best insight into the ways that Neanderthals thought.

Stone tools are the most common type of artifact from Palaeolithic sites. Organic remains, such as animal bones, tools made of bone or antler, and seeds or other plant remains, are less likely to survive. Even rarer are human fossils, and tools or containers made of wood or reeds. Most archaeological sites have not yielded any fossils at all, whether human or animal.

Knapping stone tools may look to the uninitiated like little more than banging rocks together. In fact it is a controlled and predictable process, governed by the laws of fracture mechanics. If you have ever been heartbroken yet intrigued by the way chips of glass break off an otherwise lovely crystal bowl or coffee table, you have the basic idea. One applies force to a lump of rock usually by hitting it with a stone cobble called a hammerstone. A crack will develop and spread from the point where the hammerstone strikes the rock. Given enough force, the rock fractures into two or more pieces.

Only certain kinds of stone can be used for knapping stone tools. It needs to fracture easily and predictably. The smoother the better, which is why the most elaborately knapped material that archaeologists have found is the volcanic glass called obsidian. The slightly less fine-grained and less homogeneous flint and quartz are more widely available in nature and were the main materials used in prehistoric (and historic) times for knapped stone tools. More coarse-grained materials have also been used. We tend to associate these with the more simple stone tools made by the earliest of our ancestors, but they were used throughout prehistory. In areas where good raw materials were not readily available our ancestors have even knapped seashells, limestone or wood into tools.

If the knapper knows how to control the angle and force of the blow and the exact point where the hammerstone hits the rock, he/she can control the shape and size of the pieces that come off the lump of rock (the flakes) and the shape of what remains of the lump of rock (the core). By controlling the shape of both the flakes and the core, the knapper can string together a sequence of strikes to the core to remove flakes, which results in a complex end product.

Humans first used hard hammers (hammerstones) for knapping. They started to use soft hammers (antler, wood or bone) perhaps 700,000 years ago for finer control. Pressure flaking, where soft hammers are pushed (not struck) to cause a fracture, came along in the Upper Palaeolithic, after the time of the Neanderthals.

The flakes or blades that come off the core are sometimes reworked (or, in lithic terminology, 'retouched'). In this reworking, tiny flakes are knapped off a flake's edges in order to give it a desired shape (such as straight or curved) or a particular morphology (such as serrated or pointed).

Retouching can also be used to resharpen tools that have become dull from use. In the course of their useful lives, lithic artifacts can be potentially reworked into different forms with different functions. Unlike in most other technologies, a lithic artifact is essentially never finished.

Traditionally a 'tool' was considered to be either the desired end product of knapping or a retouched flake. In the last few decades, new techniques to examine microscopic wear marks and residues left on the surface of used stone artifacts have demonstrated that flakes that were not retouched at all were also used regularly. In fact, when a flake is struck off the core its edges are fresh and very sharp (often sharper and thinner than a modern surgical scalpel).

How can archaeologists recognize lithic artifacts? In knapping, when the hammerstone hits the rock, the force spreads through the material in concentric shock waves. These shock waves are well pronounced and close to one another near the point of impact and become less marked the further away they travel from the point of impact. Think of the ripples created when a pebble hits the surface of a pond. If the knapped lump of rock splits apart in two pieces, each of these two pieces will have a new, slightly curved surface with concentric ripple marks reminiscent of the ripples of a

A Mousterian side scraper from Morfi, Greece (length approx. 93 mm).

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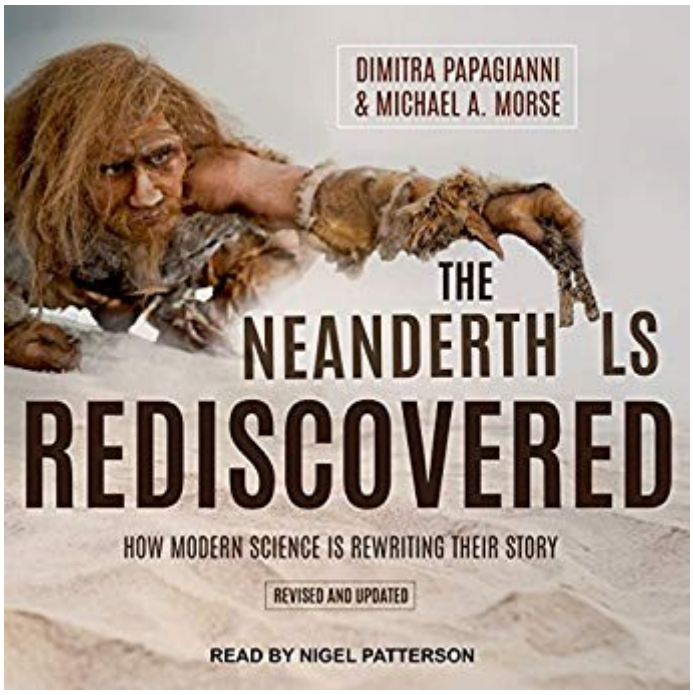
The authors consider that the development of the handaxe is the real turning point among Hominins demonstrating their creativity and in a way their capability at planning the future. I would add that it is also the revealing element that requires a certain level of communication and social organization. I would add that migrating is for me the real turning point that required a social organization and a level of communication implying some linguistic code for this migrating to be simply possible. Then the authors follow, without calling it phylogenic, the phylogeny of stone tools and weapons, hence of a typically human technology developed by human Hominins. This handaxe is connected to Homo Erectus but may have been developed before by Homo Habilis. We must understand one species developed from the previous one or ones and inherited the previous species' knowledge and know-how, which proves there is some linguistic code involved there. The book is clear that Neanderthals developed a certain level of stone tools beyond the handaxe, but they were not able to go beyond this Levallois and then at most some Mousterian technology. The next phase was developed by the Aurignacian Homo Sapiens (the best-known one is Cro-Magnon) arriving in Europe and then further on by the Gravettians. The authors seem to believe the Gravettians were a new Homo Sapiens

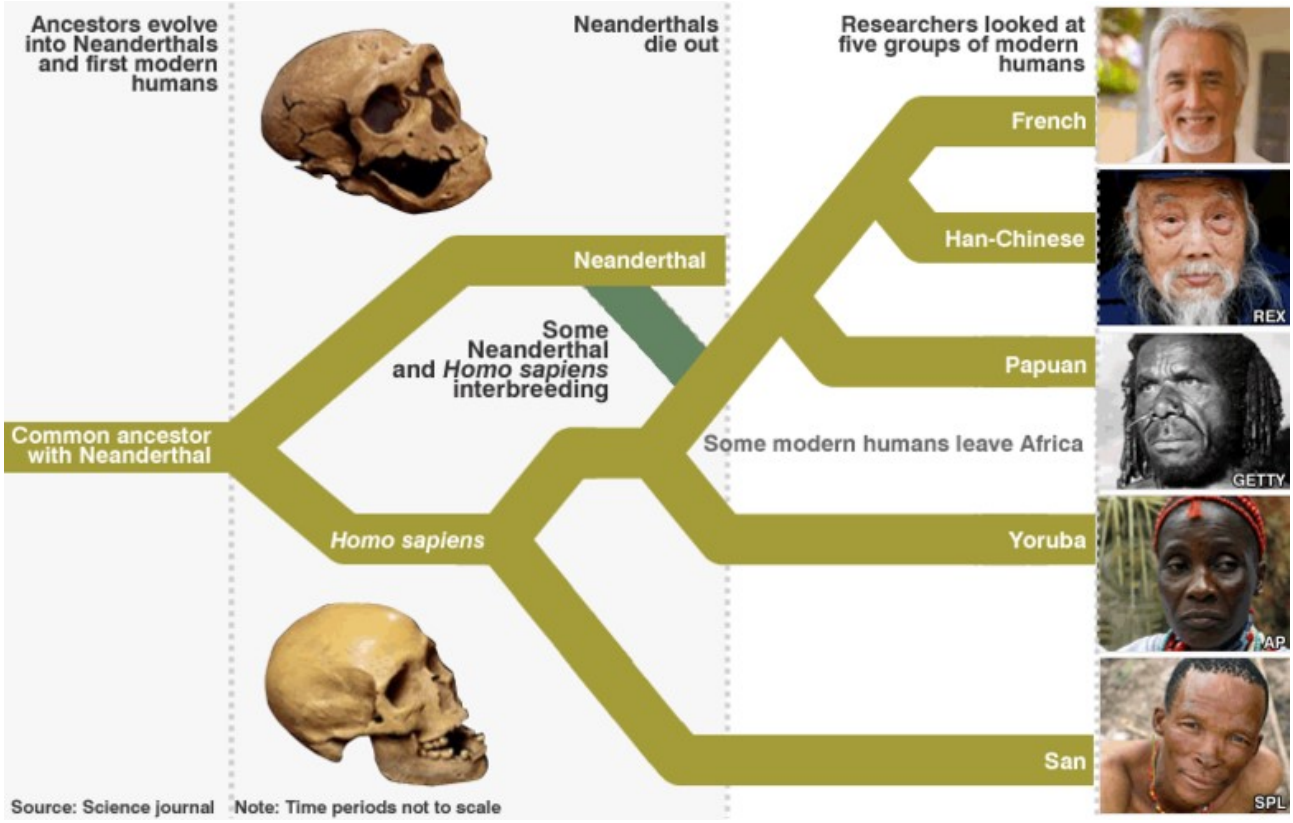
migration (the second after the Aurignacians) though they do not see that Homo Sapiens like other Hominins before them developed one technology from the previous one, hence in a continuous movement, just the same way the genetic mutations produced one Hominin species from the previous one. In this case, Homo Sapiens did not develop from Neanderthals (or Denisovans) but from another Hominin species seen as either common to the three species (hence Homo Erectus) or slightly diversified by an intermediary evolution like Homo Heidelbergensis or Homo Ergaster. Note we do not have this intermediary in Asia, and we do not need it since Homo Sapiens in Asia, like in Europe came from Black Africa. The authors state the handaxe that became "common in East Africa and Asian west of the Himalayas' took more time to become common with the "European pioneers [who] did not use [it] until 500,000 years ago." First, this clearly states that it was a Homo Erectus invention in Africa and it spread to Asia when Homo Erectus spread to Asia. But since we cannot state there was any communication between Asia and Europe, we have to consider it was brought to Europe by Homo Erectus when he came to Europe from Africa and this implies the first Hominins (at the genetic level of Homo Erectus) arrived in Europe around 500,000 years ago but it is in contradiction with the fact that the first Neanderthal traits appeared in Europe at the same date, which implies it is Neanderthals that brought the handaxe. But then what about Homo Heidelbergensis? It is such elements that are missing here and there in this book. We can only draw them from various remarks scattered around in the chapters. This is yet essential to understand that there is a continuity in this evolution that proves the existence of a phylogeny in such technological evolution and the existence of a transmission of technological heritage from one species to the next, hence of a code that enables that transmission, and what's more the evolution that goes along with this transmission.




We have the same problem with the case of "cannibalism." This word is the wrong word for the phenomenon the authors are speaking of. Hominins eating Hominin flesh and probably bone marrow and brains. Cannibalism is a modern concept invented after human sacrifice was banned in Mediterranean society (check Abraham and his son), though it was replaced by public executions and gladiator games by the Romans, and note it was transformed into a rite of eating the body and drinking the blood of Jesus Christ still in the Roman Empire after Emperor Constantine. This practice of Hominins eating Hominins is another negation of nature. Very few animal species eat their own members, and yet only after death, some kind of species-self-scavenging along with the principle of waste-not-want-not. This is then the second natural law Hominins negate after having negated the natural law of only procreating the children the local resources can support. The eating of the flesh, bone-marrow and brains of dead Hominins, even of sacrificed Hominins is ritualized, for one, and justified by some belief, the most common belief being that you can recuperate the qualities of the dead ones by eating them. We have to note that eating the ritualized "bread" and drinking the ritualized "wine" are for any Christian of any affiliation eating Jesus' body and drinking Jesus' blood. This is nothing but ritualized "cannibalism." That is supposed to give you the purity of Jesus, the divine purity and the divine light of Jesus. To call such an act "cannibalism" is absolutely off the point and even non-empathetic. It is the same for old Hominins. That enables the individuals in the tribe, and the tribe per se, to concentrate the qualities of a class, group, family, clan, etc. It can protect you against dangers in life, and if the eaten person is an enemy who was captured, tortured and sacrificed (put to death) then at times dismembered and the pieces distributed to the various members of the tribe to be cooked and eaten, that

should enable you and the tribe not to be attacked anymore by this enemy. Both a ritual that is in a way magic and psychological on the side of the eater, and symbolical in the form of fear on the side of the enemy tribe. The practice of impaling by Vlad Count Dracula and by the Ottomans or the Bey of Algiers a long time ago, or the crucifixion systematically used by the Romans had exactly the same objective: a warning. That's what is going to happen to you if you attack us. So, eating the flesh, bone-marrow and brains of an enemy is both a religious ritual and a clear military and political warning. The hearts of the sacrificed Mayas were at times eaten by the elite rulers and priests performing the sacrifice. To call that cannibalism is to miss the point.

There is, in fact, a third case of the negation of a natural rule. All, or at least most, mammal species would naturally avoid in-breeding. Yet in some human societies, inbreeding is the rule among rulers like Pharaohs. This in-breeding of brothers and sisters is genetically absurd, and yet it is practiced supposedly to concentrate the qualities of the concerned bloodline. I would even say that one brother killing another brother is also quite common in many religions and mythologies. Think simply of the Bible (Abel and Cain) or of Egypt (Seth and Osiris). We have the same pattern in many civilizations in all continents. It is some kind of brotherly sacrifice necessary to bring up the next phase of history. We might say today it is incest. But this is false because in these civilizations these brotherly sacrifices are regenerating and bringing a new stage of development. It is quite obvious with the subsequent conflict of Isis versus Seth and the fate of Horus, the postmortem-procreated son of Osiris and Isis. But Cain is the founder of the metal civilization and technology, as well as of music in the Bible. Music will only be fully integrated by King David with the instating of the Levite school of music. All that is to say that in archaeology we are not supposed to be anachronistic because then we do not understand what we are speaking of.




This anachronistic approach is common on many questions that are interpreted with the modern words and the modern concepts that had no value in those days. For example, page 89, the authors consider the emergence of Neanderthals as being the result of four criteria being fulfilled: "securing food by [small-range ambush] hunting migrating animals; meeting other groups providing social and sexual contact; increased communication [that is not directly identified here as language]; the exchange of ideas and the consolidation of their technological advances… Levallois tools." I would favor taking each one of these criteria as a phylogenic process from nonexistence or another less advanced state to the Neanderthal level. This is clear in the book about the transition from the handaxe to Levallois tools. This is clear too that ambush hunting is inherited and not really improved though it is perfectly well adapted to the hunting conditions of Europe. But the other two criteria are not developed at all. The word in-breeding is not used at all, though the word inter-breeding is used for Neanderthals and Homo Sapiens though it is not analyzed and specified as I have done above. The most deficient element is language or communication. We cannot know

their level of language. But if communication is to be at the level of migrating projects, hunting strategies and tool producing technology, we have to be advanced in the process: rotation of vowels and consonants producing a great number of lexical items, hence the possibility to attach these items to referents and thus to move towards a real language. But did they have the first articulation? Maybe, but the second articulation is for me doubtful because this second articulation requires some level of abstract conceptualization. The way Neanderthals were blocked in some inherited elements that they had developed slightly but came to some blocking point they could not transgress into new development, seems to show that their conceptualization was rather limited, certainly not open, which was the main handicap when compared to Homo Sapiens.

The book very clearly says that the great leap forward took place in what they call Africa, which is, in fact, Black Africa: what we know is characteristic of systematic symbolic behavior among Homo Sapiens. The use of ochre in different shade of yellow and red (by heating it) for different activities like burial rites, ritual coloring of the body, etc.; the systematic development of what we consider was decoration with pierced shells and other elements that were probably stringed and became necklaces, though decoration might only be one interpretation of this use of these artifacts because what is behind is “value” meaning that these artifacts (strings of teeth and shells) represent the value of a person, maybe even value per se for various exchanges, even on a bartering scheme; obvious planning including with exchanges of some goods over long distance from one community to another, meaning at the same time they were able to avoid any inbreeding by exchanging men and women at the age of 13 or so to be procreating partners; and finally the use of painting in caves and carving with the Gravettians for examples, but there are cases of painting and carving all over the world even before the Ice Age peak of -19,000 BCE.


But the book is not clear about the only possibility to develop this approach that is to study the migrations out of Black Africa. They are implied in the book on the timeline of them I have given, but they are not clearly seen as a vast phylogenic process as for technology, language, social structure, division of labor, etc.

The last point I would like to insist on is the dual way of thinking of the authors. Let me take one example: “… to extract their [the Neanderthals’] DNA in the hope of settling the lingering questions of whether we replaced them or interbred with them.” (page 136) That is totally misguided. And the question would be exactly the same when the first Indo-Europeans arrived. They should have identified the Homo Sapiens of this first migration that brought the end of the Neanderthals. They would have found out they were agglutinative-Turkic-speaking people. When the Indo-Europeans arrived, what happened? In both cases, it was not a simple case of “replace them or interbreed.” It was also a highly cultural and hence linguistic and religious challenge. The choice was open (and some still believe in the first option: 1- destroy them violently; 2- outplay them on their own game: fast long-distance bipedal-running hunting versus short-range ambush hunting; 3- outplay them technically with a better and more effective technology for weapons and tools; 4- outplay them with language which was definitely more advanced since it was a third-articulation

frond language; 5- outplay them in spiritual vision about spirits, about intercessors like Shamans according to Jean Clottes' and David Lewis-Williams' concept; 6- outplay them with the role of women as spiritual agents. And we could see many other elements in this open choice, including we could add options that were not used at all like ostracizing them completely since there was some interbreeding since we have their DNA in us, though as I have said they accepted some interbreeding on both sides and Homo Sapiens decided to take advantage of it for the very sake of the children, thus depriving Neanderthals of any new genes and of some of their own procreational power, thus reducing their fertility. So after all, this negative choice was also, in the end, used. So, to reduce the choice to "replacing them vs interbreeding with them" is in fact false because it was not a choice at all since we replaced them (with a lot of actions, none being extermination in blood) BY inter-breeding with them" though Homo Sapiens, as well as Neanderthals, might have kept it down to a marginal activity.

It is easy to see that here I come to a wider explanation for the demise of the Neanderthals whereas the authors of the book only satisfy themselves with the statement that by such or such a date they were gone and by even questioning the overlapping period in spite of the DNA data that prove there was a rather long period of systematic interbreeding with all Homo Sapiens that came out of Black Africa. And yet I will conclude that the book is stimulating in many ways but cannot be entrusted to people who do not have a vast knowledge of the case because some assumptions are not even logical, but in a wide vision that requires some expertise in the field.

Dr. Jacques COULARDEAU