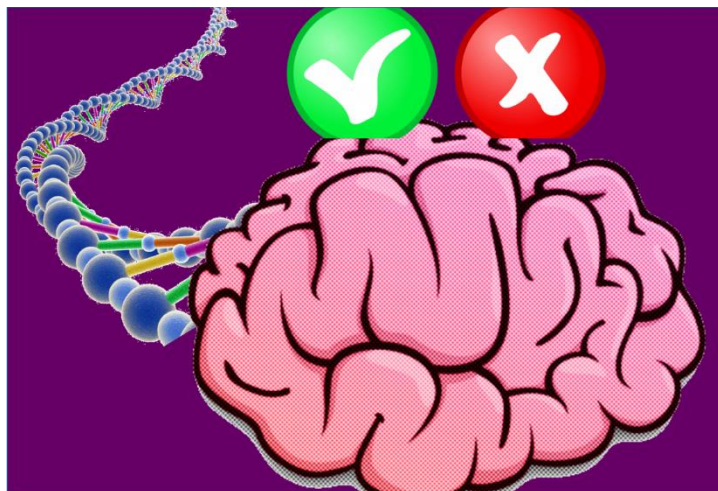


Exceptionally Human

Stephen Mitchell

Nov 1, 2022

Email: Jesus.inHistandS@gmail.com



This post will discuss the idea that humans were created by God in His image and as such are inherently valuable. A number of recent scientific articles will be given that relate to this. If God has created mankind and designed us to be in relationship to Him, then this explains our sense of right and wrong as these are related to God. It gives us both purpose and responsibility.

Who are humans? Are they accidents or purposed beings? Consider two views of humans:

1. Humans are a product of blind naturalistic evolution and thus of no greater intrinsic value than an ape, or a cow or even a mosquito.
 - Largely a modern view in the west, although arguably having similarity to aspects of the re-incarnation ideas of Hinduism.
 - Naturalism is the belief that everything arises from natural properties and causes and nothing else exists or acts in our world. This philosophy is consistent with unguided blind processes.
2. Humans are distinct and of greater value than other creatures.
 - This view is present in all civilizations influenced by Judeo-Christian faiths and in most other cultures around the world.

Taken to extremes, both views have problems. Consider the first view. From a purely naturalistic position, neither humans nor animals are of any particular value. There is no higher purpose. Killing or any other action against animals or humans may be inconvenient but never necessarily “wrong”, because “wrong” is just a cultural artifact. If humans are destroyed, so what?

In his blog on “*Human Exceptionalism*”, atheist Tom Murphy, expresses his view of our significance this way:

“By almost any physical measure in the universe, humans are insignificant: mere specks on a larger speck moving around a luminous speck within a smudge of a galaxy among many billions of other smudges.”

If we have no significance, then how we choose to act to each other is also insignificant. The naturalist's predicament reminds me of a driving problem. Imagine driving up a car up a steep hill. You have to push on the accelerator hard to climb the hill. On the other hand, you have to recognize that at the top is a sharp precipice that you don't want to speed over. You can push the argument that we are just humans who evolved a subjective sense of right and wrong, but what makes that particular right or wrong significant? If right and wrong are all subjective, then how can you argue that it is really wrong for someone to cheat you or steal from you. Why does the greater good triumph over an individual's good? We may in general desire that people do well or that earth's life flourish, but what makes that good? If we will all die and disappear forever, why should I not get what I want? The greater good may be bad for me. If we have evolved some morals that help preserve the species, why should that really overrule what is best for or desired by the individual, even if what the individual wants would hurt someone else?

Imagine a scenario...

An atheist, call him Bob, learns in a discussion that a person who he is talking to plans to take some action that will result in a number of deaths in India. Bob is rightfully offended by this and wants to use consistent logic to argue the person out of it. He could argue that such an act would be illegal, but societal rules encoded in law are not necessarily objectively right or wrong. Our naturalist, Bob will not be personally impacted either way, so he cannot argue that he is personally damaged by this act.

Would it be wrong because the loss of lives would hurt the world in some way? The loss of lives over there might actually make more space and use less of the earth's resources. What if the human loss of life would save animal lives? Maybe the loss of a particular set of humans would ultimately preserve some species. Would that be "right" or "wrong"? Does it matter how they die? Why? Is the amount of pain or pleasure involved a measure of right and wrong?

If right and wrong is some sort of social construct, is it just optional? Can an individual opt out? Bob can argue that he is personally offended by killing but so what? He can argue that society has evolved standards that make such acts unacceptable... so what? It might cause society to degenerate into chaos... so what? Humans will all die eventually and humanity will die. What difference does it make when or how they die? If we are a chance occurrence in a chance universe, it is more logical that individuals make the choices that will give them happiness and long life. If that preserves animals or other people, that is good, but if not, ultimately it makes no difference.

I do not at all want to accuse atheists or naturalists of believing this or at least of acting consistent with the sense that wrong actions are insignificant. Humans have an inherent sense of right and wrong. Culture impacts this such that it is expressed differently in different cultures but basic values remain. No culture believes that it is right to harm those we love. No culture believes it is right for others to cheat loved ones or seek to damage us for no cause. When caught doing something wrong, we all argue that our behavior is actually good because of some exception. C.S. Lewis described this wonderfully in his book *"Mere Christianity"*. Atheists in general live as though right and wrong exist. This means that they are not consistent with the ultimate end of naturalistic philosophy. If we are just accidents, then we should just live for ourselves. Certainly, if they see someone else living consistent with naturalism, they would have no justification to criticize them.

What kind of naturalistic explanation might be given for the human sense of right and wrong? The New York Times published a book review by Nicholas Wade (2006) with this title: *"An Evolutionary Theory of*

Right and Wrong". Reporting on work by Marc D. Hauser, a Harvard biologist, he tries to explain the fact that people are indeed born with an innate moral compass. Hauser argues that "people are born with a moral grammar wired into their neural circuits by evolution". Wade writes:

The proposal, if true, would have far-reaching consequences. It implies that parents and teachers are not teaching children the rules of correct behavior from scratch but are, at best, giving shape to an innate behavior. And it suggests that religions are not the source of moral codes but, rather, social enforcers of instinctive moral behavior.

Hauser proposes that these moral codes were favored because social living required boundaries or constraints and groups with such were favored. This explanation does have a couple of problems. One is that it really doesn't fit the modern understanding of how genetic code is developed by evolution.

Wade notes:

Dr. Hauser believes that the moral grammar may have evolved through the evolutionary mechanism known as group selection. A group bound by altruism toward its members and rigorous discouragement of cheaters would be more likely to prevail over a less cohesive society, so genes for moral grammar would become more common. Many evolutionary biologists frown on the idea of group selection, noting that genes cannot become more frequent unless they benefit the individual who carries them, and a person who contributes altruistically to people not related to him will reduce his own fitness and leave fewer offspring.

As of now, group selection seems to be a mechanism that is required to explain important characteristics of life, such as altruism and moral standards but it is difficult to explain with hard evidence for how it works genetically.

A second issue with this explanation for right and wrong is that it makes it simply a social construct to help the society survive. It is not objectively true. Is this really an adequate explanation? Our sense of right and wrong sometimes works against ourself and even our own family or group. Perhaps it often benefits humans as a whole, but this certainly is not the driver.

How does the Bible rate humans?

How about the view that humans are exceptional and of more value than animals? Taken in isolation and acted on with rigorous consistency, this would mean that it really would not be wrong to treat animals to great cruelty in order to make some human's life a bit easier. No one argues for this. Nor is this the position of the Bible. The Bible does consider human life as precious and of greater value than animal life, but it values animals as well. Here are some passages that show the special position held by mankind:

Genesis says man was created in the "*image of God*" (Gen. 1:26-27). Theologians have written volumes on what this means. The psalmist considered man "*a little lower than the angels*" (Psalms 8:4-5). Jesus spoke as if it was obvious that humans are more valuable than the birds of the air (Mt. 6:26). Animals can be killed for food. (Deuteronomy 14:4-5) That makes sense, as our teeth are omnivore teeth and that means we are designed to include meat in our diet. The Old Testament sacrifice system proved a way to worship God and was a picture of the coming sacrifice of Jesus for all mankind. We have no

indication in the Bible that animals that die now will come back to exist for eternity, but we do have that promise for mankind.

The view that the first humans were created in the image of God is a declaration that mankind holds a unique position of value. Each human retains a portion of God's image and this is what gives humans their high value from a Judeo-Christian perspective. The Bible claims that this image is marred because of man's rebellion but nevertheless, each human retains value due to that potential connection to God. Theologically, the Bible portrays humans alone as designed for a personal relationship with their Creator. This view of humanity gives value and dignity to every human regardless of their economic state, intelligence or physical beauty.

How does the Bible rate animals?

The Bible does not promote cruelty to animals or the planet. It places us in a position of stewardship. God, as the rightful owner has given us the responsibility of caring for his creation. We have woefully failed in this respect as we have failed against our fellow humans and our God. As God's representatives on Earth, we care on His behalf and He indeed cares about His creation.

- God watches over birds of the air and cares about them (Mt. 6:26). By extrapolation, He cares for all wildlife.
- God owns and watches over all wildlife *"For every beast of the forest is mine, the cattle on a thousand hills. I know all the birds of the hills, and all that moves in the field is mine."* Psalm 50:10-11 (ESV)
- *"A righteous man cares for the needs of his animal, but the kindest acts of the wicked are cruel."* Proverbs 12:10 (NIV) Who is this righteous man's animal? This question is not unlike a question asked Jesus: who is my neighbor? Jesus' answer through the story of the Good Samaritan was that our neighbor is basically anyone who needs our help.
- Jews did not eat the blood of animals because it represented life and all life is a precious gift from God. (Leviticus 17:10-12)

What do recent thinking and scientific discoveries tell us about who we are?

Not surprising that science expends a lot of effort learning about humans. Has this made us more exceptional or less? Certainly, our biology shares much with the animal kingdoms. Has science discovered that we are simply an advanced ape that appears extraordinary because all of our nearest relatives are extinct? A 2013 article by Gregg Henriques in Psychology Today (<https://www.psychologytoday.com/us/blog/theory-knowledge/201301/human-exceptionalism>) considered human exceptionalism from a naturalistic perspective. It considered several arguments that have been used for why we should place a higher value on human life. For instance, it was believed that animals don't think, don't feel pain or plan ahead. Is this the case? Clearly humans are radically different in terms of how they think, feel and communicate. However, the more we learn about the animal kingdom, the more we learn that creatures have greater capacities for thought and emotion than previously believed. It is hard to know how far this extends into animal life. Naturalistically, it is hard to use this as a valid reason to make human's special. Interestingly, although recognizing that the capacities of animals are greater than once believed, he says,

“However, look around and observe the behaviors of people in relationship to other animals. The claim that people are just one kind of animal among many and that humans are different from dogs just as dogs are different from cats does not hold up to honest scrutiny. Humans engage in a whole different class of behaviors. Humans are as different from other animals as animals are different from plants. Whether it is writing a blog, composing a sonnet, leading a revolution, attending a class, building a computer, and on and on, it is an empirical fact that human behavior exhibits a whole separate dimension of complexity. To deny this or to claim that this observation is only based on species wishful thinking lacks intellectual integrity.”


Jeff Sebo (2022) discussed this further in his essay, “Against human exceptionalism” and as the title suggests, concludes that *“If anything, we increasingly have grounds for prioritizing nonhuman animals.”*

Scientists nor theologians have consensus on what it means to be human, but modern humans remain distinct from all of the animal kingdom. When and how that arose is a subject of much debate. I considered this in more detail here: <https://jesusinhistoryandscience.com/?p=2980>


In this and the next section, I will highlight a series of articles from the last few years that show how the science of humans is developing. Perhaps by looking at these studies, we will see what science is revealing and understand a bit more about who humans are and how we relate to the animal kingdom and also to other hominids. With this, then we can think again about where our ideas of right and wrong come from and how this relates.

Recent findings on human biology:

Humans are marvels and our minds are certainly key in this. In the forward to “Discovering the Brain”, Ackerman wrote, *“The brain is the last and grandest biological frontier, the most complex thing we have yet discovered in our universe. It contains hundreds of billions of cells interlinked through trillions of connections.”* Scientific studies of the human brain have bounced around a bit in terms of the understanding of how to compare the human brain with those from the animal kingdoms. Some studies confidently proclaim that the humans are simply big-brained apes while others show intriguing clues that the human brain is fundamentally different than any other. I am not a geneticist or even a biologist and certainly have limitations in assessing the technical aspects of the reports, but there are implications that impact non-specialists and I can share my ideas on what is reported. Here is an assortment of papers and discovery announcements that show some of the newer findings.

1.  **National Library of Medicine**
National Center for Biotechnology Information

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 **In the Light of Evolution: Volume VI: Brain and Behavior.** [< Prev](#) [Next >](#)

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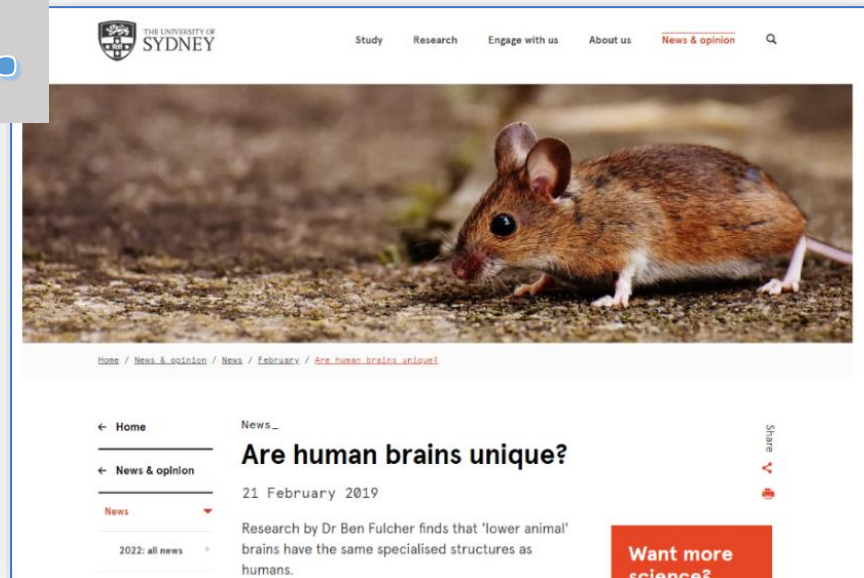
8 The Remarkable, Yet Not Extraordinary, Human Brain as a Scaled-Up Primate Brain and Its Associated Cost

SUZANA HERCULANO-HOUZEL.

First is a 2013 study that demonstrates that in many ways, the human brain can be considered “a scaled-up primate brain”. Several of the older classic views of how the human brain is unique from other animal brains were proven to be invalid. The human brain is not the largest brain. It is not even the largest in relative brain size. There is no distinct step change that separates the human brain from all other animals in terms of the number of neurons or even the relative number of neurons. The author argues that our brain does not come at an extreme cost in terms of energy usage. However, perhaps when compared to larger primates, it does have a large number of neurons, a large relative size and a relatively large energy consumption. The author considers that the suggestion that learning to cook food and thus eat more nutritiously may have contributed to our ability to develop human brains for more advanced cognitive activities.

Herculano-Houzel, S., 2013, “The Remarkable, Yet Not Extraordinary, Human Brain as a Scaled-Up Primate Brain and Its Associated Cost. In: National Academy of Sciences; Striedter GF, Avise JC, Ayala FJ, editors. In the Light of Evolution: Volume VI: Brain and Behavior. Washington (DC): National Academies Press (US); 2013 Jan 25. 8. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK207181/>

2.



This 2019 study makes the case that the basic organization of mammal brains is alike. Similarities are clearly recognizable from mice to humans. Regardless of the mechanisms involved by which they were formed, common design elements are clear.

““Lots of research has focused on how the brain’s circuits are specialised for different functions in the human brain — for example, how the properties of visual processing areas differ from brain areas that integrate diverse types of information,” said Dr Ben Fulcher, in the School of Physics at the University of Sydney, lead author of the study.

“This was thought to be something that might be unique to humans, following the large expansion of the human cortex, that may therefore be responsible for our distinct cognitive capabilities. By contrast, the brain’s cellular properties in animals like mice were thought to be relatively uniform,” Dr Fulcher said.”

“While the dominant structure was surprisingly similar, we also found key interspecies differences, with a weaker overall variation in mouse compared to human,” said Dr Fulcher. “This suggests that while mouse and human brains may share a common organisational structure, the degree of specialisation differs between the two species.”

Understanding how biological brains process information is crucial to refining the artificial intelligence algorithms that have an ever-increasing role in our lives.”

This suggests that once again our brains, supposedly derived from chance processes will help design new technologies in the future.

Fulcher, B and Blake, E, 2019, “Are human brains unique?”, [Are human brains unique? - The University of Sydney](#)

3.

What is it about the human brain that makes us smarter than other animals? New research gives intriguing answer

Published: May 27, 2022 9.10am EDT

New research has compared the brains of chimps and macaques with those of humans. Cheryl/Ramalho/Shutterstock

“How information is processed also differs between humans and other primates, which may explain why our species’ cognitive abilities are so superior.”

“The prefrontal cortex has also undergone significant expansion with evolution. When we examined data from chimpanzee brains, we found that the more a region of the human brain had expanded during evolution in size relative to its counterpart in the chimp, the more this region relied on synergy.”

Though the brain hardware is similarly designed in mammals, still differences are real. Perhaps it is a software issue. In fact, this study highlights that the human brain seems to process differently than other primates, enabling more “synergistic processing” and hence more complex thought processes.

Stamatakis, EA, et al., 2022, “What is it about the human brain that makes us smarter than other animals? New research gives intriguing answer”, <https://theconversation.com/what-is-it-about-the-human-brain-that-makes-us-smarter-than-other-animals-new-research-gives-intriguing-answer-183848>

4.

The screenshot shows the ScienceDaily website interface. At the top, the logo "ScienceDaily" is displayed with the tagline "Your source for the latest research news". Navigation tabs include "Health", "Tech", "Enviro", "Society", and "Quirky". The main article title is "Brain cell differences could be key to learning in humans and AI", with a sub-headline "from research organizations". The article details include:

- Date: October 6, 2021
- Source: Imperial College London
- Summary: Researchers have found that variability between brain cells might speed up learning and improve the performance of the brain and future AI.

If life is the result of design by a mind capable of creating the marvels of our universe, then it is not surprising that man continues to learn better engineering and technological concepts from it. If our minds are the cobbled results of set of accidental interactions, then should we learn new answers from it? Perhaps not so much. This report describes a new concept for the neurons of our brain. They may be designed in ways that make our brains better in ways that artificial intelligence programs can only dream of today. Perhaps we can learn from our designed brains.

“The new study found that by tweaking the electrical properties of individual cells in simulations of brain networks, the networks learned faster than simulations with identical cells. They also found that the networks needed fewer of the tweaked cells to get the same results, and that the method is less energy intensive than models with identical cells. The authors say that their findings could teach us about why our brains are so good at learning, and might also help us to build better artificially intelligent systems, such as digital assistants that can recognize voices and faces, or self-driving car technology.

The brain is made up of billions of cells called neurons, which are connected by vast 'neural networks' that allow us to learn about the world. Neurons are like snowflakes: they look the same from a distance but on further inspection it's clear that no two are exactly alike.

By contrast, each cell in an artificial neural network -- the technology on which AI is based -- is identical, with only their connectivity varying. Despite the speed at which

AI technology is advancing, their neural networks do not learn as accurately or quickly as the human brain -- and the researchers wondered if their lack of cell variability might be a culprit.

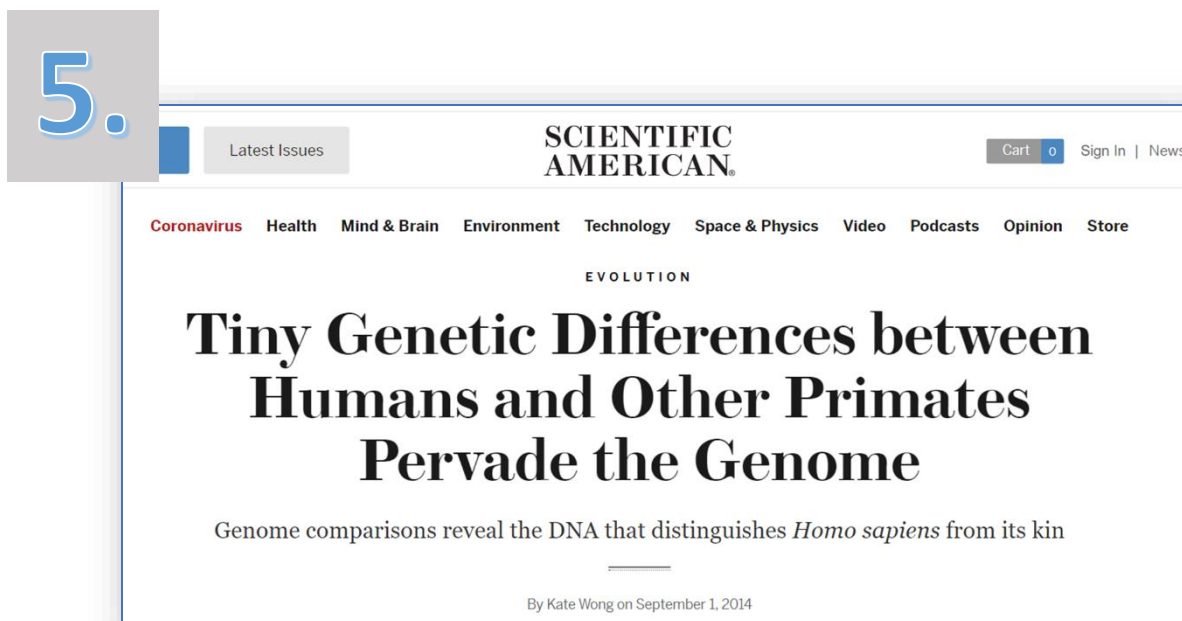
They set out to study whether emulating the brain by varying neural network cell properties could boost learning in AI. They found that the variability in the cells improved their learning and reduced energy consumption.”

ScienceDaily, 2021, “*Brain cell differences could be key to learning in humans and AI*”

[https://www.sciencedaily.com/releases/2021/10/211006112626.htm#:~:text=Researchers%20have%20found%20that%20variability,the%20brain%20and%20future%20AI.&text=Imperial%20researchers%20have%20found%20that,future%20artificial%20intelligence%20\(AI\).](https://www.sciencedaily.com/releases/2021/10/211006112626.htm#:~:text=Researchers%20have%20found%20that%20variability,the%20brain%20and%20future%20AI.&text=Imperial%20researchers%20have%20found%20that,future%20artificial%20intelligence%20(AI).)

Actual research article:

Perez-Nieves, N, et al., “*Neural heterogeneity promotes robust learning.*” *Nature Communications*, 2021; 12 (1) DOI: [10.1038/s41467-021-26022-3](https://doi.org/10.1038/s41467-021-26022-3)



There has been an explosion of papers mapping the genomes of different species. Some papers highlight the similarity of the genetic coding between different species, including similarities between humans and other species, particularly primates. Other papers point out differences between humans and other primates. Differences are found at several levels. Even small differences can be important. Just like two text messages can be 99% the same, even a few letters changed can radically change the meaning.

For example, comparing the 33 percent of our genome that codes for proteins with our relatives' genomes reveals that although the sum total of our genetic differences is small, the individual differences pervade the genome, affecting each of our chromosomes in numerous ways.

Wong, K, 2014, "Tiny Genetic Differences between Humans and Other Primates Pervade the Genome", *Scientific American*, <https://www.scientificamerican.com/article/tiny-genetic-differences-between-humans-and-other-primates-pervade-the-genome/> originally published with the title "The 1 Percent Difference" in *Scientific American* 311, 3, 100 (September 2014)

6.

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Science News

from research organizations

What makes the human brain different? Study reveals clues

Date: August 25, 2022

Source: Yale University

Summary: What makes the human brain distinct from that of all other animals -- including even our closest primate relatives? In an analysis of cell types in the prefrontal cortex of four primate species, researchers identified species-specific -- particularly human-specific -- features, they report.

Every species is different, so no one should be surprised that there are ways in which our brains are unique. If we are to think of humans as exceptional, perhaps an obvious place to look would be our brain. This article reports that a study has found brain characteristics of humans that are distinct from other primates. This would be expected if we are special creation, regardless of what processes were used in our creation or the timing that was involved. This study reports that humans have unique cells in the “*dorsolateral prefrontal cortex (dlPFC), a brain region that is unique to primates and essential for higher-order cognition*”. The suggestion is that this may affect the brain’s immune behavior but it seems that at this point, we don’t really know what role these particular cells play.

ScienceDaily, 2022, “What makes the human brain different? Study reveals clues”, [What makes the human brain different? Study reveals clues -- ScienceDaily](#)

Actual research article:

Shaojie M, et al., 2022, “Molecular and cellular evolution of the primate dorsolateral prefrontal cortex”. *Science*, 2022; DOI: 10.1126/science.abo7257

7.

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Human Neurons are Strikingly Different from Those of Other Mammals, Study Says

Nov 11, 2021 by News Staff / Source

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Admittedly, the human brain is not a strange and totally unique organ that has no equivalent in the animal kingdom. Still, it does have finely-tuned unique characteristics that combine together to give us the unique ability to play the role His creator chose for us. Our neurons are different than those of animals. Scientists were surprised to find that human neurons apparently reverse the general trend in the animal kingdom. What is the impact of this difference? The article suggests one option:

“They believe this lower density may have evolved as a way to expend less energy on pumping ions, which allows the brain to use that energy for something else, like creating more complicated synaptic connections between neurons or firing action potentials at a higher rate.”

An *MIT News* article reports:

“If the brain can save energy by reducing the density of ion channels, it can spend that energy on other neuronal or circuit processes,” says Mark Harnett, an associate professor of brain and cognitive sciences, a member of MIT’s McGovern Institute for Brain Research, and the senior author of the study.

Harnett and his colleagues analyzed neurons from 10 different mammals, the most extensive electrophysiological study of its kind, and identified a “building plan” that holds true for every species they looked at — except for humans. They found that as the size of neurons increases, the density of channels found in the neurons also increases.

However, human neurons proved to be a striking exception to this rule.

“Previous comparative studies established that the human brain is built like other mammalian brains, so we were surprised to find strong evidence that human neurons are special,” says former MIT graduate student Lou Beaulieu-Laroche.” (Trafton, 2021)

A brain designed to handle far more elaborate and intense mental activities has to be different and human brains are that.

Sci.News, 2021, “Human Neurons are Strikingly Different from Those of Other Mammals, Study Says”
[Human Neurons are Strikingly Different from Those of Other Mammals, Study Says | Sci.News](#)

Trafton, A., 2021, “Study finds a striking difference between neurons of humans and other mammals”.
MIT News <https://news.mit.edu/2021/neurons-humans-mammals-1110#:~:text=and%20other%20mammals-,Study%20finds%20a%20striking%20difference%20between%20neurons%20of%20humans%20and,energy%20to%20othe%20neural%20processes.>

Actual research article:

Beaulieu-Laroche, L., *et al.* Allometric rules for mammalian cortical layer 5 neuron biophysics. *Nature*, published online November 10, 2021; doi: 10.1038/s41586-021-04072-3

8.

SCI NEWS

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G-Quadruplexes are Fundamental, Functional Elements of Human Genome, Researchers Say

Jul 6, 2021 by News Staff / Source

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Most people are familiar with the double helix DNA structure. This study shows that 1% of human DNA is actually folded into what they refer to as “four-stranded ‘quadruple helix’, DNA structures called G-quadruplexes (G4s).” Although much more remains to be learned, these are found in functional portions of the human genome. It is also not clear from the study that other primates or ancient hominids did not also have G4s, but it may be that this is a uniquely human characteristic.

Sci.News, 2021, “G-Quadruplexes are Fundamental, Functional Elements of Human Genome, Researchers Say” [G-Quadruplexes are Fundamental, Functional Elements of Human Genome, Researchers Say | Sci.News](#)

Actual research article:

Guiblet, WM, *et al.* 2021. Selection and thermostability suggest G-quadruplexes are novel functional elements of the human genome. *Genome Res* 31: 1136-1149; doi: 10.1101/gr.269589.120

The image shows a screenshot of a SciNews website article. At the top left, there is a large blue number '9.' in a grey box. The website header includes a search bar, the SciNews logo (with 'E', 'N', 'C' in a molecular structure), and a 'Top Headlines' section with the text 'Neuroscientists May H' and 'Quantum Processes in'. Below the header is a navigation menu with categories: HOME, ASTRONOMY, SPACE EXPLORATION, ARCHAEOLOGY, PALEONTOLOGY, BIOLOGY, PHYSICS, MEDICINE, GENETICS, G. The main article title is 'Neuroscientists May Have Found Signs of Quantum Processes in Human Brain' in large black font. Below the title is the date 'Oct 20, 2022 by News Staff / Source' and navigation links '« Previous | Next »'. To the right of the article is an advertisement with the text 'Treatment with quick easier reco our patient'.

Here is an interesting report. Could it be that the human brain made a literal quantum leap beyond other animals? This article reports:

“Electrophysiological potentials like the heartbeat evoked potentials are normally not detectable with MRI and the scientists believe they could only observe them because the nuclear proton spins in the brain were entangled.”

“If entanglement is the only possible explanation here then that would mean that brain processes must have interacted with the nuclear spins, mediating the entanglement between the nuclear spins,” he added. “As a result, we can deduce that those brain functions must be quantum.”

“Because these brain functions were also correlated to short-term memory performance and conscious awareness, it is likely that those quantum processes are an important part of our cognitive and conscious brain functions.”

“Quantum brain processes could explain why we can still outperform supercomputers when it comes to unforeseen circumstances, decision making, or learning something new,” Dr. Kerskens said.

This study has not evaluated other animals, so we cannot really confirm that this is unique to humans, but that is possible. It does show that human minds are seriously advanced, complex and well designed.

Sci.News, 2022, “Neuroscientists May Have Found Signs of Quantum Processes in Human Brain”

<https://www.sci.news/othersciences/neuroscience/quantum-brain-11315.html>

Actual research article:

Kerskens, C and Pérez, DL, 2022. Experimental indications of non-classical brain functions. *J. Phys. Commun* 6, Christian Matthias Kerskens & David López. 105001; doi: 10.1088/2399-6528/ac94be

I have provided 9 different articles that highlight that the understanding of both the human mind and our genetics is developing rapidly. Are we unique? Yes and No. We certainly share many characteristics with animals, especially primates. Many early claims of how humans are unique have proven not to be true (articles 1 and 2). Even so, the human brain does have unique neurons (article 7), and perhaps unique DNA characteristics (articles 5 and 8). Perhaps the human prefrontal cortex permitted more cognitive development (article 3), but additional capacity did not force this to go ahead and appear. We still cannot build a machine that really compares with the human brain (article 4) and we continue to find clues as to why. Human brains are reported to use quantum processes (article 9), but we don't know that this is unique or if it contributes to the "mannishness" of man.

The articles assume humans evolved from lower species. In those studies that report differences, the authors have discovered new characteristics and assume that evolution is the reason. It is not as though they have discovered the mechanism or any particular details of how they evolved. Even if it were true that we have G-Quadruplexes or use quantum processes because they developed from earlier animals, they are still amazing and can easily be understood as the product of design, even if some unknown secondary processes were involved in their origins.

Relationship to other hominids

If humans are exceptional when compared to other living primates, then that leads to lots of questions about how we compare to earlier hominids. From a Christian theological perspective, the Bible does not tell us anything about them. The Bible makes clear claims about the spiritual state of humans. We cannot categorically make assertions about the earlier species.

A few years ago, Reasons to Believe (RTB), a Christian organization that engages in relating faith and science, based on the scientific research available at the time, claimed that humans and Neanderthals did not interbreed, in part because they were not demonstrated to have overlapped in time. Discoveries since that time have changed the picture and RTB has changed its position accordingly. Now all recognize that Homo sapiens originated much earlier, perhaps 200,000 years ago. Geneticists also recognize that Homo sapiens and Neanderthals did interbreed. Recent articles continue to help grow our understanding about this relationship. Science cannot tell us whether or not hominids such as the Neanderthals also had some sort of relationship with God. Let's look at what has been learned more recently.

10.

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Study: Much of Neanderthal-Modern Human Interbreeding Took Place in Near East

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It has been recognized that DNA links humans and Neanderthals for a number of years. This new report that much of the interbreeding took place in the Near East is perhaps surprising. This study used “facial recognition”.

“We know there was interbreeding. Modern Asian populations seem to have more Neanderthal DNA than modern European populations, which is weird — because Neanderthals lived in what is now Europe,” Professor Churchill said.

“That has suggested that Neanderthals interbred with what are now modern humans as our prehistoric ancestors left Africa, but before spreading to Asia.”

“Our goal with this study was to see what additional light we could shed on this by assessing the facial structure of prehistoric humans and Neanderthals.”

“By evaluating facial morphology, we can trace how populations moved and interacted over time,” Professor Ross said.

“And the evidence shows us that the Near East was an important crossroads, both geographically and in the context of human evolution.”

Sci.News, 2022, “Study: Much of Neanderthal-Modern Human Interbreeding Took Place in Near East”, [Study: Much of Neanderthal-Modern Human Interbreeding Took Place in Near East | Sci.News](#)

Actual research article:

Churchill, SE, *et al.* 2022. Midfacial Morphology and Neandertal-Modern Human Interbreeding. *Biology* 11 (8): 1163; doi: 10.3390/biology11081163

11.

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Study: Neanderthals and Homo sapiens Co-Existed in France and Spain for at least 1,400 Years

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A new modeling study by Leiden University and University of Cambridge scientists predicts the appearance of *Homo sapiens* and the **Protoaurignacian culture** in France and northern Spain at 42,269 to 42,653 years ago, and the 'extinction' of the **Châtelperronian culture** and regional Neanderthals at 39,894 to 39,798 and 40,870 to 40,457 years ago, respectively — suggesting a possible overlap of around 1,400 to 2,800 years between these human groups in the region.

Given that the last article proposed that much of the interbreeding took place in the Near East, it is interesting that this article focuses on Europe. Neanderthals as well as humans made tools. It is interesting to speculate on what impact the Neanderthals had on humans and vice versa.

Sci.News, 2022, "Study: Neanderthals and Homo sapiens Co-Existed in France and Spain for at least 1,400 Years" [Study: Neanderthals and Homo sapiens Co-Existed in France and Spain for at least 1,400 Years | Sci.News](#)

Actual research article:

Djakovic et al. 2022. Optimal linear estimation models predict 1400-2900 years of overlap between Homo sapiens and Neandertals prior to their disappearance from France and northern Spain. *Sci Rep* 12, 15000; doi: 10.1038/s41598-022-19162-z

12.



What can we say about the social life of the Neanderthals? This article suggests that it might have had similarities with mountain gorillas. The genome helps to understand how at least one Neanderthal community grew.

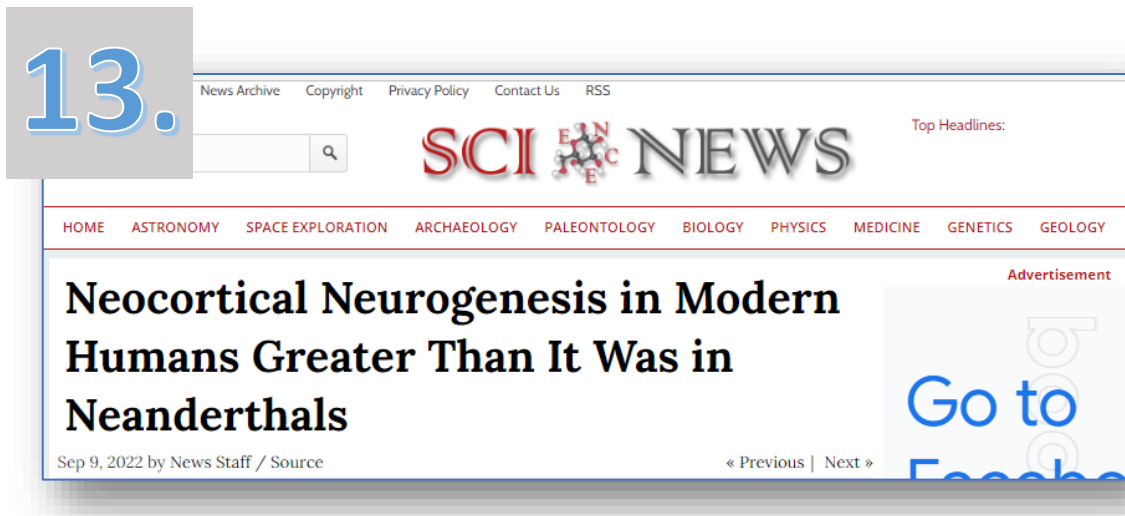
“Up to one-third of these individuals’ genomes had long segments of homozygosity, suggesting that the Chagyrskaya Neanderthals were part of a small community. In addition, the Y-chromosome diversity is an order of magnitude lower than the mitochondrial diversity, a pattern that we found is best explained by female migration between communities. Thus, the genetic data presented here provide a detailed documentation of the social organization of an isolated Neanderthal community at the easternmost extent of their known range.”

While this does give information about the family structure of Neanderthals, the fact that this level of knowledge is news, shows that we are very limited here. Perhaps the reason there is limited evidence of more developed family structure is that it did not exist. Tools, crude burials, and attraction to adornment are found in a number of non-human species. It is not surprising to see them well-developed in Neanderthals.

SciNews, 2022, “Ancient Genomes Provide Insights into Social Organization of Neanderthals”
<https://www.sci.news/othersciences/anthropology/neanderthal-social-organization-11311.html>

Actual research article:

Skov, L., et al. 2022. “Genetic insights into the social organization of Neanderthals”. *Nature* 610, 519-525; doi: 10.1038/s41586-022-05283-y



We saw that human brains are different than other animals. We don't have any Neanderthal brains to examine, especially with modern techniques that act on living brains, but as this study shows, the human brains are different in ways that impact cognition.

In the new research, Dr. Anneline Pinson and her colleagues at the Max Planck Institute of Molecular Cell Biology and Genetics compared genomic sequences from modern humans with Neanderthals and other apes and discovered a unique amino acid substitution encoded in the TKTL1 gene of modern humans.

When placed in organoids or over-expressed in mouse and ferret brains, they found that the human TKTL1 variant (hTKTL1) drove more generation of basal radial glia neuroprogenitors than the archaic variant, which resulted in the proliferation of neocortical neurons.

Sci.News, 2022, "Neocortical Neurogenesis in Modern Humans Greater Than It Was in Neanderthals" <https://www.sci.news/genetics/human-neanderthal-neocortical-neurogenesis-11182.html>

Actual research article:

Pinson, A., et al. 2022. Human TKTL1 implies greater neurogenesis in frontal neocortex of modern humans than Neanderthals. *Science* 377 (6611);doi: 10.1126/science.abl6422

The Bible says nothing about Neanderthals, let alone what their role was, but it does not rule out interbreeding. No one knows exactly what the author of Genesis had in mind when he described the enigmatic Nephilim in Genesis 6. Gregg Davidson, in his book, *“Friend of Science, Friend of Faith”* (2019), suggested that they were possibly Denisovans. What we do know is that the Bible opens the door to interbreeding with non-humans with the Nephilim. I see no reason to justify the belief that humans were so genetically unique that offspring of a union with a hominid such as Neanderthals would necessarily be infertile.

William Lane Craig, in his book, *“In Quest of the Historical Adam”*, proposes that the Neanderthals were image bearers, the seed of Adam. (see my video: <https://jesusinhistoryandscience.com/?p=2980>). That certainly would not be my interpretation but it is a possibility. As noted by Fazale Rana of RTB, at this point, symbolic behavior may not have been part of Neanderthal’s skill set.

(<https://reasons.org/multimedia/fazale-ranas-critique-of-william-lane-craigs-in-quest-of-the-historical-adam>).

What were their capacities? It is logical that they would have been more advanced than the chimps or apes so more advanced behavior would be expected.

Discussion

Science confirms what, in this case, is obvious – humans are different than all in the animal kingdom, though they share many characteristics. Our brains seem to have new and different types of cells with a series of characteristics that come together in order to allow our brains to host the human mind. Human minds have the curious idea there is a way that things ought to be or ought not to be. This sense of right and wrong sometimes aligns with what benefits the individual and sometimes does not. Sometimes it aligns with what benefits human society and sometime it does not.

Humans in the Bible begin with Adam and Eve. They were specially created. Regardless of how figuratively vs literally Genesis 2 is taken, the claim is clear that God designed and created humans for a very special role. Biblically humans are characterized by several distinct features that are absent in all lower forms.

Adam and Eve spoke. There are some communication skills in the animal kingdom, but human language is orders of magnitude beyond. This required both physical and brain development. It has been suggested that it is almost “irreducibly complex” in the sense that it involved multiple changes to be of any particular value (Hobbs 2005). Would this alone make humans of exceptional value? If right and wrong objectively exist, then it places humans with the ability to communicate and teach in a different role than animals. We then have been given the capacity to know what is right, recognized it and thus have the responsibility to act on it.

Adam and Eve had very personal relationships with God. This was their most significant purpose. We are not told the purpose for other animals and there may also be many other purposes for humans, but this is certainly key. I see this as a part of what is referred to in Gen. 1:26 as the “image of God”. The Bible places great value on this image, using this to justify the extreme measure of capital punishment (Genesis 9:5-6). Image bearers theologically are inherently valuable, regardless of their riches, intelligence, or beauty, etc. There are functional aspects to the “image of God” that make humans unique, but the spiritual dimension is a major part of what makes us human. We share spiritual characteristics with God but could not act in the personal role that God has purposed us for without the physical and mental features that enable us to experience the personal relationship aspects. We are body and soul and spirit (I Thessalonians’. 5:23).

The Bible also presents humans as beings that are eternal, though the place of residence for eternity can be different. (John 3:16-17; Matthew 25:46; 2 Thessalonians 1:9; Luke 16:28). Science really cannot address the Biblical model of eternity. This is by definition outside of our time, but is a basic part of Christian theology. If

Jesus was really God (pointer), then eternal life is real. This again is a characteristic that we share with God. Beings that will exist for eternity are of immense value. It does not mean that animals are of no value or are to be dealt with cruelly, but the ultimate sanctity of human life is real.

It is important to realize that the Bible presents humans as fallen. Despite the remnants of God's image that remain in the worst of us, we all are broken. Genesis illustrates this with the murder of Abel in Genesis 4:8. The oldest murder victim recognized by archaeology was in Romania, 33,000 years ago (Kranioti, 2019). Is murder wrong? If it is, then man has clearly been sinful for a long time. Fortunately, recognizing the value that He saw in them, God provided a means of redemption.

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