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Did Christ die for Neanderthals?

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Abstract

The discovery that Neanderthals once existed raises the question of their relationship with *homo sapiens*. Neanderthals have been studied in various disciplines, giving rise to a range of opinions about them. This article raises the question in a theological perspective, asking what a Thomist should make of the status of Neanderthals, whether they were created in the image of God and Christ died for their sins. Having examined what light might be thrown on their status by that of angels and aliens, it is asked whether Neanderthals are part of the same human family as *sapiens*. Genetics has shown that *sapiens* and Neanderthals had offspring, leaving Eurasian *sapiens* with about two per cent Neanderthal DNA, including our Lady, and implying that, when the Word became flesh, the Word became partly Neanderthal. Since reconciling Catholic teaching on Monogenism with the results of population genetics implies interbreeding between humans properly defined by a subsistent immaterial soul and a wider population, there is reason to ask whether the meeting of Neanderthals and sapiens may also have been an example of interbreeding. Possible evidence for Neanderthals possessing a subsistent immaterial soul, and so being part of the same human family as *sapiens*, is assessed.

Keywords

Jesus Christ, salvation, image of God, Neanderthals, genetics, human origins

In 1856, some[1] miners had the unenviable task of clearing out a small cave in the quarry where they were working. As they did so they came across some bones – arm bones, leg bones and ribs - and the top of a skull. As far as the miners were concerned, these remains were not

[1] This paper was delivered as the annual Aquinas Lecture in 2020 for the Thomistic Institute at the Dominican House of Studies, Washington, D.C.

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human but bear. And that assumption was not unreasonable, but bear they were not. Within a year they had been identified as something more human than bear, but not quite the same as us. That was the view of a local schoolteacher who, with the support of a university anthropologist, identified the remains as belonging to an archaic human species. It was certainly closer to us than any ape, and like us walked on two legs, but its shape and frame were outside the range of any known *homo sapiens*, outside of the range of us. A different view again was put forward in the 1870s by a pathologist, who thought the bones did belong to one of us, but to an unfortunate individual who suffered deformity. By the early twentieth century it was the schoolteacher's view that had prevailed.[2] The species itself was named from the Neander Valley in Germany, where the discovery had been made, giving us *homo neanderthalis*, Neanderthal man.

Once the initial discovery was made, older discoveries were identified as belonging to the same species, and further remains found. In comparison to *homo sapiens*, the Neanderthals had heavy-set projecting brows, swept-back cheekbones, smaller chins, bigger chests, and flaring pelvises. On present evidence the Neanderthals were largely confined to Europe, but also present in the Middle East and into western Asia. The earliest possible remains have been dated to around 430,000 or so years ago, and the latest to around 40,000 years ago. After that they disappear. In contrast, the oldest *sapiens* remains are found not in Europe, but in Africa, and they date back some 200,000 to 300,000 years ago. Later *sapiens* remains are found also in Asia and Europe, making it certain that for thousands of years Neanderthals and *sapiens* lived in proximity to one another. This raises the question of what the relationship was exactly between these two populations.[3]

This question has been the study of archaeologists, palaeontologists, anthropologists and geneticists, as a range of scientific disciplines have addressed the evidence, giving rise to a range of opinions about the lives of Neanderthals, even within one discipline. I have no expertise in any of these sciences, but have tried as best I can to understand what they have to say, in order to take account of what they have to say within a theological framework.[4] Today I am going to look at the

[2] On the history of the interpretation of the archaeological evidence, see Julia R. R. Drell, 'Neanderthals: A History of Interpretation', *Oxford Journal of Archaeology* 19 (2000), pp. 1-24.

[3] See Clive Finlayson, *Neanderthals and Modern Humans: An Ecological and Evolutionary Perspective* (Cambridge: CUP, 2004); *The Humans Who Went Extinct: Why Neanderthals died out and we survived* (Oxford: OUP, 2009).

[4] I would like to express my sincere thanks to Dr Leo Goodstadt, who helped me gain a better understanding of the scientific issues involved in the question. I also benefitted greatly in my study of anthropology from participation in 2015 in a summer school for theologians held at the University of Notre Dame under the auspices of the Evolution of Wisdom research project, which was supported by a grant from the John Templeton Foundation.

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Neanderthals and their relationship to us from a theological perspective in the Catholic tradition, asking what a disciple of St Thomas Aquinas should make of them. Are they to be counted among the humanity God created in his image and likeness and which fell into sin, or are they to be counted instead among the other animal species of our world represented in the first chapter of Genesis? Or are they something else? While creation itself is to be renewed through Christ at the last, according to Christian faith Christ is said to die for our trespasses, for our sins.[5] So did Christ die for Neanderthals?

We should be clear from the beginning what kind of answer we cannot give. If Christ did not die for Neanderthals, that cannot be because his sacrifice on the cross was not powerful enough to take them into account. Aquinas took the view that Christ's human death had an infinite, superabundant value; it was the death *of a divine person*. Christ's death must therefore be sufficient to deal with any and every human sin.[6] If there is some sin for which Christ did not die, that cannot be because of any insufficiency *in him or in his cross*, but we would need to look for an explanation *elsewhere*.

If we want to make theological sense of Neanderthals, we can start by asking if there are any models in the Thomist tradition which can throw light on them, apart from the species of our world already found in Genesis 1. One such model is the angels. Though angels do not explicitly appear in Genesis 1, their presence is found throughout Scripture. Aquinas held that they too were created in God's image and were recipients of grace, although Christ did not die for them.[7] But if Christ did not die for *their* sins, could this be a possible model for us to understand Neanderthals? I do not think we can in fact pursue this line, because Aquinas had a reason why Christ did not die for angels, and it had to do with their immaterial natures: Aquinas thought angels had no matter, not even a spiritual matter. Aquinas associated immateriality with intellectual power, and he thought that the purely immaterial angels had very powerful intellects. But all this meant that, when they made their decision for or against God, that decision affected their whole being so thoroughly that their basic direction in regard to God was unchangeable.[8] We humans, on the other hand, are bodily, material beings, and our basic direction *can* be changed, albeit now only by divine grace. And so it makes sense for Christ to die for *our* sins, but not for those of angels. Neanderthals, however, were material like us, and so if they sinned, they should be able to repent, by grace. So it

[5] E.g., Rom. 4.25; 8.21.

[6] *Summa Theologiae*, III, q. 48, a. 2.

[7] *Summa Theologiae*, Ia., qq. 50-64; q. 93, a.3; IIIa., q. 8, a. 4. For a recent Thomist account, see Serge-Thomas Bonino, O.P., *Angels and Demons: A Catholic Introduction* (Washington DC: CUA, 2016).

[8] *Summa Theologiae*, Ia., q. 64, a. 2.

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seems that angels are not a good theological model for understanding Neanderthals, and we need to look elsewhere.

Another possibility is that of alien life, unrelated to our own, on other planets. Aquinas is clear that Christ's sacrifice is sufficient not only for this world, but for any worlds God might create.[9] So, whether God has created other universes, or there are other planets in this one, populated by creatures made in God's image, Christ's sacrifice is enough for their sins too. Aquinas himself thought that God created only one order, in which we are the only rational animal, but theologians have since given thought to the status of possible life in God's image elsewhere.[10] One issue is whether Christ, *in becoming human*, died for human beings *only*. Though his sacrifice may be sufficient for alien beings, it may not have been directed to them, but only to those of Christ's own species. Theologians have often thought of Christ making satisfaction on our behalf as a member of our human family, just as any of us might fittingly help out a family member who could not repay a debt.[11] When discussing Christ's incarnation, Aquinas is clear that God *could* have become incarnate in a human nature created totally afresh.[12] Such an incarnate person would be truly human by way of possessing a true human nature, but perhaps would not count as a member of *our* particular human family. But would that have been a fitting scenario for making satisfaction on behalf of *us*? Aquinas certainly thought it was fitting for Christ to be one of our human family in that his humanity was not created totally afresh but provided by one of us, the Virgin Mary. But would that mean he could not be a member of other alien families, even alien families that were human, and so Christ would not have died for those families but only for ours, the one of which he was a member? The question is whether, even if we regard Neanderthals as human in some sense, would *they* be members of *our* human family, the same human family as us? Are they like alien humans, or are they just us?

It is here that genetics has made a decisive contribution by investigating the DNA first of *homo sapiens* and more recently of Neanderthals. DNA is found in cells that make up the bodies of human beings and of all other life on earth. Within this DNA lies a kind of code, which provides what it is easy to think of as a kind of instruction manual, the genome, which contains information required for any organism's development. But, because every organism's DNA is inherited from a parent organism, DNA *also* encodes something about that organism's

[9] *Commentary on the Gospel of St John*, 1.8.

[10] For some recent discussion, see Edmund Michael Lazzari, 'Would St. Thomas Aquinas baptize an Extraterrestrial?', *New Blackfriars* 99 (2018), pp. 440-57.

[11] Cf. St Anselm of Canterbury, *Cur Deus Homo?*, II.8.

[12] Cf. *Summa Theologiae*, IIIa., q. 31.

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past, its ancestry.[13] Fine changes or mutations in an organism's DNA, which are then passed on to its descendants, but not to others, enables geneticists to build up a picture of how different living things, different species, are related to one another. We all know that DNA can be used to determine a paternity suit, and all of us can take a swab from the inside of our cheeks and submit our DNA for commercial analysis, and learn something about our own ancestry. Such testing has shown, for example, that I'm British![14] But genetics has also told us more spectacular things about the more distant past, because in decoding the DNA of all sorts of living things, geneticists can work out the relationships between them, and determine which genetic events came before or after others. By estimating how often genetic mutations which have then been passed down occur, it is also possible to estimate dates for these events with some confidence, even if these dates are then open to revision as our knowledge grows. And so decoding DNA has uncovered something about the relationship between Neanderthals and us.

How DNA came to be extracted from the bones of Neanderthals is a fascinating and exciting story.[15] However, the story begins with investigation of our own DNA. In 1987 a team of geneticists decoded a tiny fraction of the DNA of several individuals from around the world. Whereas most of our DNA is found is the nucleus of most of the cells that make up our body, this small fraction is found outside the cell's nucleus in what we might think of as the batteries or engines that power the cell, the mitochondria. While our fathers as well as our mothers contribute to the DNA in the *nucleus* of our cells, only our mothers contribute this Mitochondrial DNA.[16] Each person receives it from their mother, and she from her mother, and she from her mother, back into history. This is what genealogists call the matrilineal line. Each one of us has many, many lines of ancestry going back into the past. Each of us has two parents, four grandparents, eight great-grandparents, sixteen great-great-grandparents, then 32 and 64 as we go back through the generations, though eventually we will find the same people on different lines and the tree curves in on itself as the branches are entangled. But, be that as it may, each of us has many, many lineages going back on a complex tree. Mitochondrial DNA passes down only one of these many lineages, from your mother, back from her mother, her mother, and so on. If any two of us here could trace our matrilineal lines back, at some point we would meet a woman in common, an ancestor shared

[13] I have found very helpful and recommend David Reich, *Who We Are and How We Got Here: Ancient DNA and the New Science of the Human Past* (Oxford: OUP, 2018).

[14] In other words, my DNA's largest match is to populations in Britain; there are however also smaller matches to populations elsewhere.

[15] I recommend Svante Pääbo, *Neanderthal Man: In Search of Lost Genomes* (New York: Basic Books, 2014).

[16] There are, however, rare cases of paternal inheritance of Mitochondrial DNA.

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by us on the matrilineal line, maybe thousands of years ago. The team of geneticists, making sense of the different genetic changes inherited in this DNA by the different participants in their investigation, could construct a sort of family tree for the matrilineal lines of these different participants from around the world. The inheritance of different genetic mutations allowed the participants to be placed on different branches of the tree, each of which branched off at a different moment in time from the main trunk. Ultimately, following the matrilineal lines of everyone back, they met a single woman, whom they dated to have lived 200,000 years ago.[17] More recent estimates place Mitochondrial Eve, as she became known, about 160,000 years ago.[18]

Now although all of us here, and everyone outside this lecture theatre, will be descended on their matrilineal lines from Mitochondrial Eve, it is not being claimed that she was the first ever female human or the only woman alive at the time or anything like that. There is no reason to suppose that she was the Eve of the Bible. Other women were alive at the time, and while they may have had descendants, they had no descendants on the matrilineal line that have survived down to the present day. Only Mitochondrial Eve's matrilineal line has survived, in all of us. Genetics in fact suggests the *homo sapiens* breeding population has always numbered some thousands.[19] Mitochondrial Eve lived in such a population. The fact that those participants whose DNA branched off most deeply in time, most nearly to Mitochondrial Eve, were from Africa confirmed what the archaeological evidence had already suggested, that *sapiens* was formed as a distinct population in Africa. This had immediate implications for the relationship of *sapiens* to Neanderthals. Up to the 1980s, *sapiens* were widely thought to have evolved from archaic human species in different regions around the world, including the evolution of *sapiens* in Europe from Neanderthals. But now it was clear that all modern humans, no matter where in the world they live, had their origin in a single population, and that was in Africa.[20] The Neanderthals, for whom there is no evidence of ever having lived in Africa, could not then be the parent species of European *sapiens* or of any *sapiens*. The tendency now was to think of the two as separate species, with a common descent from some earlier archaic population, but as essentially different from each other. The possibility of *sapiens* and Neanderthals interbreeding was mooted, but was widely thought to be rather unlikely. Either they could not, or they were just too different to try.

[17] R. L. Cann, M. Stoneking, and A. C. Wilson, 'Mitochondrial DNA and Human Evolution', *Nature* 325 (1987), pp. 31-36.

[18] Reich, *Who We Are and How We Got Here*, p. 5.

[19] Ibid., pp. 14-15; Heng Li and Richard Durbin, 'Inference of Human Population History from Individual Whole-Genome Sequences', *Nature Genetics* 46 (2011), pp. 493-96.

[20] Ibid., p. 49.

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At first it was only Neanderthal mitochondrial DNA that was tested, and these initial results in 1997 appeared to support a somewhat separate existence.[21] If Neanderthal matrilineal lines had connected with *sapiens* matrilineal lines in the last few hundred thousand years, that would have been evidence that the two populations interbred. But it appeared not to have been so. The most recent estimate for convergence on the matrilineal line is way back between 360,000 and 470,000 years ago, in some population ancestral to both Neanderthals and *sapiens*.[22] However, just as the investigation of the wider *sapiens* genome, and not *just* mitochondrial DNA, had already filled out a more complex picture of human ancestry,[23] so the investigation of wider Neanderthal DNA and comparison with *sapiens* DNA revealed some procreation common to the two populations after all. More precisely the result published in 2013 was that, while people of only African descent showed no significant match between their DNA and that of Neanderthals – Neanderthals after all had never lived in Africa - those of Asian and European descent did show such a match.[24] In light of this fact, it makes best sense to think of this common procreation taking place within that segment of *homo sapiens* that had crossed out of Africa around 50,000 years ago, of their meeting and having children with Neanderthals in the Middle East, before successfully spreading their own genes, now partly Neanderthal, through Asia, and into Australia, Europe, and eventually America.[25]

So how great is the contribution of Neanderthal DNA to people of European and Asian descent? We start from the fact that everyone receives fifty per cent of their DNA from their father and fifty per cent from their mother. My mother and I have both had our DNA tested by the same company, and we were revealed to share fifty per cent of our DNA. As a result of this I was able to tell her that I now have a scientific basis for knowing she is my mother, rather than just take her word for it![26] And because everyone receives fifty per cent of their DNA from their father and fifty per cent from their mother, a child born of a single Neanderthal-*sapiens* union would inherit fifty per cent Neanderthal

[21] M. Krings et al., 'Neanderthal DNA Sequences and the Origins of Modern Humans', *Cell* 90 (1997), pp. 19-30.

[22] Reich, *Who We Are and How We Got Here*, pp. 29-30.

[23] Ibid., pp. 17-22.

[24] K. Prüfer et al., 'The Complete Genome Sequence of a Neanderthal from the Altai Mountains', *Nature* 505 (2014), pp. 43-49. The article was published electronically in 2013.

[25] On the day this lecture was delivered, new evidence was announced of a small presence of Neanderthal DNA in those of African descent, presumably through Eurasian migration of *homo sapiens* into Africa. See Lu Chen, Aaron B. Wolf, Wenqing Fu, Liming Li, and Joshua M. Akey, 'Identifying and Interpreting Apparent Neanderthal Ancestry in African Individuals', *Cell* 180 (2020), pp. 677-87.

[26] More technically, this comparison of our autosomal DNA shows either that we are siblings or that one or other of us is the parent of the other.

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DNA and fifty per cent *sapiens*. The proportion of Neanderthal DNA in descendants living in an entirely *sapiens* population would then have decreased with each generation after that union. One *sapiens* skeleton from Romania, dated to about 40,000 years ago, had around six to nine per cent Neanderthal DNA. At some point this figure levelled out across the Eurasian population at about two per cent. Europeans and Asians today show a match of around 1.5 to 2.1 per cent.[27] According to the National Geographic's Genographic Project, I have 1.9% Neanderthal DNA. Our Lady then would certainly have had about two per cent Neanderthal DNA, and our Lord would have inherited DNA from her. Jesus' virginal conception makes his own genetic make-up a bit of a mystery of course, because he had no human father to provide a Y-chromosone of DNA to make him male or any other DNA. But, however we make sense of this, we should conclude that when the Word became flesh, the Word became Neanderthal. Or around two per cent.

But what is the significance of Christ's Neanderthal DNA? Perhaps not very much, if the Neanderthals were just as human as us. And we might have reason to think they were, given that we had children together. There are different views about how to define a biological species, but it is most commonly thought that compatibility for breeding is the key criterion: if they can breed successfully, they are the same species. And, although they may have been on separate evolutionary pathways, and one day been no longer able to reproduce together successfully, when they met, *sapiens* and Neanderthals could still manage to produce some fertile offspring.[28] But is it possible that this might count as two distinct species being able to *inter*breed, rather than *sapiens* and Neanderthals counting as a single species? It seems to me that we have a specifically theological reason to consider this possibility.

People sometimes wonder how a genetic account of human origins in a population of some thousands is compatible with traditional Christian teaching that we descend from a single couple. Aquinas thought we descended from a single couple and this is very much bound up with his theology of original sin.[29] Pope Pius XII taught that, since it is not evident how original sin can be reconciled with a larger original population, we must stick with an origin from a single couple.[30] Some theologians think we must accept the picture presented by science, and adjust our theology of original sin.[31] However, the data of genetics and Church teaching is not actually in conflict, if we distinguish between the human species defined in biological terms and the human species viewed in theological terms, that is, defined by the image of God. The

[27] Reich, *Who We Are and How We Got Here*, pp. 40-43.
[28] Ibid., pp. 43-49.
[29] *Summa Theologiae*, Ia., q. 81.
[30] Pius XII, *Humani Generis*, 37.
[31] E.g., Karl Rahner, S.J., 'Evolution and Original Sin', *Concilium* 6 (1967), pp. 30-35.

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theological difference here would be the presence of an immortal soul, making us human without qualification. Aquinas held that what fundamentally differentiates the human being from all other animals is the fact that the human soul is a subsistent immaterial soul, intellectual and immortal.[32] It is by way of this soul, which enables acts of higher knowledge and love, and potentially acts of knowing and loving God, that human beings are in the image of God.[33] If we accept that only one original couple was theologically human, but had a wider population with which they could procreate, but where having only one parent with an immortal soul was sufficient to get an immortal soul yourself, then we can conclude that the image of God would spread through the population within generations, and all biological humans would eventually be theological humans too.[34] One consequence of this way of thinking is that early theological human beings interbred with non-theological human beings. But if that was the case then, why could it not be the case when *sapiens* and Neanderthals met? Given that *sapiens* were already in the image of God, perhaps they had children with Neanderthals who were not? Though the Neanderthals may have been biologically the same species, perhaps they were not the same species theologically.

So *were* Neanderthals theologically human or not? I think the only way we can approach this question is to ask whether or not Neanderthals had immortal souls, as we do. But, apart from Christian teaching, how do we know that *we* even have such souls? We cannot just have a look at our immaterial souls, and Aquinas thought that we only know the character of our souls through what we do. Aquinas argues from the fact that we make intellectual acts of knowledge of things abstracted from their material conditions, *to* the immateriality of the intellectual soul. Our knowledge is not just of particulars but is universal, enabling pursuits like philosophy and science, and the potential to be elevated by God to supernatural knowledge and love of him. If human knowing were more limited to a material process, Aquinas does not think our souls would be such subsistent, immaterial souls.[35] Finding evidence of intellectual flights throughout the history of *sapiens* is difficult enough, however, let alone in Neanderthals. The rise of Greek philosophy or Western science is explained through a multitude of factors: they may require a subsistent immaterial soul, but that soul's presence does not guarantee we will all be philosophers or scientists. So what other evidence can we look for in support of the presence of an immortal soul?

[32] *Summa Theologiae*, Ia., q. 75.

[33] *Summa Theologiae*, Ia., q. 93.

[34] Kenneth W. Kemp, 'Science, Theology, and Monogenesis', *American Catholic Philosophical Quarterly* 85 (2011), pp. 217-36.

[35] *Summa Theologiae*, Ia., qq. 75, 87.

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Aquinas defines human beings as 'rational animals',[36] not only immaterial but also material.[37] Human beings lead an animal life, but one that participates in intellectuality. We have emotions or passions (as many animals do, on Aquinas's view), but *our* passions are not generic animal emotions, but participate in reason.[38] We are often surprised at the wonderful capabilities of other animals, and it is sometimes difficult not to suppose that they think rationally as we do.[39] Aquinas had a very high estimate of the lives and capabilities of non-rational animals, and *he* would not have been surprised by all we now know about the lives and capabilities of other species.[40] This should put us on our guard against assuming that some sophisticated behaviour attributed to Neanderthals must automatically mean that they had immortal souls. Non-human animals have all sorts of levels of sophistication: they have a sense of danger, for example, imagination, the ability to solve problems; they can cooperate to achieve goals, communicate through gestures and sounds, have a sense of beauty and of another's perspective. On a Thomist view, much of animal capability is taken up into human intellectual life and participates in it, is shaped by it. People who reject the immortal soul have often looked for human distinctiveness in some particular *behaviour*, like organised hunting or tool use. But these searches normally fail when such things are found in some form among other species, whether living or in the archaeological record. What we need to look for in the case of Neanderthals is evidence of some behaviour that bears the mark of an intellectual soul such as we have.[41]

Popular candidates have included burial of the dead. The oldest burials found are in a cave in Spain, dated to some 430,000 years ago.[42] But whether this burial was a ritual or religious act, as we practice burial, cannot be known without a wider context. Stone circles found in a cave in France, dated to around 180,000 years ago, suggest religion perhaps, but certainly the formation of a place into *some* sort of

[36] E.g., *Summa Theologiae*, IIIa., q. 15, a. 2 ad 2.

[37] *Summa Theologiae*, Ia., q. 75, proem.

[38] *Summa Theologiae*, Ia.IIae., q. 56, a. 4 ad 1.

[39] Cf. Daniel D. De Haan, 'Approaching Other Animals with Caution: Exploring Insights from Aquinas's Psychology', *New Blackfriars* 100 (2019), pp. 715-37.

[40] *Summa Theologiae*, Ia.IIae., qq. 6-17.

[41] Authors who advocate for the intelligence of Neanderthals (though not from a Thomist perspective), include Thomas Wynn and Frederick L. Coolidge, *How to think like a Neandertal* (New York: OUP, 2011); Clive Finlayson, *The Smart Neanderthal: bird catching, cave art & the cognitive revolution* (Oxford: OUP, 2019).

[42] E. Carbonell and M.Mosquera, 'The emergence of symbolic behaviour: the sepulchral pit of Sima de los Huesos, Sierra de Atapuerca, Burgos, Spain', *Comptes rendus palévol* 5 (2006), pp. 155-60.

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'space', perhaps the making of meaning.[43] Another candidate is care for the sick and elderly. The discovery in a cave in Iraq of a skeleton of an older, half-blind Neanderthal man with a withered arm suggests evidence that he must have been cared for by his community during his lifetime.[44] Are these finds evidence of the intellect a Thomist would associate with a subsistent immaterial soul, or might the Neanderthals have been sophisticated non-rational animals giving shape to their domestic space, as many species carve out a niche for their home, caring for the disabled, for whom we might easily imagine valued roles in a non-rational group despite disability, and expressing feeling for their dead, as some animals do? Without further context, such evidence is difficult to interpret.

Of course most of the evidence of the lives that Neanderthals led does not survive. Wooden artefacts, for example, will only very rarely survive in the archaeological record. And the best evidence we can have for a subsistent immaterial soul is surely language. A Thomist might suppose that it is the immateriality of the human soul that elevates the capacity for communication we find in other animals, to be able then to signify the most abstract of ideas, to form potentially an infinity of different sentences, to tell stories that narrate alternative worlds or envision the future. Though all sorts of animals communicate through signs, whether vocal or not, no other animal speaks with such language. But spoken language is of its nature lost to the limitations of the archaeological record, and writing appears only relatively late in our story, after about 8,000 ago. Neanderthals certainly had much the same anatomy as *sapiens* for producing vocalised sounds, and genetics might suggest that Neanderthals had a capacity for language, because they share with *sapiens* much the same form of a gene that we know to be important for linguistic communication.[45] However, while that seems to suggest Neanderthals were somehow *disposed* for human language, without knowing that they had an immortal soul to elevate that communicate ability, a Thomist is thrown back on the archaeological record, searching for indirect evidence of language in human culture, say in technology or art, which might in themselves be evidence for an intellectual soul.

We should note, though, that archaeology hardly gives us any certainty of when *sapiens* first spoke. Anthropologists seem to be certain language was there before 40,000 years ago, and this is based on such evidence as the cave paintings that appear around that time in Asia, together with other sophisticated graphic art, figurines, bone carvings

[43] J. Jaubert et al., 'Early Neanderthal Constructions Deep in Bruniquel Cave in Southwestern France', *Nature* 534 (2016), pp. 111-14.

[44] Erik Trinkaus, *The Shanidar Neanderthals* (New York: Academic Press, 1983).

[45] Pääbo, *Neanderthal Man*, pp. 252-53; Reich, *Who We Are and How We Got Here*, pp. 8-10.

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and so on, which point to a human intellect that could think linguistically and symbolically, even religiously. Some speak of a 'cognitive revolution' about this time, when so many different elements of human culture gradually came together en masse, on analogy, I suppose, with the later agricultural, scientific and industrial revolutions, and the technological revolution we are experiencing today.[46] Despite no direct evidence of language, anthropologists normally seem loathe to suppose that *sapiens* had not been telling stories and gossiping for thousands of years before any such 'revolution'.[47] Artefacts that are considered possible indicators of language and intellect can be found in the *sapiens* archaeological record far earlier, if more sparsely.[48] The fact that the whole *sapiens* population across the world eventually manifests this level of capability suggests to some that the beginning of human language lies back prior to the dispersal of the original sapiens population around and out of Africa.[49] From a theological point of view, this would make sense, because the appearance of the immaterial soul before the dispersal of *sapiens* would fittingly guarantee the fundamental unity of all subsequent *sapiens*, a unity to be perfected in Christ. But this leads us to ask why we should not count Neanderthals in this unity too. After all, when the archaeological record of Neanderthals and earlier *sapiens* is compared, it is not startlingly different.[50]

What has perhaps been most startling was the announcement in 2018 that cave paintings had been found in Spain, dated to before 60,000 years ago.[51] Large red and black squares were painted like frames, and in one frame there is an outline of an animal's hind legs, in another the head of an animal, as well as geometric shapes. But since *sapiens* were not yet found in Europe, the Neanderthals are currently the only candidates we have for the artists. If that identification is correct, it would surely suggest that Neanderthals had capacities not wildly different from those found among *sapiens* some 20,000 years later in their 'cognitive revolution'. There are also other examples of art, not dissimilar from what we find among *sapiens*: paint from red iron oxide, presumably to paint themselves, each other, or something

[46] R. G. Klein, 'Archaeology and the Evolution of Human Behavior', *Evolutionary Anthropology* 9 (2000), pp. 17-36. For a critique of the genetic aspect of his position, see Reich, *Who We Are and How We Got Here*, pp. 6-8.

[47] Agustín Fuentes, *The Creative Spark: How Imagination Made Humans Exceptional* (New York: Dutton, 2017), pp. 204-5.

[48] Ibid., pp. 202-3; S. McBrearty and A. S. Brooks, 'The revolution that wasn't: a new interpretation of the origin of modern human behavior', *Journal of Human Evolution* 39 (2000), pp. 453-563.

[49] Cf. Reich, *Who We Are and How We Got Here*, p. 17.

[50] Finlayson, *The Smart Neanderthal*, p. 10; Reich, *Who We Are and How We Got Here*, p. 26.

[51] D. L. Hoffman et al., 'U-Th dating of carbonate crusts reveals Neandertal origin of Iberian cave art', *Science* 359 (2018), pp. 912-15.

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else; a necklace of eagle talons in Croatia about 130,000 years ago; and beads of punctured shell and animal teeth, found in France and Germany. The way that they treated the bones of some birds they caught, indicates they were not butchering them for food but for their feathers, presumably for self-adornment.[52] Again, such clothing and jewellery suggest a certain symbolic value to what they were doing. And none of this suggests a significantly different material culture from *sapiens* of roughly the same periods.

Another significant way in which Neanderthals and earlier *sapiens* were similar was in their stone technology.[53] The first archaic human species in Africa, two million years ago or more, inherited from their hominid ancestors the making of tools by hammering stone to produce flakes, blades which could cut or chop. An expanded set of tools, including hand axes, produced by a more complex process is found after 1.5 or so million years ago, with upgrades some 600,000 and 300,000 years ago.[54] Their makers surely worked according to a mental *image* of the blade that lay within the stone. At some point, though, stone technology must have been the eventual fruit of the elevation of the animal capacity for tools by the intellectual soul. Longer, more complex preparation of the stone material to produce a better blade, requiring more carefully directed blows as well as rotation and inspection of the stone, indicates a more complex advance grasp by the toolmakers of the end product and of the stages involved, and the whole process is something any of us would find a massive challenge to accomplish. Complex tools were also made by fixing parts together, say a stone spearhead to a wooden shaft. Neanderthals, as well as *sapiens*, employed all this technology, and perhaps language helped in its successful transmission. But if we suppose the *sapiens* who used this technology were employing immaterial intellect, we have to wonder whether the Neanderthals were too.

How though does any of this make a difference to theology in the tradition of Aquinas? If Neanderthals *were* created in God's image and saved by Christ, this must expand our understanding of Christ's ark of salvation and raise questions about how his saving grace was made available to them. Because the Church teaches that God offers salvation through Christ to every person in some way,[55] theologians have often asked in recent times how this offer is made to those who have not heard the Gospel, members of other religions, and even atheists. It seems to me that, just as modern science has enlarged our sense of the

[52] Wynn and Coolidge, *How to think like a Neandertal*; Finlayson, *The Smart Neanderthal*.

[53] Reich, *Who We Are and How We Got Here*, p. 26.

[54] Fuentes, *The Creative Spark*, pp. 59-65; Ian Tattersall, *Palaeontology: A Brief History of Life* (Conshohocken PA: Templeton, 2010), pp. 170-87.

[55] Cf. Second Vatican Council, *Gaudium et Spes*, 22; *Lumen Gentium* 16.

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physical universe, the inclusion of Neanderthals in theological humanity must somehow expand our sense of human salvation, given that it was effected in the kind of life Neanderthals lived. Moreover, in what we can find of Neanderthal life, if it is truly human, we should be able to see ourselves as in a partial mirror, suggesting the importance to our own salvation, say, of a spirituality of work and technology, and the importance of Christian art, and of beauty in the liturgy. None of these things are discovered because of the discovery of Neanderthals, and yet the discovery that something is truly ancient to humanity can influence our theological focus today. But even if Neanderthal inclusion does not pay immediate theological dividends, at least for apologetic reasons it seems necessary for theology to take account of their discovery. Unless theologians do, they risk the appearance of leaving faith and science in separately sealed worlds, as though our faith cannot cope with advancing human knowledge, leaving it culturally marooned and seemingly irrelevant to many. That is exactly the opposite of the attitude of Aquinas, who, confident that all truth comes from God, in his own day confirmed Christian wisdom by integrating into it what he knew of human science.

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