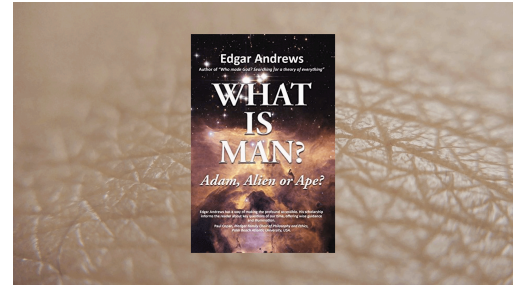




Adam, Alien or Ape?

Edgar H. Andrews
in *What is Man?*

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Background image credit MaxPixel.

What is Man that you are mindful of him, and the son of Man that you visit him?
(Psalm 8:4)

Let's start by making clear what we mean by 'man'. The word is used in three ways. It can mean a male member of the human race (man = male). It can mean the human race itself (man = humanity). And it can mean a member of the human race regardless of gender (man = person). A manhole can be used by women as well as men, and a man-eating tiger isn't bothered about the sex of its victim. This third use of 'man' is today often considered politically incorrect but it is common historically and, for example, occurs frequently in the Bible. In this book I shall make use of all three meanings but I trust that the context will always make it clear which is intended. For clarity I will always capitalise the first letter to read 'Man' whenever the reference is to humanity as a whole.

The poet Alexander Pope writing in 1734 described the contradictions of human nature (Man = humanity) with eloquent clarity. Man is, he writes¹,

"In doubt to deem himself a god or beast;
In doubt his mind or body to prefer;
Born but to die, and reasoning but to err;
Alike in ignorance, his reason such,
Whether he thinks too little, or too much;
Chaos of thought and passion, all confused;
Still by himself, abused or disabused;
Created half to rise and half to fall;
Great lord of all things, yet a prey to all,
Sole judge of truth, in endless error hurled;
The glory, jest and riddle of the world.

The depressing fact is that everything Alexander Pope said nearly 300 years ago is still true! As a race we continue to notch up amazing achievements in the arts, science and technology, counterbalanced by uncertainty about what it means to be human and apprehension

This article is an edited version of chapter 1 of the book *What is Man? Adam, Alien or Ape?* by Edgar Andrews, © 2018 by Elm Hill Books, Nashville, Tennessee. Used by permission. All rights reserved. We capitalize the word "man" to read "Man" when it refers to humanity as a whole.

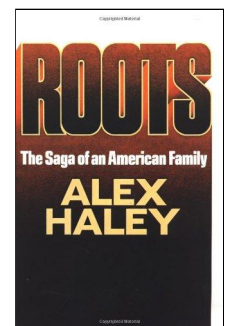
about where mankind is heading. To an impassionate observer we are indeed "the glory, jest and riddle of the world".

Whether we accept it or not, the Bible has a clear explanation for this state of affairs, this confusion and inconsistency. Made in the image of God, Man retains a nobility of nature and purpose that leads to great achievements. But as a race in rebellion against its Creator we can and frequently do plumb the depths of wickedness and depravity. This book contends that we can never really understand ourselves — our triumphs and our failures — without this biblical perspective on human sin.

Digging up roots

British TV presenter Natasha Kaplinsky went to Cape Town, celebrity chef Rick Stein to China and actress Zoë Wanamaker to Ukraine. What were they looking for? The answer is their 'roots'. The long-running British TV series *Who do you think you are?* helps various celebrities to construct their family trees, discovering secrets and surprises from the past — along with the skeletons lurking in their ancestral cupboards.

Most people are intrigued by their own ancestry. When Alex Haley's book *Roots* was published in USA in 1976 it became a sensational best-seller. More than a mere book, it tapped deeply into the hunger of black Americans to know more about their African ancestral home. According to commentators, Haley's quest for his roots changed the way black people thought about themselves and how white America viewed them. Why? Because our origins ultimately determine who and what we are.



But no amount of world travel or searching dusty archives will reveal what *really* ought to excite our curiosity — the origin of humanity itself. The question 'Who am I?' can only be truly answered when we know the solution to the larger riddle: 'What is Man?'

When a young child asks 'where did I come from?' it isn't asking for a lesson in reproductive biology. Rather, the question relates to self-consciousness — the child's awareness of its own individual 'self-hood'. Neither chickens nor chimpanzees, I suspect, worry about such things. These concerns are unique to Man and that is nothing new. Addressing the biblical God some 3000 years ago, King David put it thus:

1. Pope, Alexander. *An Essay on Man*: Epistle II

'When I consider your heavens, the work of your fingers,
The moon and the stars which you have ordained,
What is Man that you are mindful of him,
And the son of Man that you visit him?
For you have made him a little lower than the angels
And you have crowned him with glory and honour' (Psalm 8:3-4).

David or Darwin?

There are, of course, some zany answers to the question 'what is Man?' The famous physicist Enrico Fermi seriously suggested that we might be an alien race that colonised the earth from space.² A more philosophical but equally strange idea is that we are computer generated simulations — the products of a 'matrix' set up by powers beyond our comprehension for their own entertainment. I'll let James Berardinelli tell the story.³

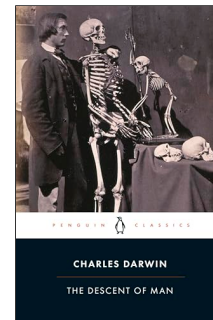
"Thomas Anderson is leading a double life. To most people, he's a hard-working computer programmer who holds down a nine-to-five job for a major software corporation. But, in the privacy of his home, he's a hacker named Neo ... Neo is dissatisfied with his existence, and while he's groping for a meaning to it he is contacted by a mysterious computer presence known as Morpheus. 'Wake up Neo' a printout on his monitor screen reads. 'The Matrix has you. Follow the white rabbit.' And so begins an amazing odyssey for both Neo and the audience. It turns out that Morpheus is the captain of a small spaceship, and he believes that Neo is a messianic figure. When the two finally meet, Morpheus explains to Neo that all is not as it seems. The reality he is used to is a fabrication, the product of a sinister race of intelligent machines that use human beings as power supplies, to be discarded at will. Neo is dubious, and Morpheus sets out to show him the truth. Soon, he is learning how to manipulate the Matrix: a computer-generated dream-world built by the machines to control human minds. But danger lurks ahead for Morpheus and his small band of followers. The goal of the machines is to eliminate all free humans, and their most powerful weapons, the Sentient Agents ... are closing in. ..."

Bizarre though they may be, such speculations are not easy to refute but I will pass them by for the present and move on to what most people would consider more solid ground.

Today we are presented with several plausible answers to the question 'what is Man?', answers typified by two extremes — by David in his psalm and Charles Darwin in his theory of 'evolution' or 'common descent'. However, there are other alternatives that lie between these extremes, so in this chapter we shall briefly introduce not two but four 'models of Man'. Using 'image' terminology throughout for the sake of consistency, these four views see mankind as being made, respectively, (1) in the image of the apes; (2) in the image of an emergent spirit; (3) in the image of an implanted spirit; or (4) in the image of God. I use the word 'spirit' here simply as a shorthand to describe the qualities of mind and self-awareness that separate Man so completely from even the most intelligent animals.

Image of the apes

In *The Descent of Man* Charles Darwin traced Man's origin back to ape-like ancestors and beyond, believing that all living things (the whole 'biosphere') originated from a single primal organism — an idea called 'common descent'. His original theory published in his famous book *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, has, of course, been significantly elaborated over the years into neo-Darwinism, the so-called 'modern synthesis' which incorporates genetic evolution. Briefly stated, the theory claims that organisms evolve by a dual process consisting of (1) random genetic mutations (changes in the organism's DNA produced by a variety of causes) followed by (2) 'natural selection' of those members of a population to which mutations have imparted superior reproductive capacity. Although it is admitted that genetic mutations are overwhelmingly damaging or neutral in their effect, it is held that favourable mutations (that is, those that improve reproductive success) do occasionally take place. These beneficial mutations then spread through the population because their owners reproduce more successfully than others.



One seldom mentioned problem with this scenario as it is applied to mankind is that if it is true, humans are seriously over-evolved. That is, we have acquired characteristics that far exceed any conceivable value in increasing our reproductive capacity. According to the neo-Darwinian narrative, no capacity should arise in an organism that does not improve its ability to reproduce but humans possess powers that flatly contradict this. An interesting example was reported in the London *Times* newspaper ("Think big — your brain can store 4.7 billion books").⁴ Terry Sejnowski, Professor of computational neurobiology at the Salk Institute in California, has found that the part of the brain that deals with memory has a capacity ten times bigger than previously thought and could store data roughly equivalent to the entire contents of the worldwide web. He states, "Our new measurements of the brain's memory capacity increase conservative estimates by a factor of 10 to at least a petabyte, in the same ballpark as the World Wide Web. ... We discovered the key to unlocking the design principle for how hippocampal neurons function with low energy but high computational power".⁵

If we could use this enormous memory storage capacity, of course, it could be interpreted as the outcome of 'survival-value' Darwinism, but we can't. We regularly forget the names of acquaintances and where we put the car keys— And I doubt whether many of us could memorise even one book, let alone 4.7 billion. In other words, we have failed to evolve any means of accessing this huge potential memory capacity, which therefore can do nothing to help us reproduce. So why do we possess these potential powers of memory? Why have they (allegedly) evolved? No naturalistic theory of evolution

2. Gray, Robert H. "The Fermi Paradox Is Not Fermi's, and It Is Not a Paradox" *Scientific American*, <https://blogs.scientificamerican.com/guest-blog/The-fermi-paradox-is-not-fermi-s-and-it-is-not-a-paradox/>

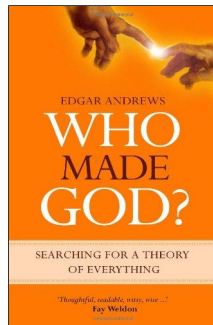
3. Berardinelli, James. "Review of *The Matrix*" *ReelViews*, <https://www.reelviews.net/reelviews/matrix-the>

4. Moody, Oliver. "Think big — your brain can store 4.7 billion books" *The London Times* newspaper, 22 January 2016, p. 1, <https://www.thetimes.co.uk/article/think-big-your-brain-can-store-47-billion-books-3z7wx3fqwgj>.

5. "Memory Capacity of Brain Is 10 Times More than Previously Thought" *Salk News* <https://www.salk.edu/news-release/memory-capacity-of-brain-is-10-times-more-than-previously-thought/>

can answer this question. I might add that there are many other human characteristics that have no plausible reproductive value such as the ability to handle and enjoy musical, aesthetic, philosophical and mathematical concepts. Humble bacteria reproduce far more efficiently than human beings.

I devoted several chapters in my earlier book *Who Made God?*⁶ to a step-by-step critique of evolutionary mechanisms and will not repeat it here. However, the conclusion was that although Darwinian processes can and do produce minor changes in the characteristics of populations ('micro-evolution') it is incapable of creating the major changes required to transform one kind of creature into another ('macro-evolution'). Evidence from centuries of artificial selection by human intervention, as practised by plant and animal-breeders, supports this conclusion. While many new varieties and breeds (of, say, cats or dogs) have been generated, artificial selection never produces new kinds of organism (like breeding bears from cats or goats from dogs). There are natural barriers to macro-evolution that no amount of human ingenuity can overcome. Some of these barriers may well be surmounted using 'genetic engineering' in which scientists deliberately 'edit' the DNA of an organism to produce, for example, disease-resistant crops or bacteria that manufacture medically useful compounds. But genetic engineering requires the skilled and purposeful manipulation of organisms by intelligent human agents; it doesn't happen by chance or accident.



Furthermore, the emergence of the hypothetical first living organism from non-living starting materials (a process often called 'chemical evolution') is today commonly attributed to fortuitous but entirely undirected physical and chemical processes which are as yet unknown. Such *undirected* processes have never been observed in the laboratory and are never likely to be observed, in spite of decades of effort by origin-of-life researchers. It is true that 'artificial life' of a kind has been created by chemists such as Craig Venter using sophisticated techniques to imitate the DNA found in nature. But this has only been achieved under the most precise control and direction of highly skilled scientists. The creation of artificial life-forms, if achieved, will not occur without the careful direction of highly intelligent people — never by undirected natural processes.

Though technically not part of neo-Darwinism, the theory of chemical evolution completes the picture for the evolutionist by reducing the origin and development of life, and thus of Man, to purely natural processes accessible to scientific study. Most people today assume that Darwin's 'scientific' account of human origins must be right and the Bible's 'religious' teaching must be wrong or at best mythological. Man is not God's creation, we are told, but simply an animal that happens to have climbed further up the tree of evolution. Like every other form of life, he is an accident of evolution. But the urgent and on-going search for 'missing links' between apes and Man (considered later) bears witness to the huge biological, intellectual

6. Andrews, Edgar. *Who made God? Searching for a theory of everything*. (Darlington, UK: EP Books, 2009).

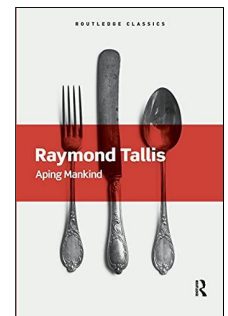
and existential gap that separates humans from our closest supposed relatives such as chimpanzees.

Criticism of common descent is not tolerated in educational establishments, in spite of its gaping scientific inadequacies and the fact that many well-qualified scientists reject it. Alternatives to Darwinism are vigorously suppressed, not least in many Western nations like the UK, where the teaching of evolutionary theory is mandated in schools and 'creationism' is effectively banned and ridiculed both by the establishment and the mass media. This unwillingness to allow an open public debate of evolutionary theory is rather curious, given that its proponents claim to have overwhelming scientific evidence in their favour. We shall develop this debate in later chapters but here's a final thought; In spite of the adulation heaped upon it, Darwinism makes virtually no contribution to modern biological research! Philip S. Skell, Emeritus Evan Pugh Professor at Pennsylvania State University, and a member of the USA's National Academy of Sciences, writes;

... the modern form of Darwin's theory has been raised to its present high status because it's said to be the cornerstone of modern experimental biology. But is that correct? "While the great majority of biologists would probably agree with Theodosius Dobzhansky's dictum that 'nothing in biology makes sense except in the light of evolution', most can conduct their work quite happily without particular reference to evolutionary ideas", [as] A.S. Wilkins, editor of the journal *BioEssays*, wrote in 2000, [adding that] "Evolution would appear to be the indispensable unifying idea and, at the same time, a highly superfluous one."⁷

Image of an emergent spirit

In a spirited attack on the unvarnished molecules-to-Man scenario, British physician and neuroscientist Raymond Tallis sets out his opposition to much modern thinking about the nature of Man in his book *Aping Mankind; Neuromania, Darwinitis and the Misrepresentation of Humanity*.⁸ The book is described on the flyleaf as "a devastating critique ... [that] exposes the exaggerated claims made for the ability of neuroscience and evolutionary theory to explain human consciousness, behaviour, culture and society". This is particularly interesting because Tallis describes himself as "an atheist and also a humanist" but completes the sentence, "I believe that we should develop an image of humanity that is richer and truer to our distinctive nature than that of an exceptionally gifted chimp" [p.10]. Tallis makes it clear that he accepts neo-Darwinian evolution for all life-forms bar one, but underlines Man's distinctiveness in the following terms. "Humans woke up from being organisms to being something quite different: embodied subjects, self-aware and other-aware in a manner and to a degree not approached by other animals. Out of this, a new kind of realm was gradually formed. This, the human world, is materially rooted in the natural world but is quite different from it. It is



7. Skell, Philip. "Why Do We Invoke Darwin?" *The Scientist* <https://www.the-scientist.com/opinion-old/why-do-we-invoke-darwin-48438>

8. Tallis, Raymond. *Aping mankind* (Durham: Acumen Publishing Ltd., 2011) pp. 347-348.

populated by individuals who are not just organisms ... [but] inhabit an acknowledged, shared public sphere, structured and underpinned by an infinity of abstractions, generalizations, customs, practices, norms, laws, institutions facts and artefacts unknown to even the most 'social' of animals" [p.11]. Tallis then spends the rest of his 361 pages presenting his detailed case, arguing that the nature of Man cannot be reduced to neurons and brain-states or explained as a simplistic Darwinian fall-out.

The key term in the last quotation is, of course, the expression 'woke up'. It is this awakening that Tallis believes transformed mankind from being a mere animal to being something else. But as a self-confessed atheist he is, of course, unable to credit this awakening to God and must instead devise some wholly new and naturalistic explanation for it. He does make an effort to find such explanations as we shall see later but his attempts to do so fail and he is forced in his final chapter ("Back to the drawing board") to write;

Okay, you might say, you have told us what is wrong with the biological account of human beings, but isn't this only the beginning, not the end, of the matter? Now tell us what you will put in its place. The truth is that I don't know; but I am sure that no-one else knows either.

Under the heading 'Conclusion' he quotes Jerry Fodor, Emeritus Professor of Philosophy at Rutgers University and an authority on philosophy of mind and cognitive science. Writing on the 'hard problem' of human consciousness, Fodor admits;

We can't, as things stand now, so much as imagine the solution to the hard problem. The revisions of our concepts and theories that imagining a solution will eventually require are likely to be very deep and very unsettling ... there's hardly anything we may not have to cut loose from before the hard problem is through with us.⁹

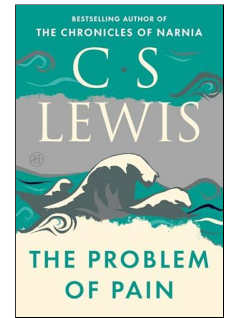
There is, of course, only one *kind* of answer that atheists can offer to the 'hard problem' of human consciousness, namely, that it has somehow *emerged* from the tangle of neurons, synapses, chemical fluxes and electrical impulses we call the brain. This alleged process is often modelled by the idea, fuelled by science fiction writers, that as computers become more complex, powerful and sophisticated they will at some stage acquire consciousness and begin to match the minds of humans. But even if this were to happen (which is highly unlikely) it could only do so as a result of the labours, intelligence and ingenuity of human computer architects and software writers. Emergent consciousness isn't something that can just happen by accident. We will return to the question of human consciousness in a future chapter.

Image of implanted spirit

Even those who side with King David offer two very different scenarios — 'special' (that is, miraculous) creation or theistic evolution. The latter view subscribes to neo-Darwinian evolution and common descent but insists that it was and is directed in some manner by God. In effect, 'theistic evolution' holds that God used the process of evolution to bring mankind into existence (along with all

other life-forms, of course). C. S. Lewis describes one such scenario in the following words;

For long centuries, God perfected the animal form which was to become the vehicle of humanity and the image of Himself. He gave it hands whose thumb could be applied to each of the fingers, and jaws and teeth and throat capable of articulation, and a brain sufficiently complex to execute all of the material motions whereby rational thought is incarnated. The creature may have existed in this state for ages before it became Man; it may even have been clever enough to make things which a modern archaeologist would accept as proof of its humanity. But it was only an animal because all its physical and psychical processes were directed to purely material and natural ends. Then, in the fullness of time, God caused to descend upon this organism ... a new kind of consciousness which could say 'I' and 'me' which could look upon itself as an object which knew God ...¹⁰



At first sight this scenario offers an attractive option since it seems to sidestep the need for any *physical* miracle. It thus embraces the scientific claims of evolutionary theory and yet (by thoughtfully keeping God in the loop) avoids the philosophical bleakness of atheism. However, a little thought shows that the matter is not so simple. The God-implanted consciousness appealed to here would necessarily entail *miraculous* changes in brain structure and function — otherwise there would be nothing to distinguish the humans from their animal progenitors. And by rejecting emergent consciousness and substituting divinely implanted consciousness this narrative necessarily appeals to a non-natural process as the creative step that separates Adam from the apes. A small invisible miracle in the brain might seem easier to swallow than a dramatic dust-to-Adam creation, but once *any* miraculous origin for Man is allowed it is hard to see what size has got to do with it.

But this is not the only problem with the implanted consciousness theory. Firstly, of course, any arguments for or against the scientific validity of common descent apply equally to this idea — at least up to the point of implantation — and we shall look at these arguments in due course. Secondly, the scenario has somehow to account for the complete disappearance of the pre-human race that, in terms of biological development, was indistinguishable from humanity. What with their opposable thumbs and tool-making skills, these pre-humans would have been endowed with huge evolutionary superiority over other animals, yet they died out while less advantaged lower animals survived. Lewis suggests, of course, that fossil remains of these pre-humans would be physically indistinguishable from those of *Homo sapiens* and would be mistaken for humans by palaeontologists. But these *human-looking-but-not-human* fossils should greatly out-number proven human fossils, so where are they hiding? And with such close biological resemblance between humans and pre-humans would there not have been interbreeding to further confuse the picture? Again, we'll look more closely at these things in due course.

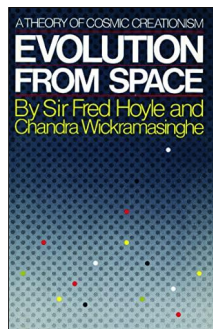
9. Fodor, J. "Headaches have themselves" *London Review of Books* 29 (10) (24 May 2007) pp. 9–10, <https://www.lrb.co.uk/the-paper/v29/n10/jerry-fodor/headaches-have-themselves>.

10. Lewis, C. S. *The Problem of Pain* (New York: Simon & Schuster, 1966) p. 50.

Image of God

The final view of human origins considered here is that Man is made in the image of God as stated in the book of Genesis; “Then God said, ‘Let us make Man in our image, after our likeness. And let them have dominion over the fish of the sea and over the birds of heaven and over the livestock and over all the earth and over every creeping thing that creeps on the face of the earth. So God created Man in his own image, in the image of God he created him; male and female he created them’”.¹¹ Now, I am well aware that many who adopt the ‘implanted image’ view of Man offered by theistic evolution also believe that Man is made in the image of God but I am here distinguishing an implanted image from a created image. That is, I am using the image of God to describe the nature of a specially (that is, miraculously) created being, concerning whom Genesis also says; “the Lord God formed Man from the dust of the ground and breathed into his nostrils the breath of life; and Man became a living being”.¹²

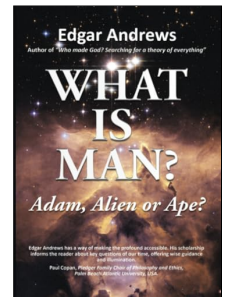
Many years ago I appeared in the British late-night TV magazine program ‘Newsnight’ along with the naturalist and TV presenter David (now Sir David) Attenborough and astronomer Chandra Wickramasinghe, currently Professor and Director of the Buckingham Centre for Astrobiology at the University of Buckingham, UK. Chandra had recently co-authored a book with astrophysicist Sir Fred Hoyle entitled *Evolution from Space*¹³ and the discussion centred on this book’s proposal that life arrived on earth from space (a process known as ‘panspermia’). I was arguing for the creation of life on earth by God, advancing as evidence the immense information-content of living things. David Attenborough, a champion of common descent, asked me scornfully if I believed that God took a handful of mud and fashioned it into a man. I didn’t get the chance to answer because the presenter Jon Snow broke in at that point. But what I would have said in reply to David’s question was; ‘But isn’t that exactly what macro-evolution teaches, except that it took 4000 million years to happen by random mutations?’¹⁴



Looked at in this way, I suggest, all our explanations call for miracles of one kind or another, whether we are evolutionists or creationists. This is not perhaps as obvious as it should be, because the evolutionary narrative claims the support of plausible natural processes to account for the transformation of mud into a man, whereas *by definition* special creation can propose no such processes. But in *Who Made God?* I showed that the processes on which macro-evolution relies are nowhere near as plausible as is claimed and, in the case of the origin of life itself, are actually non-existent.¹⁵

Doesn’t this mean, however, that arguments in favour of special creation are intrinsically negative, being limited to rebutting the positive claims of evolution? My answer is ‘no’. What it means is that the plausibility of creation scenarios rest on a much broader foundation, namely, the totality of creative power that must be attributed to God if, indeed, he exists. For example, we shall see in chapter 3 that the origin of the universe is only explicable logically in terms of the creative activity of a non-material Creator.

And if we take *that* concept on-board then the special creation of Man with his ‘God-like’ attributes should present no difficulty to the rational mind, even though we can have no understanding of the miraculous processes involved. In a further chapter we shall explore the whole question of special creation and the *imago dei* (the image of God in Man).¹⁶



Conclusion

Each of these four theories of human origin presents thinking people with significant difficulties and it is the aim of this book to examine the evidence for and against each of them. But this will be no narrow enquiry consisting of a simple expansion of the points raised in this chapter. We shall, rather, find it necessary to range widely over science and philosophy, space and time, history and thought — but always I trust in a manner comprehensible to the lay reader. So fasten your seat belts and hold tight!

15. Andrews, Edgar. *Who made God? Searching for a theory of everything* (Darlington UK: EP Books, 2009) pp. 198-199.

16. “Image of God” *Wikipedia* https://en.wikipedia.org/wiki/Image_of_God

11. Genesis 1:26–27, ESV

12. Genesis 2:7

13. Hoyle, F. and Wickramasinghe, C. *Evolution from Space*. (London: J.M. Dent, 1981).

14. “Timeline of the evolutionary history of life” *Wikipedia* https://en.wikipedia.org/wiki/Timeline_of_the_evolutionary_history_of_life

References

Pope, Alexander. *An Essay on Man*, Epistle II.

Gray, Robert H. “The Fermi Paradox Is Not Fermi’s, and It Is Not a Paradox” *Scientific American*, <https://blogs.scientificamerican.com/guest-blog/the-fermi-paradox-is-not-fermi-s-and-it-is-not-a-paradox/>, published January 29, 2016, accessed February 4, 2022.

Berardinelli, James. “Review of *The Matrix*” *ReelViews*, <https://www.reelviews.net/reelviews/matrix-the>, published March 31, 1999, accessed February 4, 2022.

Moody, Oliver. “Think big – your brain can store 4.7 billion books” *The London Times* newspaper, 22 January 2016, p. 1,

<https://www.thetimes.co.uk/article/think-big-your-brain-can-store-47-billion-books-3z7wx3fqwgj>, accessed February 4, 2022.

“Memory Capacity of Brain Is 10 Times More than Previously Thought” *Salk News* <https://www.salk.edu/news-release/memory-capacity-of-brain-is-10-times-more-than-previously-thought/>, published January 20, 2016, accessed February 4, 2022.

Andrews, Edgar. *Who made God? Searching for a theory of everything*. (Darlington, UK: EP Books, 2009).

Skell, Philip. "Why Do We Invoke Darwin?" *The Scientist* <https://www.the-scientist.com/opinion-old/why-do-we-invoke-darwin-48438>, published August 28, 2005, accessed February 4, 2022.

Tallis, Raymond. *Aping mankind* (Durham: Acumen Publishing Ltd., 2011) pp. 347–348.

Fodor, J. "Headaches have themselves" *London Review of Books* 29 (10) (24 May 2007) pp. 9–10, <https://www.lrb.co.uk/the-paper/v29/n10/jerry-fodor/headaches-have-themselves>, accessed February 4, 2022.

Lewis, C. S. *The Problem of Pain* (New York: Simon & Schuster, 1966) p. 50.

Hoyle, F. and Wickramasinghe, C. *Evolution from Space*. (London: J.M. Dent, 1981).

"Timeline of the evolutionary history of life" *Wikipedia* https://en.wikipedia.org/wiki/Timeline_of_the_evolutionary_history_of_life, accessed February 4, 2022.

"Image of God" *Wikipedia* https://en.wikipedia.org/wiki/Image_of_God, accessed February 4, 2022.