Neandertals – Life, Work, and Vanishing

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ABSTRACT

Between 250,000 and 35,000 years BC the Neandertals[1] lived in great parts of Europe, West and Central-Asia (maps in Jaubert 1999: 20–21, 55; Fagan 1998: 98).[2] During this long period of time the Ice Ages would alternate with periods of relative warmth. Large regions sometimes were covered with ice – the Glacials – and had a Mediterranean climate – the Interglacials – at other times. Evidently these large climatic differences deeply influenced the life of the Neandertals. During the Ice Ages one met here mammoths and polar foxes, and during the warmer periods horses and deer roamed around in large herds. The implication of these differences is that it is not possible to make easy generalizations about the life of Neandertals.

Neandertals were slightly different from modern humans (*Homo sapiens sapiens*). 'They differed in having massive limb bones, often somewhat bowed in the thigh and the forearm, features that reflect the Neanderthals' greater muscular power. For their height, the Neanderthals were bulky and heavily muscled, and their brain capacity was slightly larger than that of modern humans' (Fagan 1998: 99–100). In the illustration 3.19 (*Ibid*.: 101) the differences in skeleton between Neandertals and the slighter built modern humans are shown. Neandertals were relatively small, between 1.70 m and 1.50 m. The women were generally shorter than the men. But, as Trinkaus and Shipman noted, once a Neandertal was shaven and clothed, he easily could pass unnoticed between modern people in the subway (Trinkaus and Shipman 1993).

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The Neandertals were hunter-gatherers – a statement that calls for a number of questions and problems: what did they hunt? How did they hunt? What was gathered – and by whom? How can we know the answers? The problem is that not very much remains from the material culture of these hunter-gatherers. There have been found, dispersed over the enormous area, some dozens of skeletons or parts of skeletons – or to say it simpler: one skeleton for each thousand years. There have been found also great numbers of stone tools and animal bones shaped and used as tools. To construct a convincing picture of Neandertal life and work from such limited remains is difficult, and the results presented are often rather speculative. It seems that sometimes in the construction of Neandertal pictures even ideological convictions did play a role. The leading question in such cases was: were the Neandertals just prehistoric monsters near to the great apes, or human beings? Notorious are the constructions of the French scholar Marcellin Boule, who in the beginning of the twentieth century (in 1911 and 1913) stated that the Neandertals had been bow-legged, simian creatures, with a flat skull. He based his findings on the skeleton of an old man, found in La Chapelle-aux-Saints (Limousin, France). His intention was to remove the Neandertals from the human family for once and for all. Later research showed that the old man had suffered heavily from arthritis, which had deformed his skeleton seriously (Coppens *et al.* 1998; Trinkaus and Shipman 1993). Other scholars – also ideologically influenced? – present Neandertals as beings very near to *Homo sapiens sapiens*. Especially the researchers from the Neandertal Museum in Germany (in Mettmann), go far in this respect, as shown by the text and the illustrations in Auffermann and Orschiedt (2003). Also the American scholars Trinkaus and Shipman (1993) approach the Neandertals positively; the boy next doors.

The Neandertals are associated with the Moustérien, a culture named after the cave of Le Moustier in the Vézère region (Dordogne, France). This culture is characterized by a relatively simple content of the tool kit, and consisted – as far as we know – mainly of flint tools, such as scrapers, flake tools, and spear points (Fagan 1998: 102–104; Mohen and Taborin 1998: 114 ff.; Holleman 1998: 69). The term ‘spear point’ can be used safely, for in several places (*a.o.* in Germany at Schöningen) spears have been found of a high

quality, and, moreover, in skeletons of hunted animals spear points have been found stuck into their bones (Stringer 2012: 128, 152; Holleman 1998: 62; Roebroeks 2004: 7).[3] These tools were made in the Levallois technique. This technique was already known in the Acheuleen and consisted in chipping flakes from a core, so that in the end a sharp tool rested, fitted for many purposes. These tools demonstrate clearly that the Neandertals were hunters, which does not exclude their sometimes eating of carrion. Eventual tools they had made also from wood or bone, have been lost in the course of time. Our view of the Moustérien tool kit thus is too limited.

There must have been a great variation in the game they hunted. This was mainly caused by the differing climates. During the Ice Ages game differed from that of the Mediterranean periods. Roebroeks (2004: 8) states that sharing of the catch must have been a necessary practice. Not every hunter was always successful, and when returning empty handed, sharing in the catch of a more successful hunter was necessary for survival. There are also indications that there sometimes was cooperation between a greater number of hunters. This appears from the spots at the feet of steep slopes, where numerous carcasses of hunted animals, driven over the top, were found. Apparently whole herds of horses or deer were trapped in this way, which after their fall heavily wounded, easily could be killed. In other places herds were driven into a river where, once in the water, they could not easily escape the hunters (Auffermann and Orschiedt 2003: 65; *cf*. Roebroeks 2000: 10). Yet, in their turn, the life of the hunters was a dangerous one. They often hunted large, strong animals, which heavily fought their attackers. Neandertal skeletons show many cases of broken bones. Generally speaking, Neandertals died relatively young: thirty-five was already quite an age, and people of forty were but seldom found (Holleman 1998: 53). Roebroeks, however, states that sometimes a Neandertaler was found of more than fifty years of age (2004: 8). In view of the finds, it seems likely that in most cases the killed animals were skinned and butchered on the spot, and only the best parts of the meat and the hides were taken to the camp, where the catch further was prepared. From the findings of the bones in several camps we can get an idea of the animals hunted. The Neandertals did not exercise much discrimination; they hunted – according to Stringer (2012: 93) – preferably large animals (mammoths, horses, reindeers, and buffalos), but hares or rabbits

neither did escape their attention. Stringer thinks that the small animals mainly were hunted by women. The occurrence of large hunting parties suggests that the Neandertals were clever enough to plan and exercise complex hunts, and moreover, that they had a language, with the help of which they could make their plans known to others (Lemorini 1997; Holleman 1998: 91). Recently Gerrit Dusseldorp presented his PhD thesis, *A view to a Kill* (2009), in which he describes in detail the various methods of hunting. He also suggests that Neandertals most probably had some difficulties in walking, so that they had to plan their hunts as efficient as possible (2009: 20). Louwe Kooijmanns (2017: 64) points to the fact that the Neandertals did not eat fish. Analysis of the remains of their teeth has shown that they did consume plants, however. In the preparation of their food they seem to have used fire (*Ibid*.: 71).

What do we know about the gathering? This is a difficult question, as practically everything vegetable has disappeared in the course of the centuries. So, we do not really know what they gathered, nor do we know in what ways they transported the harvested plants, and neither how they prepared them. In analogy to present day hunter-gatherers we can suppose that gathering was women's job. Women and children went out gathering plants, nuts, fruits, and small animals. As in the present-day situation, women's harvest was the only safe income; hunting always remained uncertain (Jaubert 1999: 78–80; Stringer 2012: 172–173). Even though it is difficult to find archaeological remains of fruits or nuts, in some places traces are found of pounded nuts, and some tools show under the microscope traces of the plants that were cut (Jaubert 1999: 80). Stringer mentions traces of plant fibres which might indicate the existence of fishing nets or fish traps (2012: 167–168, 173–174). Dusseldorp (2009: 51) points to the many fire places, and concludes from these that the Neandertals roasted their meat – a kind of barbecue thus. This is important for the eaters, for roasted meat is better to digest than raw. He also mentions the finding of roasted plum stones in the hearths and suggests the use of earth ovens in which the meat was prepared. This last view is rather speculative, for there are no definitive proofs of the existence of earth ovens. Apart from this, the fact that Neandertals did somehow prepare their food made its digestion easier, which was good

for their health (Palmer 2000: 90–91). Aiello and Wheeler (1995) state in this respect that better nourishment contributed to the growth of the brain which might explain the large Neandertal skulls. They cautiously call their theory the 'expensive tissue hypothesis' (*cf*. Roebroeks 2000: 11). There is not much known about the ways in which they prepared vegetables. Perhaps, by adding heated stones in watertight baskets. For platters they might have used the shoulder blades of large animals. This all is conjecture, for no baskets remain, and the use of shoulder blades is only a possibility.

When looking for traces of shelters or dwellings, one immediately encounters the problem of the size of Neandertal groups. Did they live with some families together on the same spot, or did each family live separately? Did the Neandertals actually know families? According to Jaubert (1999: 87), most finds of Neandertal settlements suggest their living in the open air. And Mohen and Taborin (1998: 68) state that a camping site was not so much a dwelling or a shelter, but the spot where they lived and worked, the spot where traces of flint, bones, and fire are found. Most such spots are found in more or less protected places; possibly people erected there a kind of windbreaks. Roebroeks (2000: 8) emphasizes that Neandertals – just like many present day hunter-gatherers – did not live in dwellings. Elsewhere, such as in the Dordogne region, they lived in caves. Their selection of a camping site was probably mainly determined by climatic conditions. In Eastern Europe, in the Ukraine, near to the River Dnjester, traces are found of large huts, or tents. One of the best researched had a size of six by eight meters. Inside the hut – yurte? – traces are found of at least a dozen hearth fires, and the remains of hunted animals (Jaubert 1999: 90–91 shows a floor plan; *cf*. Stringer 2012: 168). This find suggests a long term use of the yurte, perhaps by several families at a time. The find shows also that the Neandertals then and there used fire and hearths. Of such yurtes several more cases have been found in Eastern Europe. Illustrations in Auffermann and Orschiedt show Neandertals living in the open air – though, far in the background, little shelters are drawn (2003: 63, 65, 66). Apart from such more or less permanent camp sites, there are also found numerous spots where the hunters only butchered their catch, or prepared flint tools (Lemorini 1997; *cf*. Roebroeks 2000: 10).

The mentioning of yurtes in which several families lived together, calls up the question of the social organization of the Neandertals. It must be emphasized that we can say nothing with any certainty about this. Probably, a 'family' consisted of a gathering woman with her child, or children, living with a hunter who protected her and provided meat, while she brought him vegetables. This was a working community and does not indicate that Neandertals already were aware of the relation between intercourse and pregnancy. Such working unions were much older than the Neandertals. The Fin Edward Westermarck stated already in 1902 that such unions – which he called 'marriages' – were as old as humanity; they are found already among the great apes (Westermarck 1902: 33ff.). Only by comparison with present day hunter-gatherers one may get some more indications about such families. In order to do so we first have to formulate the structural characteristics of these hunter-gatherers. When trying to construct these characteristics, we leave out of the comparison less representative peoples, such as the Northwest Coast Indians (Suttle 1968), or the Ainu (Watanabe 1968). The construction of the structural characteristics is based mainly on my reading of Service (1966), Lee and DeVore (1968), Coon (1971), and Lourandos (1997).

- A first characteristic is that their life is based on hunting-gathering, as also holds for the Neandertals. There is, however, one large difference: the Neandertals lived in a world rather empty of people. Their number should be counted only in the tens of thousands spread over an enormous territory. There was plenty of room, so they could select the best places to live and hunt. They lived scattered over large territories in small, rather isolated groups.
- A second characteristic is that the groups in which they live are small, from fifteen to twenty-five people (Roebroeks 2000: 5). The analysis of the DNA pattern of the Neandertals shows, according to Louwe Kooijmans (2017: 59) that their number in the course of time must have varied strongly. He suggests a minimum of about 14,000 individuals during the Saale III Ice Age, and a maximal number of 160,000 in better times. This limited size poses serious demographic problems. In a group of say, twenty people, one might expect about nine men and eleven women. Among the men are about three boys, and among the women about three girls.

These low numbers are connected with the spacing of some four years between the births. The chance that at the same time a marriageable girl and a marriageable boy were found in such a group is extremely small. Add to this the strong aversion of incest. Incest would destabilize the pattern of one hunting man and one gathering, child-bearing woman; the addition of a second woman (eventually with child) would lay too heavy a burden on the hunter, and rob the original woman of her necessary protector and hunter – and should thus be prevented (Washburn and Lancaster 1968: 301). Marriages of needs thus had to be exogamous which means that the bride or the bridegroom had to be found in another, similar group. As the hunting group must stay together, it was the bride who married into the family of her husband. Such relations of exchange existed between a number of relatively near groups. Such a network is known as a 'maximal band' (Steward 1968: 333). Though the size of such maximal bands often is estimated at about five hundred people (Birdsell 1968, 1973; *cf.* Washburn and Lancaster 1968: 302), in case of the Neandertals a size of about two hundred seems already quite large; this would mean contacts between about ten of such little groups. The local group was patrilocal, and shows some similarities with the patrilocal band, as described by Steward (1955: 122–142). There are, however, also some differences: the game the Neandertals hunted was different, and the size of their local groups was smaller.[4]

- A third characteristic is that Neandertals did not grow old. They but seldom reached the age of forty (Holleman 1998: 53), though Roebroeks (2004: 8) states that Neandertals are found who reached the fifty. This relatively short span of life made it difficult to pass on knowledge to younger generations. (I will return to this problem below). Possibly this explains why the Moustérien culture changed but little. Neandertals lived in certain isolation, and eventual discoveries made in some place had but little chance to become known into another.

- As hunter-gatherers led a roaming life, repeatedly moving behind the herds of hunted animals, women were only able to care for one baby at a time. She had to carry the child and feed it, till it was capable to care for itself which was at an age of about four. Only then a woman could take care of another baby. The spacing

of four years thus had a very practical reason. I will return to this problem presently.

- As a fifth characteristic should be mentioned that bands of hunting-gatherers usually had but limited leadership. There was not very much to do for a leader: every member of the group knew what had to be done. At best he or she acted as leader only in cases of emergency. The lack of leadership was felt especially when there was a conflict. There was no power to decide such cases, and conflicts could continue for quite some time. Usually, however, one of the parties would leave the group and start a new life, or look for hospitality in a near-by group (Claessen 2000: 86). There is a possibility that also among the Neandertals a kind of shamans were found, who had some knowledge of the world of the spirits. Their activities generally left no archaeologically traces.

The limited size of the Neandertal groups very well fitted their life style. There was but small chance that the hunted animals ever became extinct, and plants did grow in such quantities that there always was a sufficient supply. One thus may suppose that, their life of hardship and danger notwithstanding, they did live in certain abundance. In this respect they resemble modern hunter-gatherers. Richard Lee (Lee and DeVore 1968: 31, 43) put on record that among the Bushmen more than sixty percent of the food was vegetable and was collected by the women in two to three days per week. Together with the proceeds of the hunt by the men – also caught in two or three days – the average number of calories available per capita per day was about 2,000. Also in other places, such as the Australian Groote Eylandt people did not work more than three or four hours a day, during which they collected a surplus of meat and vegetables (Rose 1968: 203). These, and similar data, led Marshall Sahlins to speak of the ‘First Affluent Societies’ (1968: 85–89). He defined affluent society as a society in which the needs of people easily were covered (taking into consideration that the needs in hunting-gathering societies were but modest). Several scholars opposed Sahlins's views, pointing to societies where life was much harder. Sahlins refuted these critics in his *Stone Age Economics* (1972: 1–40). The Dutch archaeologists Verhart and Groenedijk (2005: 161–178) come to the same conclusions as Sahlins for life in the prehistory.

Though there thus are indications that (prehistoric) hunters-gatherers lived in certain affluence, there are also indications that their numbers did not augment in conformity with their income. Somehow a large period of time, about four years, between births – spacing – was achieved (Deevey 1968: 249), and several scholars, such as Polgar (1975), and Lourandos (1997) point to the limited population growth during the Palaeolithic. The demographer Fekri Hassan (1975: 42) has computed the growth of the population during the Palaeolithic between 0.001 to 0.002 per cent a year. Without birth control a growth of 1.8 to 2.7 per cent a year would have been possible. He corrects his estimates with assuming a high death rate of babies, and an early death of women, and then states that a growth of 0.7 to 1.7 per cent a year was possible. These numbers, though already quite low, are still considerably higher than the results of his computation of population growth during the Palaeolithic. The difference he explains by referring to abortion and infanticide. Though his views are certainly not improbable, there are exceptions to his rules. Frederick Rose tells that on Groote Eylandt women got more children than Hassan's computations suggested:

> If a woman lived the full span from puberty to the menopause, she had at least eighteen children… One might expect a greater interest in birth control! But on Groote Eylandt where the writer worked there was no birth control and little infanticide was practised (Rose 1968: 203).

Elsewhere in the same article he explains this situation:

> The population was stable and an extraordinary birth rate implies in these circumstances a very high death rate among infants and small children so that only a fraction reached reproductive age… The writer estimates that at least 60 per cent of infants died before they reached their first birthday and there was a correspondingly high death rate among young children (*Ibid*.: 203).

In this connection the demographer Joseph Birdsell remarks (1968: 237):

> Systematic infanticide may be assumed to have characterized human populations throughout the Pleistocene. Its probability

> of being preferentially female infanticide is strengthened by data from recent hunters.

Possibly both researchers are right. The one studied a specific society, the other generalized on a great number of cases. Yet, I think, that infanticide in many cases was not necessary at all for little children already died in great numbers of sickness and poverty; there was greater need to keep the few babies alive, than to kill them. In many of these societies children were fed for a long-time by breast, which sometimes precluded pregnancy. Harry Lourandos (1997: 15) refers in this matter to the often long post-partum taboo, which also prevented pregnancy. Finally, there does exist by a number of peoples a kind of vegetable medicines the use of which prevents pregnancy. There is not much known about these medicines, for they are kept a closely guarded secret.[5] It is therefore interesting that the eighteenth century visitor of the Prairie Indians, Jonathan Carver, succeeded during his visit of the Naudowessies [6] to get some information on this subject. After having told that young men very often spend the night in secret with their loved ones, he continues:

> Men zegt dat de jonge meisjens, die op deeze wijze haare minnaars ontvangen, groote zorg draagen, door het onmiddellijk innemen van zekere kruiden, met welker kragten zij wel bekend zijn, dat de gevolgen van deeze verboden liefde-handel niet zigtbaar worden; want zoo die gevolgen heeft, dan moeten zij altijd ongetrouwd blijven (Carver 1796, vol. 2: 116).[7]

Summarizing the above statements one cannot but conclude that humanity from its very first beginnings has tried to manipulate population growth. One argument is, as we saw, the long time a mother has to care for her children. This means that the mothers in many respects became entrusted with great parts of the education of the children. Donald Kurtz in an interesting article (2009) elaborates this aspect, and suggests that not only the mothers, but also elder women took care of this education, the ‘grandmothers’ as he says. This idea implies that women in general should have lived longer than the men – which in view of the dangerous life of the hunters, is not improbable. Stringer (2012: 180), however, very much doubt that among the Neandertals women ever reached the

status of grandmother – which limited the possibility of transmitting knowledge in this way greatly. It should be added that children also learned a lot by just copying the working habits of their elders and other adults.

Another argument in favour of the manipulation of population growth might have been an effort to maintain certain equilibrium between the sources of income and the number of consumers. In view of the relative abundance of Neandertal life this does not seem the most convincing argument. About other reasons we do know nothing; the world of thoughts of the Neandertals (or present hunter-gatherers) is closed for us. It is clear, however, that notwithstanding efforts to birth control, in the course of time humanity slowly grew in numbers (Lourandos 1997: 15). Faris also emphasizes that, once the production of food augmented, also the number of people grew (1979: 438–439). Only when the climatic changes of the Holocene made possible the development of agriculture, world population started to grow considerably (Claessen 2012).[8]

For quite some time it was believed that Neandertals could not speak; they did not have a spoken language. On the basis of this belief Jane Auel invented in *The Clan of the Cave Bear* (1981) a sign language, supplemented with a few sounds. Since the find of a hyoid bone near the skeleton of a male Neandertal in Israel, we know now that they certainly had a spoken language (Shreeve 1995: 275). Chris Stringer (2012: 188), more cautiously, thinks that their language was somehow a bit limited. Whatever the case, it is clear that Neandertals could communicate with each other, as appears from the complicated hunting parties (Holleman 1998: 59–65; see also above). With the help of their language it became also possible to develop forms of social behavior (Roebroeks 2000: 7; 2004: 10) such as the maintenance of large networks (the maximal band), and the care for wounded or invalid members of the group. A good example of this is the 'Mutilated Man' from Shanidar Cave (Iran). In 1960 the researcher Solecki found here the skeleton of a man of about forty years of age, who had but one eye, missed half an arm, and whose leg was heavily damaged. Notwithstanding these mutilations he survived for many years (Trinkaus and Shipman 1993: 340–341). He certainly was unable to contribute to the support of his group, but his fellow men cared for him almost ten years long. The Mutilated Man is perhaps an extreme example, but there have

been found many skeletons of mutilated people who must have been cared for by their fellow men (Holleman 1998: 72–73; Shreeve 1995: 53).

For thousands of years the culture of the Neandertals hardly changed. The tool kit of the Moustérien remained used for everything they needed. This continued to be so till about 36,000 years ago. Then the Neandertals in France developed a new culture – or rather a variant of the existing one – known under the name of Châtelperronien. The most important aspect of this culture was a considerably changed tool kit. A new method of preparing tools was invented. Instead of the simple cutting of large pieces of flint from a core, they now started to cut small slivers of flint – a technique also applied by the Cro-Magnons (Stringer 2012: 107). For quite some time it thus was thought that this technique was derived from *Homo sapiens sapiens,* who in that time started to dominate in Europe. However, Dominique Baffier, who thoroughly studied the Châtelperronien (Baffier 1999), demonstrates convincingly that this culture was developed by Neandertals. Also Francesco d'Errico and his team prove without doubt the Neandertal origins of this culture (d'Errico 1998).[9] Louwe Kooijmans (2017: 79ff.) stresses that the Châtelperronien originated at least 2,000 years before the Cro-Magnons arrived. Among the most important sites belongs the Grotte des Rennes in Arcy-sur-Cure (Yonne, France). This culture runs for some time parallel with the Aurignacien, the culture of the Cro-Magnon. This has contributed greatly to the misunderstandings. The Châtelperronien is found in the North of Spain and also in the regions of the Dordogne River and the Charente River in France (Baffier 1999: 20–23; map on p. 27).

Among the most interesting finds of this culture belong tools of bone and ivory that have been decorated with horizontal and vertical lines. Baffier and others consider these lines as the first expressions of art ever made by Neandertals (Baffier 1999: 68ff.). They are quite a distance from the cave paintings of Lascaux or Chauvet, made by the Cro-Magnons, but nevertheless this achievement should not be underestimated. Even more important are small pieces of decorated bone, which some members of the group may have carried as a kind of distinguishing sign (Baffier 1999: 90–91). A token of status:

> La valeur de ces éléments, plus ou moins élaborés, portés sur le corps dépasse la simple recherche esthétique. Ils sont porteurs de sens et devaient permettre aux membres du groupe de se différencier entre eux et d'affirmer leur appartenance à des classes particulières, qui pouvaient être d'âge, de sexe, de rang social, *etc*. (Baffier 1999: 91)[10]

This is a rather far-reaching conclusion attached by Baffier to these signs. Yet, they are not wholly improbable. For everywhere and always people have tried to distinguish themselves from others. In the ethnographical literature many examples can be found. In an important article Jérome Rousseau (1985) states that from the very beginning in human societies differentiation was made between members of the group on the basis of such factors as age, sex, family, and leadership. Claessen (2012: 12–14) points out that people could earn a positive reputation by success in the food production.

There are no longer Neandertals. They died out some 34,000 or 25,000 years ago (Roebroeks 2004; Mellars 1989). There is no definite answer to the questions of how and why. It can be assumed that the limited population growth, the distribution of relatively small groups over enormous areas, the limited contacts between isolated groups of Neandertals, the minimal adaptations in the Mousterien culture – the development of the Châtelperronien came too late – all played a role. Little isolated groups are not the most probable surroundings for the development of new ideas or new techniques. Moreover, the possibility of spreading such inventions would be also very limited. These limiting factors came together when they met with the better developed *Homo sapiens sapiens*. These, the Cro-Magnons, had better tools, better weapons, were much more mobile, and their population grew faster than that of the Neandertals (Stringer 2012, passim). In the competition for the same resources, the same game, the same plants, the best regions where to live, the slower, less developed Neandertals each time came too late, or their numbers were too small for resistance. In this competition they had no chance – and thus died out. Some scholars are convinced that the Neandertals were killed out by the modern humans. There have been found indeed Neandertal skeletons showing wounds. It is difficult to establish whether these wounds were occasioned by Cro-Magnon weapons, by fights between Neandertals, or were occasioned by an unfortunate encounter with struggling game, or by a fall

from a rock. Stringer (2012) in several places mentions scholars defending the war-hypothesis, the extermination of the Neandertals by the Cro-Magnons. It is, perhaps, an ideological matter. It is – in our modern eyes – quite normal for humans to fight and kill. However, in view of the low population density (say, one person per 50 square kilometer) the chance of two competing groups to have met is rather small. Where the sources of food were abundant there is not much reason to fight. Usually economic scarcity, ideological differences, population pressure, or politico-strategic causes are reasons to fight (Claessen 2000: 109). None of these reasons seem to have played a role among Neandertals or Cro-Magnons. This leaves us with the possibility of brawls between 'neighbors', members of the maximal band in which women were exchanged. This might have happened incidentally. But, generally speaking, the fighting and killing hypotheses are not convincing; they just reflect our contemporaneous habits. A more convincing possibility is the problem for the small Neandertal groups to maintain contacts, where active Cro Magnon groups dominated the region (and also the game). No contacts implied that there were no longer brides for the young men – and thus lesser and finally no more children were born (Palmer 2000: 200; Shreeve 1995: 298). This view is also found in the recent study of Louwe Kooijmans (2017: 113–117), who adds that more or less in the same period also a new Ice Age started, which was rather unfortunate for the already endangered Neandertals. There is also the fact that between Neandertals and Cro Magnons interbreeding has taken place – as is testified by the fact that the DNA of nowadays Europeans contains a certain percentage of Neandertal genes.

NOTE

[*] The author wishes to thank Professor Donald V. Kurtz and Mr. Adrie van den Berge, who were so kind as to read and comment upon an earlier version of this paper.

[1] I use the name Neandertals without 'h'. The original findplace in Germany was written without 'h'. Scholars as Trinkaus and Shipman (1993) follow this usage, and also French archaeologists write Neandertals without 'h'.

[2] Roebroeks (2000: 3) mentions a period of 500,000 till 35,000 years.

[3] The German spears were probably used by the predecessors of the Neandertals (the *Homo Heidelbergensis*?), for their age is estimated at 400,000 years (Stringer 2012: 128). Roebroeks thinks these spears were used by Early Neandertals; in his view the Neandertals did live already since about 500,000 BC in Europe (2004: 5, 7).

[4] Steward speaks about the patrilineal band, but as Service (1966: 34, n4) correctly points out, Steward in fact describes the origin of patrilocality.

[5] Fischer (1950) refers repeatedly to the taking of such contraceptives in Indonesia, but could not find more specific data.

[6] Probably the Sioux. Carver is not very clear about the tribes he visited.

[7] 'It is told that young girls who receive in this way their lovers, take very great care to immediately take certain herbs, the power of which they know very well, so that the consequences of their forbidden love affairs will not become visible; if this were the case they would have to stay unmarried for ever' (my translation).

[8] It should be pointed out here that the demographic situation in the West European Middle Ages, especially in the towns, neither was very favourable. Rossiaud (1990: 147) points to low fertility of women, late marriage by men, high rate of infant death, many cases of abortus, and the use of anti conceptiva; as a consequence population growth in the towns was low. Blockmans and Hoppenbrouwers (2002: 266) state that pre-industrial cities usually had a high death rate, so that only a permanent immigration from the countryside kept the population at level.

[9] For a critical evaluation of these claims: Mellars 1999.

[10] 'The value of these more or less decorated signs, that were carried on the body, surpasses a simple need for beauty. They carried a certain weight and permitted its wearers to differ themselves and show their belonging to certain classes, perhaps based on age, sex, social rank, *etc*.' (Baffier 1999: 91).

REFERENCES

Aiello, L., and Wheeler, P. 1995. The Expensive-Tissue Hypothesis. *Current Anthropology* 36: 199–221.

Auel, J. 1981. *The Clan of the Cave Bear.* New York: Bantam Books.

Auffermann, B., and Orschiedt, J. 2003 *Neanderthalers in Europa*. Leuven: Davids Fonds.

Baffier, D. 1999. *Les derniers Néandertaliens. Le Châtelperronien.* Paris: La Maison des Roches.

Birdsell, J. 1968. Some Predictions for the Pleistocene, Based on Equilibrium Systems among Recent Hunter-Gatherers. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 229–240). New York: Aldine.

Birdsell, J. 1973 A Basic Demographic Unit. *Current Anthropology* 14: 337–356.

Blockmans, W., and Hoppenbrouwers, P. 2002. *Eeuwen des onderscheids; Een geschiedenis van middeleeuws Europa.* Amsterdam: Prometheus.

Carver, J. 1796. *Reize door de binnenlanden van Noord-Amerika.* Translated from the 3rd edition by J. D. Pasteur. Leyden: Honkoop.

Claessen, H. J. M. 2000. *Structural Change; Evolution and Evolutionism in Cultural Anthropology.* Leiden: CNWS Press.

Claessen, H. J. M. 2012. On Early States: Structure, Development and Fall. *Journal of Ancient Civilizations* 27: 1–37.

Coon, C. S. 1971. *The Hunting Peoples.* Boston: Little, Brown and Company.

Coppens, Y. *et al. 1998. L'homme de La Chapelle-aux-Saints.* La Chapelle-aux-Saints: Culture et Patrimoine en Limousin.

Deevey, E. S. 1968. Pleistocene Family Planning. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 248–249). New York: Aldine.

D'Errico, F. *et al.* 1998. Neanderthal Acculturation in Western Europe? A Critical Review of the Evidence and its interpretation. *Current Anthropology* 39, Supplement: 1–44.

Dusseldorp, G. L. 2009. *A View to a Kill.* Leiden: PhD thesis.

Fagan, B. M. 1998. *People of the Earth; An Introduction to World Prehistory.* 9th ed. New York: Longman.

Faris, J. C. 1979. Social Evolution, Population, and Production. In Diamond, S. (ed.), *Toward a Marxist Anthropology; Problems and Perspectives* (pp. 421–453). The Hague: Mouton.

Fischer, H. Th. 1950. *Kinderaantal en kinderleven in Indonesië.* Den Haag: Servire.

Hassan, F. A. 1975 Determination of the Size, Density, and Growth Rate of Hunting-Gathering Populations. In Polgar, S. (ed.), *Population, Ecology, and Theoretical Paradigms* (pp. 27–52). The Hague: Mouton.

Holleman, Th. 1998. *De Neanderthaler; Een verguisde pionier.* Amsterdam: Universitaire Pers.

Jaubert, J. 1999. *Chasseurs et artisans du Moustérien.* Paris: La Maison des Roches.

Kurtz, D. V. 2009. Gender, Genes, Enculturation: The Origin of Culture and Becoming Human. *Social Evolution and History* 8 (2): 51–82.

Lee, R. B., and DeVore, I. (eds.) 1968. *Man the Hunter.* New York: Aldine.

Lemorini, C. 1997. *L'organisation du geste des Néandertaliens.* Leiden University: PhD thesis.

Lourandos, H. 1997. *Continent of Hunter-Gatherers. New Perspectives in Australian Prehistory.* Cambridge: Cambridge University Press.

Louwe Kooijmans, L. 2017. *Onze vroegste voorouders.* Amststerdam: Bert Bakker.

Mellars, P. 1989. Major Issues in the Emergence of Modern Humans. *Current Anthropology* 30: 349–385.

Mellars, P. 1999. The Neanderthal Problem Continued. *Current Anthropology* 40: 341–350.

Mohen, J.-P., and Taborin, Y. 1998. *Les sociétés de la Préhistoire.* Paris: Hachette.

Palmer, D. 2000. *Neanderthal.* London: Macmillan.

Polgar, St. 1975. Population, Evolution, and Theoretical Paradigms. In Polgar, S. (ed.), *Population, Ecology, and Social Evolution* (pp. 1–25). The Hague: Mouton.

Roebroeks, W. 2000. *Food for Thought.* Leiden University: Inaugural Lecture.

Roebroeks, W. 2004. *Voedsel en de menselijke niche: La Grande Bouffe.* Leiden University: Honorary Address.

Rose, F. G. G. 1968. Australian Marriage, Land-Owning Groups, and Initiations. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 200–208). New York: Aldine.

Rossiaud, J. 1990. The City-Dweller, and Life in Cities and Towns. In Le Goff, J. (ed.), *The Medieval World* (pp. 139–180). London: Collins and Brown.

Rousseau, J. 1985. The Ideological Prerequisites of Inequality. In Claessen, H. J. M., Smith, M. E., and van de Velde, P. (eds.), *Development and Decline* (pp. 36–45). South Hadley: Bergin and Garvey.

Sahlins, M. D. 1968. Notes on the Original Affluent Society. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 85–87). New York: Aldine.

Sahlins, M. D. 1972 *Stone Age Economics.* Chicago: Aldine.

Service, E. R. 1966. *The Hunters.* Englewood Cliffs N.J.: Prentice Hall.

Shreeve, J. 1995. *The Neanderthal Enigma.* New York: Morrow.

Steward, J. H. 1968. Causal Factors and Processes in the Evolution of Pre-farming Societies. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 321–334). New York: Aldine.

Steward, J. H. 1955. The Patrilineal Band. In Steward, J. H. (ed.), *Theory of Culture Change; the Methodology of Multilinear Evolution* (pp. 122–142). Urbana: University of Illinois Press.

Stringer, Ch. 2012. *Overlevers. Hoe het komt dat wij de enige mensachtigen op aarde zijn.* Amsterdam: Nieuw Amsterdam.

Suttles, W. 1968. Coping with Abundance: Subsistence on the Northwest Coast. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 56–68). New York: Aldine.

Trinkaus, E., and Shipman, P. 1993. *The Neandertals. Changing the Image of Mankind.* New York: Knopff.

Verhart, L., and Groenedijk, H. 2005. Leven in overvloed; Midden en Laat Mesolithicum. In Louwe Kooijmans, L. P., van den Broeke, P. W., Fokkens, H., and van Gijn, A. (eds.), *Nederland in de Prehistorie* (pp. 161–178). Amsterdam: Bakker.

Washburn, Sh., and Lancaster, C. S. 1968. The Evolution of Hunting. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 293–303). New York: Aldine.

Watanabe, H. 1968. Subsistence and Ecology of Northern Food Gatherers with Special Reference to the Ainu. In Lee, R. B., and DeVore, I. (eds.), *Man the Hunter* (pp. 69–77). New York: Aldine.

Westermarck, E. 1902. *Geschichte der menschlichen Ehe.* 2nd ed. Berlin: Barsdorf. (Orig. Eng. ed. 1891).