

**Adam & Eve & Evolution
2023 - Class 5 Manuscript
The Rev John Roberts**

Video link: <https://youtu.be/0LNw6ZUanGo>

For manuscripts or videos of portions of the class from 2017,
visit <https://saintmatthiasoakdale.com/2023aee>



Discussion Questions Link:

<https://saintmatthiasoakdale.com/2023aee>

THIS PORTION – PARTS 1 & 2 – IS FROM 2017

5 mins before: @quote@

@course logo@ Good morning.

And welcome to Saint Matthias Anglican Church, where we seek to worship Jesus Christ, to live in His Truth, and bless others in His name. Today, we are in our final class- Class 5. We've examined history, science, biblical interpretation & theology and this morning we'll conclude with a little more of each.

“Did God make good humans
or naughty monkeys?”

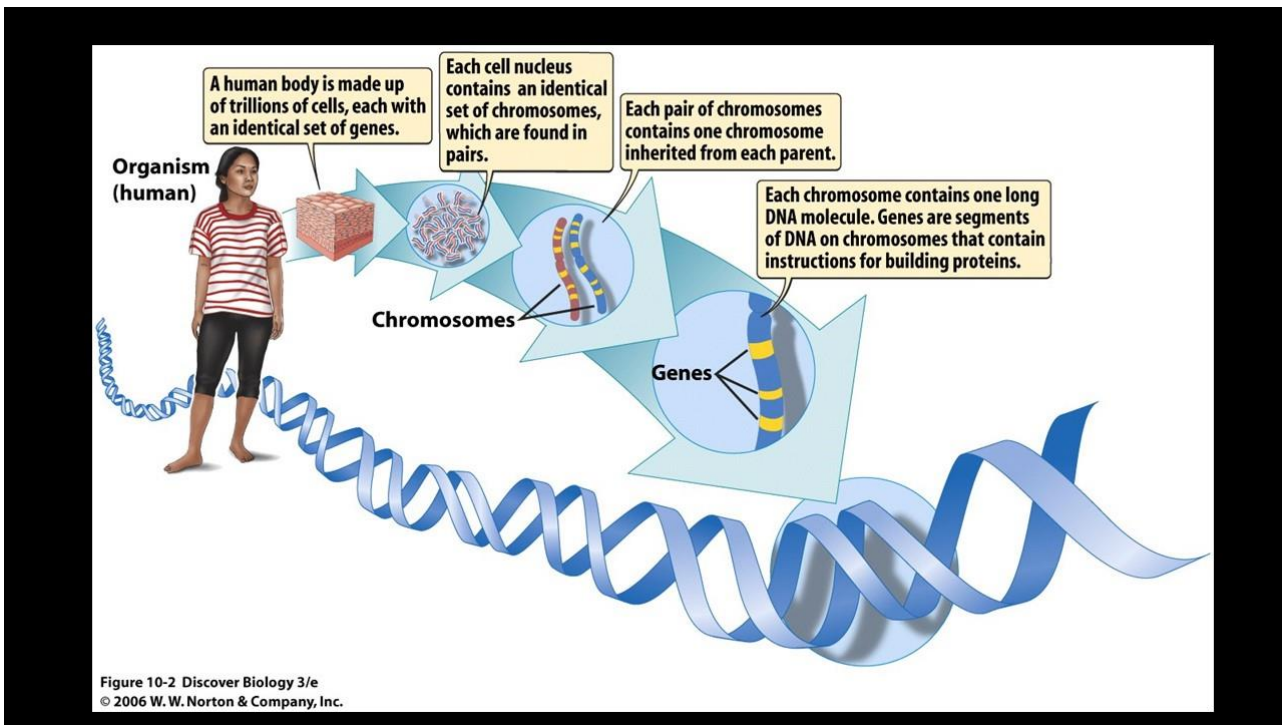
-William T. Cavanaugh & James K. A. Smith

So let's jump in, and begin with our final science section, the Origin of Humans. @title slide@

The Origin of Humans

Are humans qualitatively different from animals? Are you really an altogether different creation from your dog or cat? Are we a unique species? Or just smarter? To some on the naturalistic side, the origin of humans is merely a subset of the origin of species, because they understand humans to be merely the smartest species in the animal kingdom. On the other hand, from a Creationist perspective, humans are unique creatures, specially created by God. And for those in the middle, they might say, “Well, it’s complicated.”

We will begin examining the origin of human by looking at genetics. But in order to make heads or tails of the genetic evidence linking humans and apes, I need to explain some terminology.



@genetic diagram@ And I ran across this chart that is really helpful. So, let's look at it together. A human body (and an ape body) is made up of trillions of cells, and every cell has an identical set of genes; this complete set of genes is also called a "Genome". These genes are contained within a set of chromosomes contained in the nucleus of each cell. These chromosomes come in pairs: one inherited from each parent. So, for example, in the case of a human, we have 23 pairs of chromosomes (*Every one of our cells has the same 23 chromosomes, containing the same set of genes*). But different organisms have different numbers of chromosomes. This is important, or helpful, with closely related species, because it prevents them from procreating. Furthermore, each chromosome contains one long DNA molecule, and genes are segments of that DNA molecule that contain instructions for proteins, which build our physical structure as organisms, cell by cell. And remember, biologically that is what we are: a compilation of cells. Thus, all those crime shows on TV where one stray hair from the perpetrator tells scientists all they need to know: that's because at the most basic level we are a compilation of cells with identical chromosomes, DNA, and genes.

Genetic similarities between humans and apes

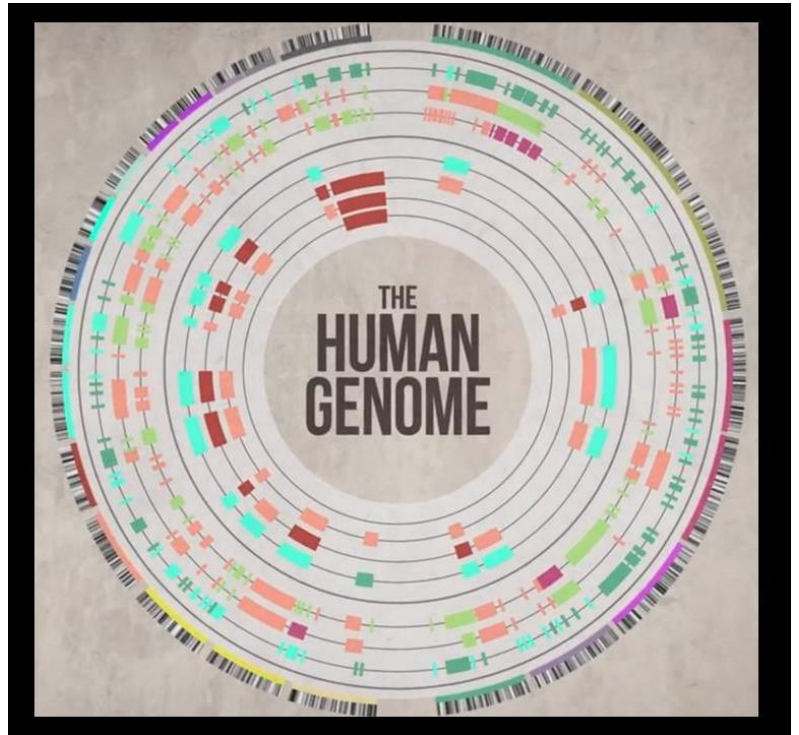
So now we have a little context - a little elementary understanding of genetics - to make sense of the evidence of human origins from the field of genetics. Genetically, there are *many* similarities between humans and apes. **@23-24@** To begin with, as we said, humans have 23

pairs of chromosomes. Well apes have 24. But when scientists look at the human chromosomes, as this diagram shows, the extra human chromosome (chromosome #2) looks like it is actually a combo of 2 of the ape chromosomes joined together, both structurally and by having a matching gene order. In other words, there seems to be very strong evidence of some form of genetic evolution between humans and apes.

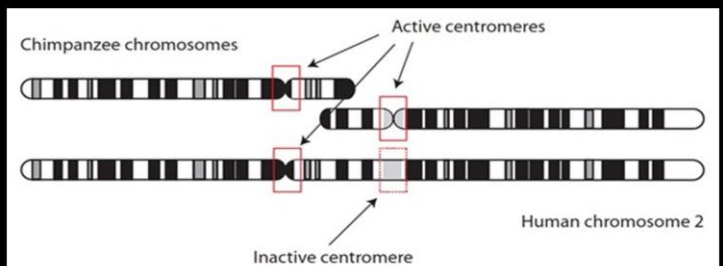
DNA sequence @human genome@

But the genetic similarities do not end there. So each of our cells has genes that contain codes for how our bodies are constructed. Well, by 2005, scientists had determined the complete sequences of the human genome - that is, the pattern and order of our full genetic code - as well as that of the chimpanzee, who are believed to be the apes we descended from. **@DNA Sequence@**

What they discovered is that the human genome contains approximately 3 billion base pairs (or genetic codes), while the chimp genome contains about 2.7 billion. And most of this difference between our genomes is due to either the insertion or deletion of codes, about 5 million of them. The point is that the human genome and the chimp genome are *remarkably similar*. Out of the genes that specifically give (quote) "directions" for how we are constructed, there is a 99.4% match between the human genome and the chimp genome. It's kind of crazy!?



**Humans: 23 chromosomes
Apes: 24 chromosomes**

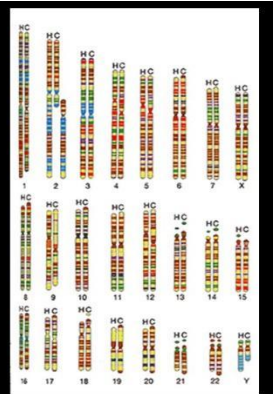


DNA Sequence

Humans: 300 billion base pairs

Chimps: 270 billion base pairs

-99.4% match between genomes



Tracking Genes @Tracking Genes@


As there is a final bit of genetic evidence that supports the idea that we shared a common ancestor with apes about 7 million years ago. Without getting too technical here, this genetic code we've been talking about consists of four code letters (A, G, T, & C). Well, from one generation to the next, this code will have a small number of mutations. Not many: in fact, out of 6 billion code letters, humans average just about 60 mutations from one generation to the next. Well, if common descent is true- assuming that the common ancestor between humans and apes was about 7 million years ago, then we can actually calculate the number of generations over the last 7 million years (about 350,000) and multiply that by 60 mutation per generation. And guess what! This predicted number of DNA mutations over the last 7 million years matches the *actual* number of coding differences between the two species as we know them today within a factor of two. In other words, the DNA *math* seems to affirm a common ancestor.

Paleontology @Paleontology@

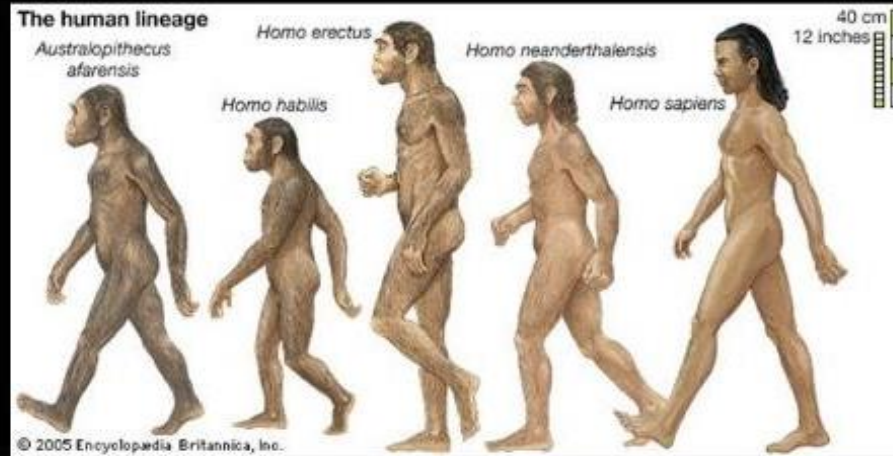
Well, certainly long before we had any ability to analyze genetics, paleontologists were beginning to provide fossil evidence that humans share a common ancestor with apes, and the chimpanzee in particular. And the term paleontologists use for humans and for fossils identified as being in the human lineage is "hominins" (we humans, homo sapiens, are the contemporary hominins. All together there are perhaps a few thousand hominin fossils, most represented by only a few fragments of bone. Furthermore, there are less than a hundred significant hominin fossils dated at more than 200,000 years old, mostly partial skulls. @4 skeletons@ Though there are four, nicknamed Ardi, Lucy, MH1 and Turkana boy, that are

Tracking Genes

- Humans & Chimps common ancestor: 7 million years ago (approx. 350,000 generations)
- Average of 60 mutations per generation
- 60 x 350,000 matches known code differences between Humans & Chimps within a factor of two



Paleontology







Hominins = human lineage

near complete skeletons.

Now the goldmine for paleontologists is to not only find transitional fossils between apes and humans, but for documenting the timing of these transitions, [@Africa's Great Rift@](#) is the Great Rift Valley of northeastern Africa, in modern-day Ethiopia, Kenya, & Tanzania. This is because in the Great Rift Valley we literally have two continental plates that have been in the process of splitting apart for millions of years now. And since it is subject to flooding, animals and hominin have gotten stuck in the mud and their skeletal remains have been preserved.

So let's take a few minutes to review what paleontologists have found in the chronological order they are believed to have existed. By the way, most of this story has only become fully

Africa's Great Rift Valley

 Ardi 4.4 million years old	 Lucy 3.6 million years old	 MH1 1.8 million years old	 Turkana Boy 1.5 million years old
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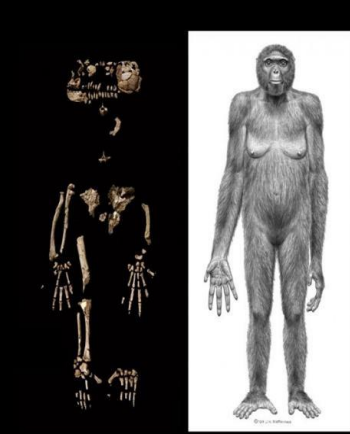
apparent in the past 40-50 years.

@Ardi@ *Ardipithecus ramidus*, nicknamed Ardi, is a hominin species found in the Great Rift Valley in 1994 who lived 4.4 million years ago. Like us, she used only two legs for walking, but she was adapted to live both on the ground and in trees, due to her sideways big toe that served well in tree climbing.

@Lucy@ Lucy, or *Australopithecus afarensis*, is thought to have lived 3.6 million years ago, and by then the big toe was not splayed outward like Ardi's. Furthermore, her ankle and shinbone were human-like. But her shoulder blades were not, her voicebox was much more like the gorilla's than a human's, and her brain was about 1/3 the size of ours. Other similar species in her genus have been found in the Great Rift Valley which are cousin species that died out sometime along the way, and are therefore not in direct human lineage.


@Homo genus@ Fast forward to about 2 million years ago, we begin to see fossils that share an increased number of our characteristics: larger braincase, narrower body. This is when our genus, *homo* emerged. And by 1.9 million years ago: *homo erectus*. **@homo erectus@** *Homo erectus* remains have been found in many parts of Asia, and date as recent as 1.6 million years old. But there is evidence of change within their species even over the 300,000 years they were known to exist, as originally their skulls only had capacity for brains barely larger than apes, but over time their brain volume reached a size close to our own.

@turkana@ The previously mentioned



Ardi

- *Ardipithecus ramidus*
- 4.4 million years old
- Adapted to both trees and the ground






Lucy

- *Australopithecus afarensis*
- 3.6 million years old


Homo (genus)

- Emerged 2 million years ago

Homo erectus

- 1.9-1.6 million years old
- Increasing brain volume



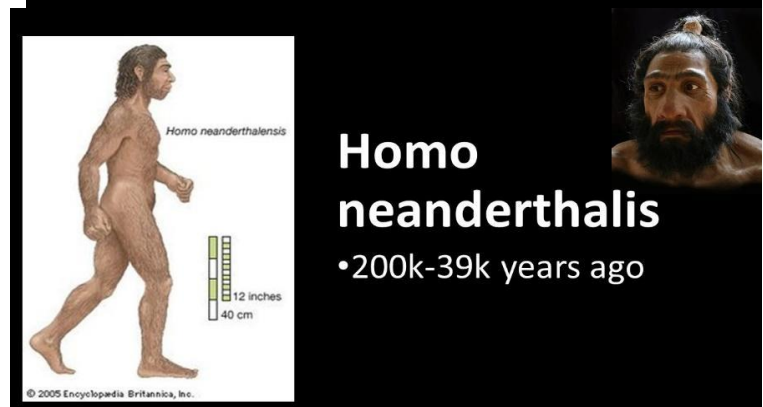
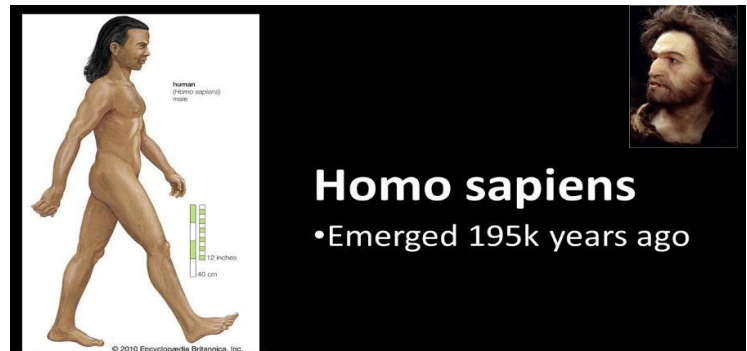

Turkana boy

- *Homo erectus*
- 1.6-1.5 million years old

Turkana boy is on the more recent end of this.

And in 2015, **@homo naledi@** *homo naledi* was found, who resembles humans even more closely than *homo erectus*, but these remains are still undated. Between about 700k and 200k years ago, **@homo heidelbergensis@** *homo heidelbergensis* is represented in the fossil record as far down as South Africa and as far north as England.

Our species, *homo sapiens*, **@homo sapiens@** first appears in the fossil record (from the Great Rift Valley) dating as far back as 195,000 years ago. But, around the same time, *homo neanderthalis* also appeared. **@homo neanderthalis@** Neanderthals, as they're often called, had long, low craniums, huge faces, and no chin to speak of. They were skilled and intelligent hunters and their brains were actually 10% larger than ours, but they showed little sign of creative activity or inventiveness. For example, their stone-working tools *never* advanced over the 150k years of their existence. But about 39,000 years ago, Neanderthals abruptly disappeared and it is largely theorized that their extinction can be attributed to humans, particularly since we seem to have a penchant for causing things to go extinct. 😊



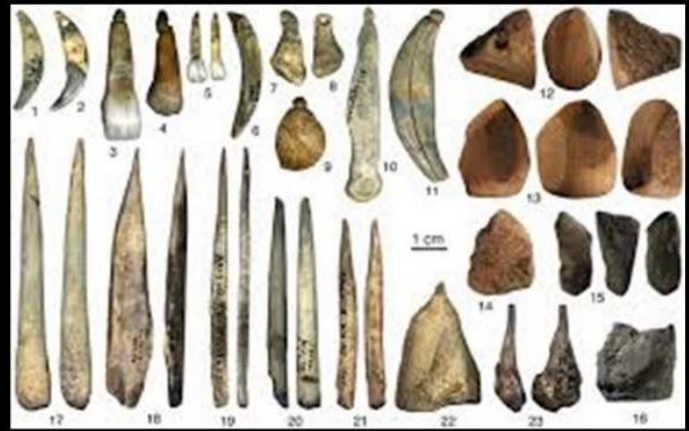
But back to our species. **@homo sapiens fossil record@** The fossil record indicates homo sapiens were confined to Africa until about 100,000 years ago, when we begin to see evidence of migration with fossils turning up in Israel and China. The oldest homo sapien fossils found in Australia date to about 60,000 years ago, in Europe 42,000 years ago, and the Americas about 12,500 years ago.

The characteristics most often identified as distinguishing humans from apes are the ability to use reason, use of language, and tool making. **@tool-making@** Tools are found with hominin fossils dating as far back as 2.5 million years ago; and when we look at tool-making there are distinct periods of stasis and saltation in tools (so big jumps in development, followed by a prolonged leveling out). Homo erectus appeared to have used simple tools, where more advanced tools didn't emerge until early humans and Neanderthals 2-300k years ago. And blade technology – the most advanced - does not appear until the last 30,000 years

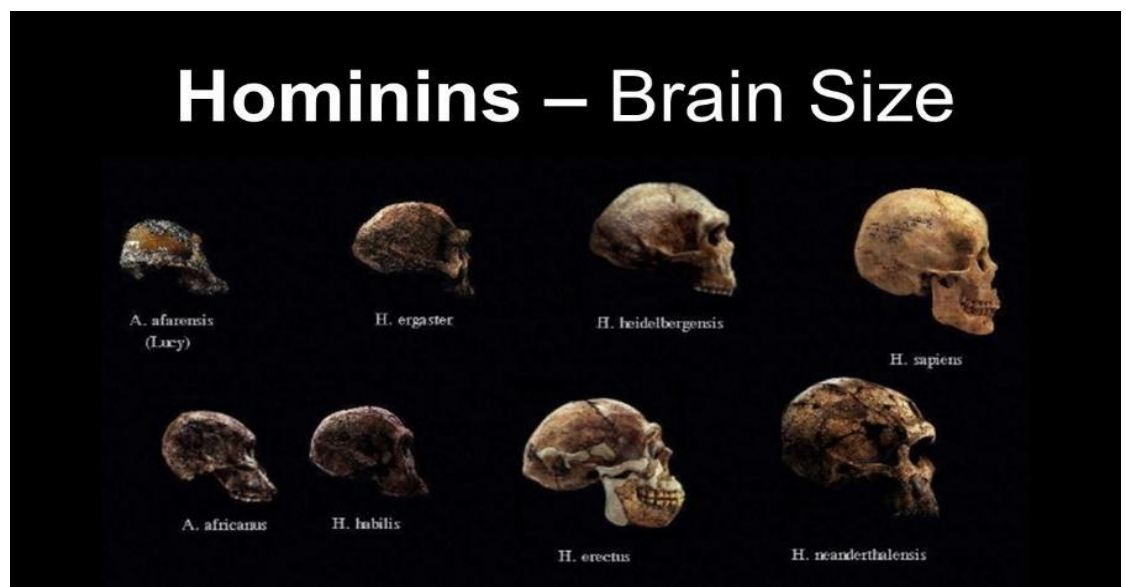
@brain size@ The brain size of homins doubled between the Australopithecus genus (so Lucy & Ardi, 3 & 4 million years ago) and the emergence of the homo genus (about 1 million years ago) to the point that those first species of the homo genus had brains about 2/3 the size of our brains. Brain size then continued to progress gradually, with the largest being Neanderthals.



Hominin - Tool-making



Hominins – Brain Size



@symbolic thinking@ Now, around 100,000 years ago, archaeologists believe our species, Homo sapiens, had developed the ability to use symbols. This is evidenced by carvings with designs conveying meaning and the ability to use pigments in ways indicative of abstract thinking. So, somehow symbolic thinking emerged despite not having existed in 99 percent of the preceding hominin existence. And the fossil record shows it emerged *very suddenly* and led to an explosion of creative ability. Well, some suggest that what caused this was the emergence of language. And to illustrate how unique and powerful language is, consider that a monkey can yell to other monkeys in a way that communicates “Careful! A lion!” “But a modern human can tell her friends that this morning, near the bend in the river, she saw a lion tracking a herd of bison. She can then describe the exact location, including the different paths leading to the area. With this information, the members of her band can put their heads together and discuss whether they should approach the river, chase away the lion, and hunt the bison.”

@theory of mind@ But beyond language, there is one final characteristic that some suggest sets humans apart from other animals. And that is “the full awareness of the self-awareness of others”. Let me say that again: “the full awareness of the self-awareness of others”. Many argue no other species has this ability. **@theory of mind2@** But it has been suggested that a whole host of human traits are dependent upon this, including: “active care for the infirm, concern for posthumous reputation, death rituals, food preparation for others, grandmothering (in other words, not just caring about your kids, but your kids’ kids, and doting on them), healing of the sick, hospitality, rules

of inheritance, the concept of justice and laws governing it, storytelling, multi-instrumental music, religiosity, teaching, the acts of torture designed to break the spirit of another.” Thus, about 100,000 years ago, a sort of “evolutionary big bang of cultural innovation” began in human history, caused by the emergence of abstract thinking and language, when most if not all

Hominins – Symbolic Thinking



Hominins – Theory of Mind

“the full awareness of the self-awareness of others”

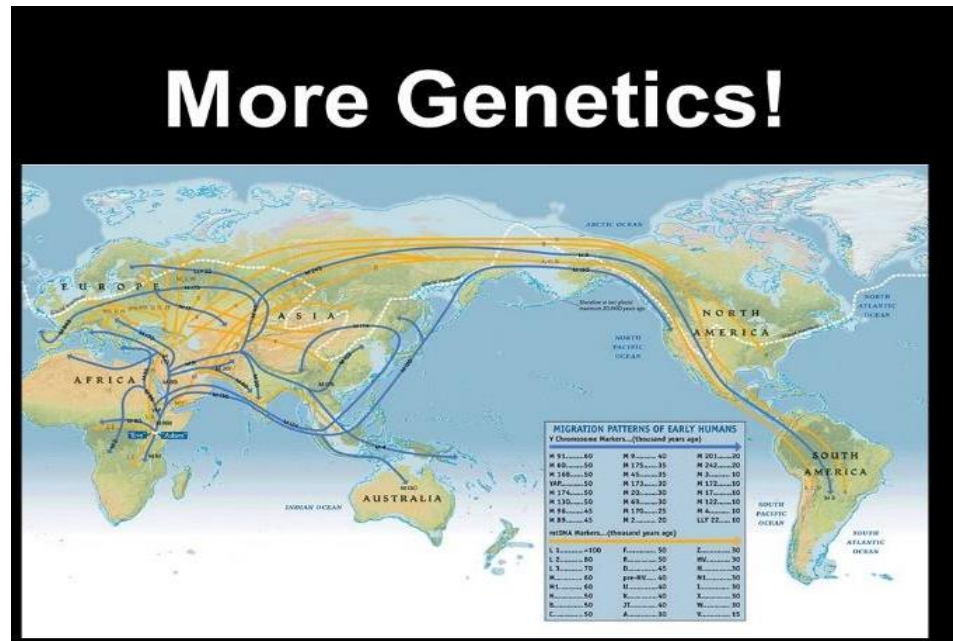
Hominins – Theory of Mind

- active care for the infirm
- concern for posthumous reputation
- death rituals, food preparation for others
- grandmothering (including “doting”)
- healing of the sick
- Hospitality
- rules of inheritance
- the concept of justice and laws governing it
- Storytelling
- multi-instrumental music
- Religiosity
- Teaching
- the acts of torture designed to break the spirit of another

humans were still in Africa.

More Revelations of Genetics!

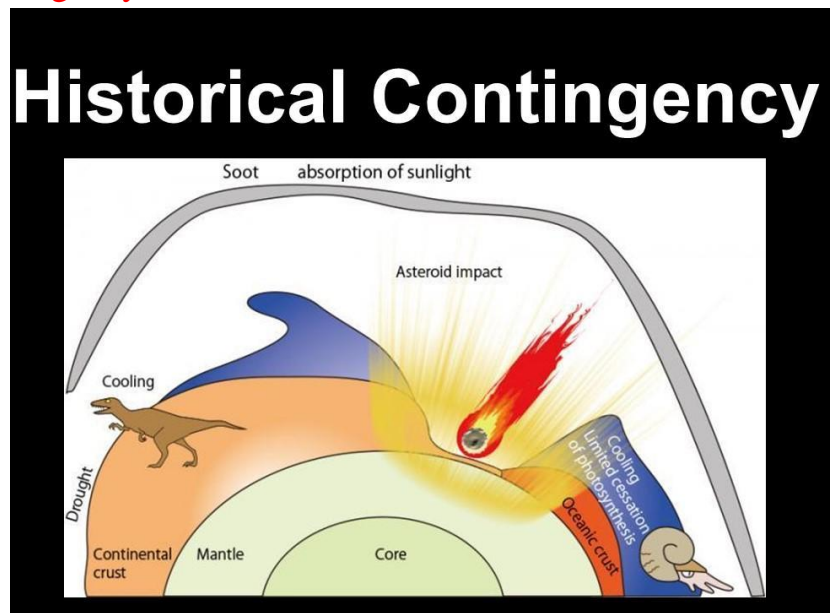
@more genetics@ The reasons we know humans were still in Africa because of the fossil record and genetic research. Remember all that backwards math earlier, the deductions made from knowing how much and how often DNA mutates from one generation to the next? So, study of the human genome reveals that *all humans* were in Africa until between 50,000 to 70,000 years ago, when approximately 1,000 people left Africa (and not necessarily all together, but over that period of time). And all humans with non-African ancestry descended from those 1,000 people. So, those of European & Asian descent, as well as aboriginals of Australia, the Pacific Islands, and the Americas - ultimately descended from a group of about 1,000 people who left Africa 50-70,000 years ago. (!) And all of this accords with the fossil record.



Historical Contingency @historical contingency@

Well, before looking at how our different models interpret the genetic and fossil evidence, a final subject to cover in the origin of humans is historical contingency, or how improbable was it that all of this happened?

Back in class three, we established how wildly improbable our universe is. Even given that the conditions of our universe, galaxy, solar system, and planet are perfectly balanced for life, the consensus among modern biologists - even those from the naturalistic evolution model, is that “the probability of our coming into existence as a human species” still would have been near zero! Even though our place in the cosmos is uniquely suitable for life it is still not a given that human life happens. And I want to take a few minutes



to explain why that's the general consensus

You see, once life originated on earth, once we go from non-living matter to living organisms – however that happened – once life originated on earth there are certain biological in a sense there are *certain* biological pathways that became almost inevitable - you know, simple organisms were going to give rise to more complex organisms - but this does *not* mean that any *particular species* or even *particular families* of species became inevitable. In other words, the probability of the human species in particular eventually arising from the evolution of species was extremely improbable.

@historical contingency2 - dinos@

For example, take the dinosaurs. Mammals, including some *we* descended from, were present 100 million years before dinosaurs went extinct. Yes, dinosaurs and mammals co-existed for a time. But, as we mentioned last week, only after the dinosaurs went *extinct* did mammal population explode. Only with the dinosaurs - the apex predators - gone, could mammals really flourish. Well, if you recall from last week, for the dinosaurs to go extinct required having a 6-mile wide asteroid hit the earth and the climatological fallout from that, but scientists believe that even *that alone* probably wouldn't have done them in if the dinosaurs hadn't already been in the midst of an ecological crisis. So we needed *both* of these events, the asteroid and the ecological crisis, to happen at the same general time in order for mammals - and our own ancestral lineage - to flourish and humans to emerge.

But that's just one example of the emergence of humans defying tremendous odds. To give you a broader sense of how unlikely it was, let's look at some evolutionary developments that didn't pan out. We'll call them failed "evolutionary experiments."

@historical contingency3 - monkeys@

For example, there are 124 contemporary species of monkeys. The monkeys in Africa and South America all have the same ancestor, but for at least 60 million years they have been evolving separately. So for 60 million years the monkey lineage in South America gave rise to nothing but a whole lot more monkeys, whereas in Africa the monkey lineage gave rise to both apes & hominins (humans), in addition to a whole lot of other African monkey species. Why didn't the evolutionary development of monkeys in South America develop into hominins just like the African monkeys did? Again, just because circumstances exist that make a certain species possible, doesn't mean it's a given.

@historical contingency4 - marsupials@



Then take Australia. It has experienced its own evolution experiment from its pouch mammal (the marsupial), and yet, over 60 million years, *all* that evolution, I mean all that it has produced through the marsupial lineage are more marsupials, nothing like monkeys OR humans.

[@historical contingency4 - new zealand@](#)

Then, there's New Zealand. It broke away from Australia 80 million years ago with no mammals on board. And since then, after 80 million years of evolution, no organism with a body *even resembling* a mammal has arisen there.

[@historical contingency5 - lemurs@](#)

Now, 54 million years ago, a small number of lemurs made their way to Madagascar, which had long since geographically broken away from Africa and India. And lemurs are actually primates like us and would've shared a common ancestor with us about 60 million years ago. Yet, Lemur evolution yielded no *monkeys, apes, or hominins* (humans).

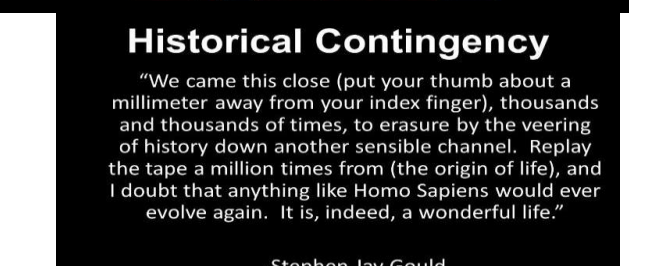
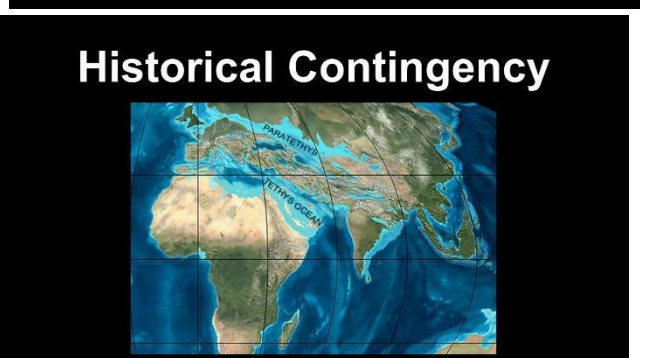
[@historical contingency6 - \(eurasia\)@](#)

Even in Asia and Europe, with tons of land and plenty of primates, nothing like hominins (humans) originated from there.

Finally, it appears that though homo sapiens only emerged in Africa about 40 million years ago, [@historical contingency7 - tethys@](#) one of our ancestral species (somehow) made its way from Asia across a large ancient body of water called the Tethys sea just to get to Africa. Now, the arrangement of continents arrangement was very different from today, but still! Had that never happened, and our ancestor not arrived in Africa, scientists believe the entire lineage of monkeys, apes, and humankind itself *never would have come to be!*

[@historical contingency - gould@](#)

As the late paleontologist Stephen Jay Gould says, (quote) "We came this close <put your thumb



about a millimeter away from your index finger>, thousands and thousands of times, to *erasure* by the veering of history down another sensible channel. Replay the tape a million times from (the origin of life), and I doubt that anything like Homo Sapiens would ever evolve again. It is, indeed, a wonderful life.” Gould, an agnostic, represents the view of almost every evolutionary biologist. But his comment illustrates that ultimately the improbability of human life requires one to either believe in a heckuva lotta luck...or God. ☺

HOW EVIDENCE IS INTERPRETED @six models@

Well, looking at the evidence on human origins, there are really two questions that distinguish how our different models interpret the evidence: is there such a thing as a human soul or spirit and how does God interact with his creation?

Naturalistic Evolution (NE)	Nonteleological Evolution (NTE)	Planned Evolution (PE)	Directed Evolution (DE)	Old-Earth Creation (OEC)	Young-Earth Creation (YEC)
material evolution	theistic evolution	theistic evolution	theistic evolution	progressive creation	recent creation
modern synthesis, punctuated equilibrium		Evolutionary creation		day-age creation, gap model	scientific creation
Darwinism	Darwinism, deistic evolution			creationism	creationism
random events, natural processes	universe created, then undirected natural processes	universe created perfectly, no subsequent intervention	intervened by direction, natural process	major body plans created separately	each kind created separately
ancient myth, no God	ancient myth, God exists	nonconcordist, ² Adam and Eve not individuals	nonconcordist, Adam and Eve are individuals	concordist, days extended	concordist, days literal

Only one perspective,

naturalistic evolution, believes that there is no human soul, since they believe that what we see in the natural world is the only reality. Instead, they believe humans are “sentient animals” who are only distinguished from other animals by our large brain.

Like those from the Naturalistic Evolution perspective, those in the Nonteleological Evolution and Planned Evolution models also accept the scientific evidence for a common ancestor. However, while they recognize humans as another animal in the story of evolution, they would argue humans are special animals- more than just having a large brain- they would argue humans are qualitatively special. They would not insist that God had to specifically intervene during the evolutionary process for us to become special. In fact, they may not even insist that God had to specifically intervene to choose one hominin to bear his image. Instead they still adhere to the Darwinian gradualism and the idea of nonintervention- meaning there was no single point in time at where intervened and pre-humans became humans.

Next are the Directed Evolutionists. As their name indicates, they also believe in the scientific findings and evolution, but they believe God is actively directing it all. Here's a quote from their perspective, "God does not intervene in the world only at particular times; it would be better stated that he is constantly involved in sustaining and directing it. Thus he is always working in the world to accomplish his purposes, (which would include) gradually shaping a

human form from an ape lineage." So unlike the previous perspectives, they believe there was a specific point at which God imparted his image on humans. Therefore humans are evolutionary animals, but they/we are unique in bearing the image of God.

Finally, we have those in the Creationist models (Young Earth Creationists and Old-Earth Creationists), who believe God specially created the bodies of two humans, Adam and Eve and imbued them with His spirit. They would insist that all fossils must be classified as either ape or human. Though they tend to disagree on where to draw that line. Old-Earth Creationists tend to consider all fossils in the Homo genus - so beginning with Homo erectus - to be part of the human lineage, whereas Young Earth Creationists are more likely to consider only our species, Homo sapiens, to be human. But where they are in agreement is that, despite what scientists may say, there is no common ancestor for apes and humans.

@technical support@

Well, let's go to a break, and when we come back, we'll take a moment to discuss why all this matters before moving on to a fifth a final perspective on Adam & Eve & the Fall.

@discussion groups@

Why what we believe about Human Origins matters

@why it matters@

Why does all of this matter?

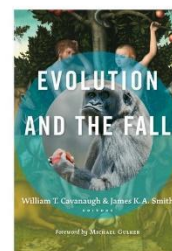
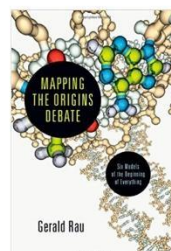
Over 150 years, the argument for human evolution has stood the test of time. And while the specific mechanisms by which evolution happens are still up for debate, the evidence for human evolution has only gotten stronger. **@87%@**

And yet 87 percent of American evangelicals believe that the entire world was actually created in six literal days and that there really was a global flood.

Now the passion of these 87% certainly varies. While a segment of them are loudly and viciously polarized, I know for many Young Earth Creationist it is a subject peripheral to their faith; in other words they don't mean any harm. Well, regardless of their level of passion, I would humbly argue that this 87% is creating a significant stumbling block even for our own children.

@Barna@ A 2011 Barna research poll of young adults with a Christian background 35% said "Christians are too confident they know all the answers" (35%). Meanwhile, 29% of

Technical Support



Class Five – Part II

Why what we believe about Human Origins matters

Why what we believe about Human Origins matters

87 percent of American Evangelicals are Young Earth Creationists

young adults feel that “churches are out of step with the scientific world we live in,” 25% perceive that “Christianity is anti-science,” and 23% said they have “been turned off by the creation-versus-evolution debate.” If you're a Christian and you take the great commission seriously, this should concern you.

Within our churches, within our families, the next generation is asking for better answers.

In addition to this, I think we have all experienced how the loud voices of Creationists (again not all with this perspective are automatically offensive), but we know the loud voices I'm talking about. We saw them when we studied the history. They're on our TVs. They're around our Thanksgiving tables. And again, I would humbly argue that as the church veers into culture wars and wars against science that we are forfeiting opportunities to testify about who God really is to an unbelieving world. And there are stats that support this as well.

@PEW@ A 2015 Pew Research Center survey revealed that 59% Americans say that science and religion are often in conflict. Now, of those who attend church at least once a week, only half 50% view religion and science as in conflict. But of those who seldom or never attend house of worship three-quarters (73%) view religion and science as in conflict.

@GComm@ Jesus commanded all who are his disciples to “¹⁹Go therefore and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit, ²⁰teaching them to observe all that I have commanded you.” I still can't find where in the gospels Jesus calls us to fight culture wars or to war against science.

But when Christians choose that path, what that signifies to me is a Christian culture that cares more about winning arguments than winning the lost, and whose faith is more about being or feeling “right” about something than about loving people into the kingdom of God.

For those of us here today who are disciples of Jesus, if we don't want to be a part of the problem, if we want to be part of God's solution to bring the lost world to Himself, I pray that as we move forward into the rest of this teaching this morning, you would just open your hearts and minds to the *possibility* that Creationism - adhering to the traditional reading of Genesis and rejecting well-proven science - *may in fact be mistaken*; that you would ask the Holy Spirit

2011 Barna Research Poll of YOUNG ADULTS WITH A CHRISTIAN BACKGROUND

- 35%: “Christians are too confident they know all the answers”
- 29%: “churches are out of step with the scientific world we live in”
- 25% perceive that “Christianity is anti-science”
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A 2015 Pew Research Poll

- 59% Americans say that science and religion are often in conflict
- 50% of those who attend church at least once a week view religion and science as in conflict
- 73% of those who seldom or never attend house of worship view religion and science as in conflict

The Great Commission

Go therefore and make disciples of all nations, baptizing them in the name of the Father and of the Son and of the Holy Spirit, teaching them to observe all that I have commanded you.

-Matthew 28:19-20

to give you wisdom and insight about whether the Bible is even *asking* us to believe that what Creationists claim.

THIS CONCLUDES THE PORTION FROM 2017

WHAT FOLLOWS IS FROM 2023

@titleFrame@

Part 3 – Another Chalcedonian Opportunity

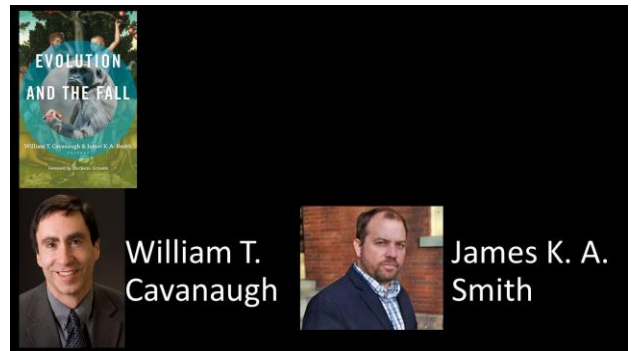
Okay, so thus far in class five, we've established that the scientific consensus points to the evolution of humans from primates. And this evidence seems to conflict with the traditional Christian understanding that humans originated from a pair of individuals, Adam and Eve, as well as it also conflicts with the notion of an original historical state of innocence that humankind enjoyed (albeit for a very short time in Adam & Eve), which they then fell from.

Well, before I get into a fifth and final presentation for how to understand the relationship between Adam & Eve &

Evolution, @E&tF@ I want to begin by sharing some reflections on the controversy from Christian philosopher James K. A. Smith and Christian Theologian William Cavanaugh from the 2017 book they edited together titled, *Evolution and the Fall*.

@smith@ First, in a chapter Smith writes on his own,¹ he acknowledges that many theologians have concluded that the doctrines of the Fall and Original Sin are incompatible with the scientific understanding of human origins that has emerged in the last century and a half. However, Smith cautions against a temptation many have been seduced by to resolve this *apparent conflict* between faith and science by interpreting the Fall as merely symbolic (like Denis Lamoureux's position, which was looked at in class 4). So Smith is cautioning against viewing early Genesis as only a non-historical story that merely describes our created human nature.

@quote@ Smith says such an approach is a bit of a ruse, since from this standpoint there has really *never been a Fall at all*.² Instead, taking both

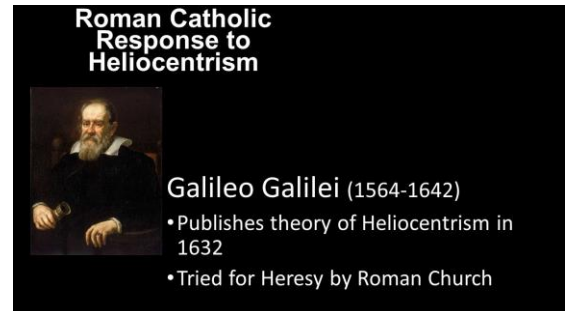


¹ titled "What Stands on the Fall?"

² Smith says, "Making sin original (to humans) is not the doctrine of original sin, but is Gnosticism (not Christianity)." Jon Garvey adds: "One has only a case to answer before God only if the actions, and hence the original accountability,

scripture and the historic confessions of the Church into account, Smith insists that both Original Sin and the Fall are *core* to the story of God's gracious interaction with humanity.³ So, any solution we have needs to retain some (historical) concept of both Original Sin and the Fall.

Then, [@smith&cav@](#) writing together, Smith & Cavanaugh (also) warn the Church against viewing the apparent conflict between Church tradition and science as another Galilean moment,⁴ casting the scientists as “heroes and martyrs willing to embrace progress and enlightenment” while framing those concerned “with Christian orthodoxy as backward, timid, & fundamentalist”. [@gift@](#) They believe projecting this Galilean framework onto the evolution issue biases the conversation, because it makes the Christian theological tradition into a burden rather than a gift. Instead of approaching the evolution debate as ‘Galileo, the sequel’, Smith & Cavanaugh believe we should understand it as similar to a different crisis moment in the history of the Church, which is probably much less familiar: and that is [@Chalcedon@](#) the Council of Chalcedon.



You see, in 451 A.D. the Fourth Ecumenical Council of the Church was organized in Chalcedon (modern-day Istanbul), to settle a controversy that had arisen over the nature of Jesus Christ. The question was: how could it be that Jesus was both god and man? Nestorius, a patriarch in the Church at the time, had suggested Jesus was “a kind of composite person ‘made’ of the Son (of God) and a human being.” Meanwhile, on the other extreme, an abbot named Eutyches *denied* that there were two natures in Jesus after his birth, contending instead that Jesus’ divinity had swallowed up his humanity such that Jesus was no human at all.

actually occurred. It is no more possible to participate in a fictional Adam than it is to participate in Mickey Mouse...One can, of course, reformulate Pauline theology to accommodate “Allegorical Adam,” but that not only raises big questions about apostolic authority and the validity of the gospel, but requires one to explain how such an anachronistic allegorical Everyman character got into an Ancient Near Eastern text to begin with.”

³ Smith points out that the doctrine of Original Sin is important because it affirms the Goodness of Creation. If God did not create humanity good, it would call into question the goodness of God himself. However, Smith will conclude that the original goodness of humanity is not equivalent to affirming an original perfection and that there is no inconsistency between an original ‘goodness’ and recognizing the need for moral growth and maturing.

⁴ For many of us, this may call to mind week 1 when we talked about Galileo and heliocentrism back in the 15/1600s. You’ll recall the Church did not handle it well. There were heresy trials and a general unwillingness to consider new information.

@binaryFalseChoice@ Now, if the Church at the time had taken the same approach to this controversy about Jesus' nature as many have been prone to take with evolution – that is, if they had approached it with a Galilean bias - they would have viewed the situation as binary. That means that they would have seen it as a moment where they have to *choose*: either Jesus is human or He is divine. But, according to Smith & Cavanaugh, the Church *refused* this binary approach at the Council of Chalcedon.

@Chalcedon 2 - hypo@ Instead, they demonstrated remarkable theological imagination, which resulted in the doctrine of the hypostatic union: “that in one person of Christ subsist two natures, divine and human.” And this doctrine is now a cherished (and crucial) part of the Church's theological heritage.

Thus, Smith & Cavanaugh encourage us to think of the evolution debate not as a Galilean moment, but as a **@Chalcedonian Opportunity@** Chalcedonian *opportunity* to exercise theological imagination in a way that affirms the parameters of the orthodox faith while taking seriously the contemporary challenges posed by scientific findings.

Well, not long after Smith & Cavanaugh's book was published - and after this class was originally taught at St Matthias in 2017 - a new perspective emerged that might provide the Church with just what Smith & Cavanaugh say is needed;⁵ I'll let you decide. But this is the fifth and final interpretation for how to understand the relationship between Adam & Eve & Evolution.

Technical Support

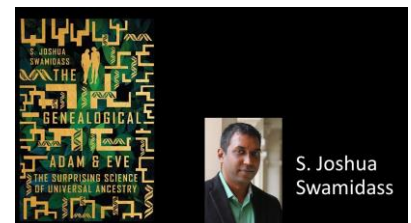


Part 4 – Genealogical Adam & Eve

@title@ And it begins with the work of S. Joshua Swamidass in the form of what he's called his Genealogical Hypothesis.

Swamidass is a computational biologist and a tenured professor at a secular university,⁶ but he is also a Christian.

@swamidass/GAE@ And in his 2019 book, *The*



⁵ I'm not saying Smith and Cavanaugh have said it has

⁶ S. Joshua Swamidass (MD, PhD, UC-Irvine) is a scientist, physician, and associate professor of laboratory and genomic medicine at Washington University in Saint Louis, where he uses artificial intelligence to explore science at the intersection of medicine, biology, and chemistry. He is a Veritas Forums speaker and blogs at [Peaceful Science](https://www.peacefulscience.com/).

Genealogical Adam & Eve,⁷ Swamidass observes that everyone seems convinced that evolutionary science has debunked the belief in a historical Adam and Eve, but he couldn't find any scientific evidence that demonstrated this was true. But it's not because Swamidass doesn't believe in evolution, he does. Swamidass *affirms* the scientific consensus that humankind genetically arose as a population, *not from a single couple*, and that we share ancestors in common with the great apes. However, he finds no evidence that this conflicts with the biblical teaching that a single couple, Adam & Eve, were our ancestors. But he believes that one reason the belief that science has debunked a historical Adam & Eve has become dominant today is that we tend to read modern genetics back into scripture. And Swamidass' correction to this is that scripture is making a genealogical claim about Adam & Eve, not a genetic one.⁸

Let me explain. Swamidass reminds us that the Biblical writers knew nothing of genetic ancestry, which traces the history of DNA; scripture is only concerned with Genealogical ancestry, which is concerned with the connections in family trees and genealogies.⁹ @Genealogies@ And I'm sure any of us who have read much of the Bible have noticed that the Bible includes quite a few genealogies. For example, eleven of Genesis' fifty chapters include long lists of ancestors begetting descendants.¹⁰ @Luke@ And Luke chapter 3 actually features a genealogy showing how Jesus is connected by ancestry to Adam (!).¹¹ However, "genealogical ancestry is not genetic ancestry."

But the science of genealogical ancestry and the ways that it differs from genetic ancestry can be difficult thing to wrap our brains around; it is

⁷ Swamidass, S. Joshua. The Genealogical Adam & Eve. Grand Rapids: InterVarsity Press. 2019.

⁸ The arguments about a so-called Mitochondrial Eve and a Y-Chromosomal Adam that emerged beginning in 1987 seemed to many to disprove the existence of a single couple from recent history being universal ancestors of all, but Mitochondrial Eve and Y-Chromosomal Adam are theories of genetic science, not genealogical science.

⁹ "Genealogical ancestry concerns the connections in family trees, pedigrees, and genealogies. It is an 'ordinary' definition of ancestry. Genetic ancestry, in contrast, traces the history of small stretches of DNA. Genetics is not an ordinary definition of ancestry, an anachronism in theology and Scripture."

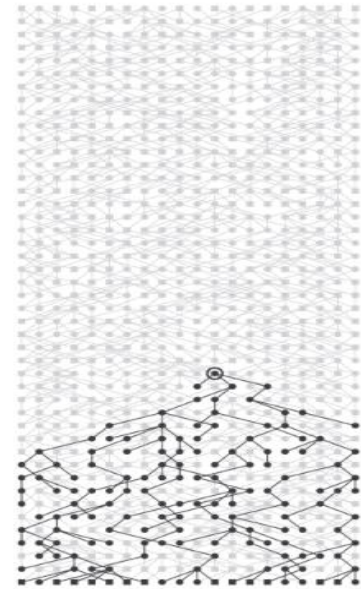
¹⁰ Swamidass notes that "these genealogies are also obviously incomplete," pointing out that "though there are exceptions, such as Eve, Cain's wife, Esther, and Rahab, women are usually unmentioned. (loc495)

¹¹ "Genealogical ancestry concerns the connections in family trees, pedigrees, and genealogies. It is an 'ordinary' definition of ancestry. Genetic ancestry, in contrast, traces the history of small stretches of DNA. Genetics is not an ordinary definition of ancestry, an anachronism in theology and Scripture."

extremely non-intuitive (although science often is).¹² So in order to build our intuition about the differences between genetic and genealogical ancestry, [@Ancestry@](#) Swamidass invites us to

“Consider a child’s father and grandfather. They both are *fully* the child’s genealogical ancestors. However, they are only *partially* the child’s genetic ancestors, approximately 1/2 and 1/4, respectively. Genetic ancestry continues to dilute each generation: 1/8, 1/16, 1/32 to a number so small it is unlikely (that anyone) has any genetic material from most of their ancestors.”

But genealogically, if we go “back each generation, we have two parents, then four grandparents, then eight great-grandparents; the number of ancestors appears to increase exponentially as we go back.”¹³ [@web@](#) So, to see this difference visually, in this diagram there are gray and black lines showing relationships between parents and children. The black lines are parts of the history traced out by genetic ancestry, of one sort or another, while all the gray lines are the genealogical relationships, which are a dense web.



[@chartA@](#) The upshot of this is that just ten generations back every single one of us mathematically has a thousand (genealogical) ancestors,¹⁴ twenty generations back we each have more than a million (genealogical) ancestors.¹⁵ And if we went back fifty generations - which is only about 1,250 years ago - we would each have a quadrillion (genealogical) ancestors from that time, if only there had been that many people, this means that

¹² Swamidass: “Science is nonintuitive, revealing surprising things about the world.”

¹³ Swamidass continues: “The population size in past generations, however, either stays comparatively constant in much of paleo-history or decreases exponentially over the last ten thousand years. For example, there are about 160 generations between 10,000 and 5,000 years ago. Naively (and falsely) assuming there is no overlap in our family trees, we can compute the number of ancestors alive 10,000 years ago from the population at 5,000 years ago, 18 million people; we arrive at about 2.6×10^{55} ancestors. This is more ancestors than the number of stars in the visible universe.”

¹⁴ $2^{10}=1,024$

¹⁵ $2^{20}=1,048,576$

most of those ancestors must've been our ancestors many times over.¹⁶

@chartB@ So, from a simple mathematic standpoint - and not taking into account any migration patterns or other obstacles - for a population of one million people, we would only need to go back twenty generations - about 500 years - to begin finding universal ancestors - that is, individuals who are ancestors of every human alive. And for a population one thousand times larger, of one billion people, we would only need to go back thirty generations - about 750 years - to begin finding universal ancestors. Therefore, considering all of the people alive in the world today, even taking into account migration patterns¹⁷ and fluctuations in population size, the most recent universal genealogical ancestor (MRUGA) of all living humans could have lived as recently as three thousand years ago.

¹⁶ Garvey, Jon. *The Generations of the Heavens and the Earth*. Eugene, OR: Cascadia. 2020.

"The population of Europe in (800 A.D.) is estimated at twenty-five to thirty million. Taking that figure of one quadrillion ancestors for each of us, on average each person from that generation would be our ancestor around forty million times over. Some of those ancestors—and perhaps, virtually everyone who has left any descendants at all—will, inevitably, be ancestors of everyone in Europe.

¹⁷ Swamidass addresses the objection: "What if one or more populations were isolated for thousands of years in our past?" He explains, "First, if Adam and Eve lived before the population was isolated, it will not matter...

"Several of the most isolated places, such as Hawaii and the Easter Islands, are not populated at AD 1, so they can be ignored...

"The most likely candidates might be the indigenous populations of Tasmania. If this population were isolated from six thousand years ago till AD 1, would this be a problem?...

"Genetic evidence can falsify the hypothesis of genetic isolation, and usually does....the data demonstrates a pattern of pervasive intermixing everywhere... (Although,) populations can be genealogically linked even if genetic analysis cannot demonstrate intermixing in the past.

"Land bridges never extended all the way to Australia. The last stretch required crossing a fifty-to one-hundred-kilometer-wide body of water. Until the arrival of Homo sapiens about forty to sixty thousand years ago, this final gap was not crossed. It is thought that boats or rafts might have been a unique capability of Homo sapiens, at least in this region, and were used to cross the strait in order to colonize Australia. Similar seafaring feats enabled Homo sapiens to migrate to unexpected places for at least one hundred thousand years...

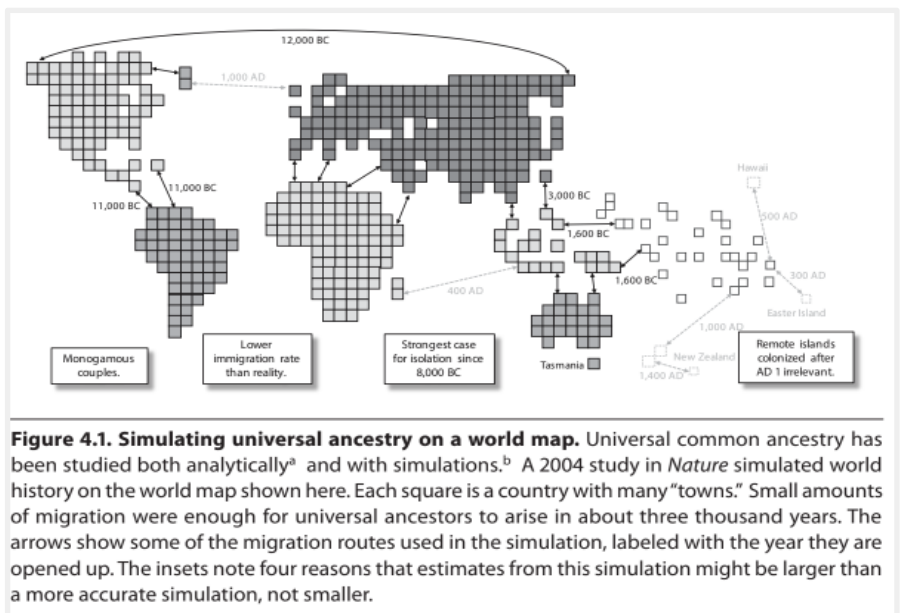
"A 2013 genetic study uncovered evidence that about four thousand years ago there was "substantial gene flow between the Indian populations and Australia, well before European contact, contrary to the prevailing view that there was no contact between Australia and the rest of the world."¹⁷ The authors note, "This is also approximately when changes in tool technology, food processing, and the dingo appear in the Australian archaeological record, suggesting that these may be related to the migration from India."

"A small number of people that are, in fact, isolated may not be a problem, because theology does not speak with scientific precision. If a few isolated populations do not descend from Adam at AD 1, they would be rare and undetectable exceptions to the rule. As we will see, the doctrine of monogenesis teaches we all descend from Adam and Eve to the "ends of the earth" (Acts 1:8). It is possible for the doctrine of monogenesis to be valid from a theological point of view, even if there are very rare and undetectable exceptions... As long as we have a coherent way of acknowledging their human worth and dignity, it may not be a problem that they are outside Adam and Eve's lineage.

Therefore, Swamidass' genealogical hypothesis asserts that there is no reason why Adam & Eve couldn't have existed between six thousand & ten thousand years ago, as the Bible suggests, and be genealogical ancestors to everyone living at the year 1 A.D. (so, by the time of Christ). The only stipulation required for this to be possible is affirming that there were people *outside of the Garden of Eden*,¹⁸ which scripture does not explicitly rule out and may even include indications that there were people outside the Garden.

@CameToBe-BothCompat@ And, as far as how Adam & Eve came to be, the Genealogical Hypothesis allows for one to hold either the traditional view that Adam & Eve were *specialy created* (de novo) by God¹⁹ or hold the view of that God chose them from the pre-existing population, as we saw John Walton suggest.

But, however one believes Adam & Eve came to be, according to the Genealogical Hypothesis the larger population "outside the garden" would have been come about through the process of common descent described by evolutionary science.²⁰



¹⁸ Swamidass: "Those outside the Garden could be in the image of God, or not"; it depends how the meaning of the image of God is understood.

¹⁹ Swamidass: "Perhaps we will find that the de novo creation of Adam, under this hypothesis, is no different than the Virgin Birth or the Resurrection. As an example, consider the Resurrection for a moment. Yes, in every observable example, people dead in the grave for three days do not rise again. If God exists, however, there is no reason to think he did not raise one man in the distant past from the dead. If we take the Gospel narratives seriously, this baseline empirical fact is why God chose to reveal himself by raising Jesus from the dead. Only God can do such a thing....Science does not do well with singular, localized events in the distant past...In the case of the Resurrection, however, an immense amount of historical evidence points in its direction (see appendix 1). For this reason, the analogy might be closer to the Virgin Birth."

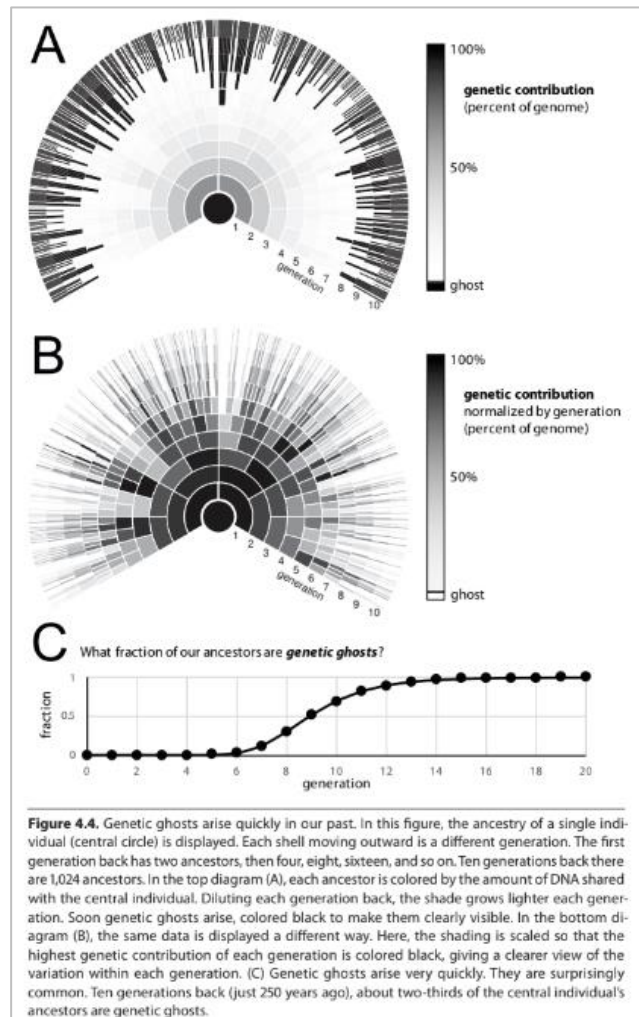
²⁰ Swamidass' Genealogical Hypothesis was inspired by a study published in *Nature* magazine in 2004 (Though it arguably originated in 1886 with an article by Henry Kendall, which he later expanded into a book, *The Kinship of Men: An Argument from Pedigrees; or, Genealogy Viewed as a Science* (1888). The 2004 *Nature* study simulated the ancestry of present-day humans across the globe. The study showed that the most recent universal genealogical ancestor

@IAP@ Swamidass chose the year 1 A.D. as the requirement for all alive to be descendants. And with this benchmark, we only have to go back

- to around 5,000 B.C. to get to the IAP (Identical Ancestor Point) - where everyone who was alive and had children were universal ancestors to everyone alive in 1 A.D.,
- **@nearly IAP@** to around 4,000 B.C. to the (nearly IAP) point where all farmers in Mesopotamia who left a reasonable number of grandchildren' would be universal ancestors of everyone alive in AD 1,
- **@MRUGA@** and to around 3,000 B.C. to find the first genealogical ancestor (MRUGA) of all living humans living at 1 A.D.

@summary@ So, according to the Genealogical Hypothesis, the lineage of Adam and Eve²¹ could have intermixed with those outside the garden, and become ancestors of all living in as soon as 3,000 years and for sure by 5,000 years. Although, despite being our genealogical ancestors, I should note that it

@ghosts@ would be extremely unlikely that any of us would have inherited any of their DNA, because “The DNA of individual ancestors is rapidly lost every generation.” As figure 4.4 from Swamidass’ book shows, at merely 500 years ago, 99.9% of our ancestors are genetic ghosts, meaning we don’t actually get any DNA from them.²²



(MRUGA) arises in just a few thousand years, and the Identical Ancestor Point (IAP), where everyone who was alive at that time and had children was an ancestor for all living people, is just a little more ancient than that. Swamidass explains, “At the IAP, everyone across the globe who leaves ancestors eventually becomes a universal genealogical ancestor. Many individuals are each individually ancestors of ‘all the living.’ All humans alive descend from each of these universal ancestors.”

²¹ It is assumed that Adam & Eve were the same biological species of everyone outside the Garden.

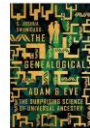
²² “At fifteen generations, about 98% of our ancestors are genetic ghosts, and only about 2% of ancestors leave us any

@summaryOfGenealogicalAdamHypothesis@ So, to summarize what Swamidass has demonstrated, so long as we affirm that there were people outside the Garden of Eden,²³ there is no scientific evidence proving that Adam & Eve couldn't have existed between 6,000 and 10,000 years ago and been the genealogical ancestors of all who were living by the time Jesus came on the scene.

@biologos@ After Swamidass' work was published, it caused the evolutionary creationist organization Biologos (previously mentioned in this class under the "Planned Evolution" model) to change their official position and remove from their statement of beliefs that (quote) "The de novo creation of Adam and Eve is not compatible with what scientists have found in God's creation."²⁴

@break@ So, with that, let's take a final break, and we'll return by reconsidering early Genesis through the lens of the Genealogical Adam paradigm provided by Swamidass.

Technical Support



Part 5– Re-examining Scripture through the Genealogical Adam Lens

@title@ Joshua Swamidass' Genealogical Hypothesis has created a new a paradigm that can lead to many different conclusions about how to understand different elements of early Genesis. So with the rest of this class I want to focus in on just one, that of Jon Garvey,²⁵ whose 2020 book *The Generations of Heaven and Earth* unpacks many of the possible implications of the Genealogical Adam paradigm for biblical theology.²⁶

DNA. At twenty generations, merely 500 years ago, about 99.9% of our ancestors are genetic ghosts (fig. 4.3 and 4.4), and only one out of a thousand ancestors leave us any DNA. These numbers are approximate”...

“Many of our ancestors are genetic super-ghosts ‘who are simultaneously (i) genealogical ancestors of each of the individuals at the present, and (ii) genetic ancestors to none of the individuals at the present.’”

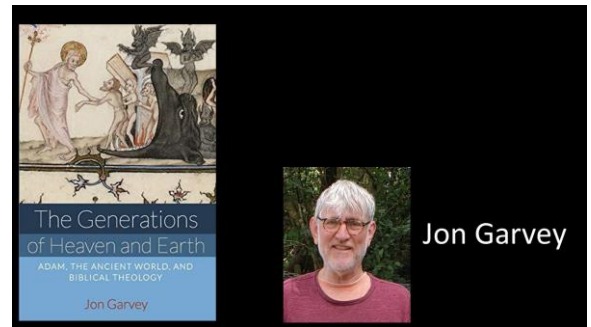
²³ Swamidass: “The only way that evolutionary science presses on this account is by suggestion, alongside the hints of Scripture, that there were people outside the Garden.”

²⁴ <https://discourse.peacefulscience.org/t/the-biologos-statement-on-adam-and-eve/5847>

²⁵ Jon Garvey studied medicine at Pembroke College, Cambridge University. Since 2011 his blog, [The Hump of the Camel](#), has explored the theology of creation, attracting an extensive readership in the US, UK, and across the world. In addition to authoring *The Generations of Heaven & Earth*, he has also authored the 2019 book [God's Good Earth: The Case for an Unfallen Creation](#).

²⁶ Garvey contends that “Genealogical Adam is not just another “concordist” theory, attempting to find a fix for the incompatibility of the Bible account with other sources of knowledge, but instead as a means for recovering the original intention of Scripture.”

@Gen1asTemple@ Beginning with Genesis 1, Garvey suggests the seven days of creation should be understood as a phenomenological²⁷ account of the world where God designates creation as His temple, as a suitable setting for Him to share His life with others beyond Himself, namely humans.²⁸ However, Garvey believes the humans described in Genesis 1 refer to the population that



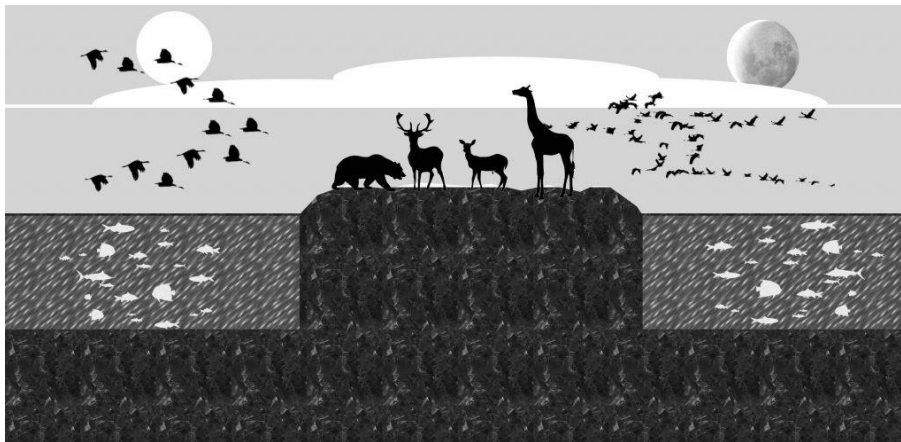
²⁷ Phenomenology refers to the appearance of things, or things as they appear to human consciousness or experience.

²⁸ *What follows is a synopsis of Garvey's take on Genesis 1 from <https://potiphar.jongarvey.co.uk/2021/08/09/the-phenomenological-cosmos-of-childhood/> ---*

In *The Generations of Heaven and Earth* I make a case for the Genesis 1 creation story being in essence a phenomenological, rather than an ancient "scientific," account of the world, though that is complicated by the author's concept of this creation as a temple reflecting the form of the wilderness tabernacle and/or the Jerusalem temple.

That passage in my book was developed from various explorations of the theme here on *The Hump*, in which I included the suggestion that to a scientifically naive person with limited geographical knowledge, such as a modern child or an ancient adult, something like Genesis 1 describes pretty well one's experience of the world, without speculation on the things not experienced.

Here is the illustration of Day 6 from my book.



The world, as you see, is conceived as a layer-cake of indeterminate lateral extent (much as most of us nowadays thing of the universe as a three-dimensional collection of galaxies with no definite boundary), simply because no such boundary has been experienced. To the Hebrews, this layer cake is "the heavens and the earth," a term naming the extremes and including all that is in between.

The bottom layer is the earth (Genesis 1 mentions no underworld), and no attempt is made to understand its depth or any limits, again because these are unknown. The top layer is the heavens, or *shamayim*, which may equally be translated "sky" or "expanse" but not (as I have argued elsewhere) "firmament" in the sense of a solid sheet or dome.

The complication is that almost certainly the "upper waters," separated from the lower waters that became seas, are the clouds, whose physical function throughout Scripture is to deliver rain. That would make "sky" a vague term for the space under the clouds, but with an ambiguous reference to the distant blue "something" always known to be *above* the clouds. Scripture makes reference to "the highest heaven" as the unique dwelling place of God, the place of the "light" of Day 1, but also refers to the heavens as the abode of the birds, which is clearly much lower.

arose through evolution.²⁹ Now, you'll recall that Genesis 1 says these humans, male and female, were created in God's image. Garvey suggests this refers to a kind of species-wide spiritual awareness.³⁰ But he also notes that in Genesis 1 God is still in heaven, separate from humanity on earth. Therefore, Garvey imagines these humans only being able to know of God in a limited sense, at a level comparable to that of isolated tribes of people discovered in recent centuries; such people may believe in and even worship God,³¹ but do not know this God intimately or by the name of Yahweh or Jesus, because this can only be known only by special revelation from God.³²

@Gen2-A&EasPriestsImpartingImmortality&Theosis@ In Garvey's understanding, it is not until Genesis 2 that God chooses to draw near to humankind in the persons of Adam & Eve in the Garden of Eden.³³ So,

²⁹ This, of course, necessitates in believing the biological death preceded the episode in Eden, although this shouldn't be objectionable on scriptural grounds. James K.A. Smith observes that while God designating creation as "good" multiple times in Genesis 1 has traditionally been understood to rule out the possibility of death before the fall, this is not a necessary conclusion since 'good' does not have to mean 'perfect'.

³⁰ Garvey: "There is every reason to believe that humankind was created in the image and likeness of God before the call of Adam, whose main distinctive was his covenant relationship, not his essential nature. We are therefore able to recognize and accept, without difficulty, any level of cultural achievement, and even spirituality, in those 'outside the garden.'"

Garvey expands further on the possible meaning of 'image' by adding that consistent with the Genesis 1 temple motif, "In more recent understandings, 'image' has been interpreted as 'temple image,' given the cosmic temple picture of Genesis 1, or as the related concept of royal images set up by ancient kings in distant provinces to represent their presence. This view I favor myself. In a pagan temple, the image is not necessarily seen as an accurate representation of the god. It could be a meteorite, as the sacred image of Artemis at Ephesus was said to be... (C.S. Lewis) captures an important fact about such potent images. What mattered was not their resemblance, but that they were designated as the locus for the god's worship and communion. One of the glories of Genesis 1 is that it takes the pagan idea of a world created by and for the gods, who are to be served and fed by a human race created as slaves and worshipped in temples containing sacred images, and transforms it into a cosmos created by Yahweh as his temple in its entirety, with the earth created for the benefit of mankind as his temple image and vice-regent, operating as it were in the outer court of the cosmic temple. On this understanding the imago dei is a question of divine designation more than of particular endowments—yet that designation is part and parcel of humanity's creation, as we have seen.

³¹ This would reflect an awareness of God based upon the combination of general revelation from creation (see Romans 1:20) combined with their capacity for god-consciousness achieved through evolution.

³² The requires special revelation, in contrast to general revelation (see previous footnote).

³³ *On the arguably/seemingly limited mention of other peoples in Genesis, Garvey observes that Genesis also "scarcely talks about any foreign gods at all in its fifty chapters." He comments, "I have absolutely no explanation for this paucity of these references, for the false gods of Egypt and the nations are prominent in Exodus and the rest of the OT. But my reason for mentioning it is that the absence of the gods makes the apparent absence of people, other than Adam and his offspring, in Genesis 2—11, less unique and surprising than it might otherwise seem. As some scholars have suggested, the narrative is exclusively focused on the line of Adam for one good reason—that he is regarded as the forebear (and forerunner) of Israel, for whom Genesis was written."

according to the temple motif, Eden is the Holy of Holies and Adam & Eve are instead God's priests, either created or chosen for the task of bringing all of humankind - so the people outside of the garden (who arose through evolution) – to bring all of them into a personal relationship with Him where they become new creations. And this new creation status would include both the gift of immortality – through access to the Tree of Life – and the gift of theosis, which is the goal of the Christian faith as we know it: for God to make us into his likeness by training us in His wisdom and goodness.

But, of course, Adam & Eve failed at this task. Instead, they exercised their choice to grasp for wisdom apart from God, eating of the tree of knowledge of good & evil. And so, rather than bringing humankind into the blessing of becoming new creations, Adam & Eve's choice brought sin into the world.

@PuzzlingPartsOfEarlyGenesis@ Now, I'll talk more about sin, including how it may have been passed down from Adam & Eve, a little later. But first, I want to walk through how Garvey suggests we might understand some of the more puzzling aspects of the Garden of Eden story through the Genealogical Adam Lens.

We've already talked about how the Genealogical Adam paradigm allows us to understand Adam & Eve as being either specially (& miraculously) created by God, from dust³⁴ & Adam's rib³⁵, *or* as being chosen from the existing population. Well, if they *were* chosen, this would require the dust imagery be understood metaphorically and the creation of Eve from Adam's rib be interpreted as part of a vision God gives to Adam rather than describing Eve's material creation (this is the position John Walton holds). But, again, there is nothing in the Genealogical Adam Hypothesis that prevents us from affirming that Adam & Eve were miraculously created by God, just as God miraculously conceived Jesus in the virgin Mary's womb.

@Puzzling-Nakedness@ But what about Adam & Eve's nakedness³⁶? Garvey notes clothing appears to have been established among humanity as long as 170,000 years ago, leading some thinkers to suggest that their nakedness (Gen 2:25) is metaphorical. "But if Adam and Eve were specially created, and knew nothing of the outside world in their innocent state, that fact might, perhaps, be irrelevant" (meaning they could have been literally naked and known nothing of the clothing those outside the garden had). Meanwhile, if Adam & Eve were instead chosen, their nakedness be

³⁴ Genesis 2:7

³⁵ Genesis 2:21-22

³⁶ Genesis 2:25

a literal or metaphorical reference to a probationary state before their intended acquisition of “priestly” clothing of divine righteousness.”³⁷

@Puzzling-TheTwoTrees@ Regarding the two trees, I’ve already mentioned that in the Genealogical Adam paradigm the Tree of Life could be understood as a sacramental source for imparting immortality. And Adam & Eve lose access to this immortality once God banishes them from the Garden, and are left to die in their sin.³⁸ But regarding the Tree of the Knowledge of Good & Evil, Garvey suggests it could be understood as imparting wisdom, in a similar fashion that the Tree of Life imparts immortality, where “God intended for Adam or Eve to eat of (this tree) eventually, (but) in the right time and way, when they were ready.”

@Puzzling-NamingAnimals@ And what about Adam’s naming of the animals? Garvey agrees it would be “bizarre to think that (in Genesis 2:19-20) God literally brought to Adam every single species of animal in existence, presumably including several million species of insect.” But what if there was still a historical naming event that occurred in the Garden, such as God showing Adam just “the main species in that garden at that particular time” as a “pragmatic demonstration of Adam’s authority and wisdom there”?

@Puzzling-TalkingSerpent@ Then finally, there is the talking serpent. Garvey explains that “the issue readers have with this, apart from the ability of the serpent to speak, is that Eve is not to be surprised that it does.” But, in addition to that, why would Eve - and through her, Adam - submit to what the serpent suggests they do?

Well, based on other scriptures, it does not seem out of the realm of possibilities for Satan to ‘co-opt’ - or possess - an ordinary snake, thereby giving it the power of speech.

But another possibility was suggested by Michael Heiser, who has done extensive work highlighting the scriptural motif of a divine council of spiritual beings subordinate to God. This Divine Council is evident most explicitly in Psalm 82.³⁹ Heiser suggests that “since the garden is described as Yahweh’s sacred space, it would to any ancient Israelite imply that God

³⁷ Garvey: ““Greg Beale, thinking in terms of biblical theology, has an interesting discussion on their nakedness in which he envisages it, like their lack of wisdom, as a probationary state before their intended acquisition of “priestly” clothing of divine righteousness.”

³⁸ Notably, the end of the Bible promises that in the new heavens and the new earth we will be provided with access to the Tree of Life once again. See Revelation 21:1-2 & 22:1-2,14

³⁹ Psalm 82: “1 God has taken his place in the divine council; in the midst of the gods he holds judgement...” (NRSVA)

was not alone there,” but that the Divine Council was present or had access to it as well.⁴⁰ Therefore, he says, “we should understand the serpent...of Genesis as a spiritual being with every right to be in the garden of God, as a member of Yahweh’s divine council.” This wouldn’t give him a “right to countermand the word of God... but such a figure would appear, to (Eve), to have sufficient authority to ‘explain away’ the motives of Yahweh in forbidding the couple access to the tree of knowledge.”

So this ties up some of the loose ends and common questions about the Eden narrative. [@OriginalSin@](#) But what about original sin? Original sin is the Christian doctrine that everyone is born sinful as a result of the Fall. And Reinhold Niebuhr once wrote that the doctrine of original sin is “the only empirically verifiable doctrine of the Christian faith.” 😊 But as obvious as universal human sinfulness may seem, how sin has been transmitted to us⁴¹ as a result of Adam & Eve’s fall remains challenging to explain.⁴²

[@SinAsRebellion//NothingSinBeforeA&E@](#) Well, as Garvey approaches it, he is first of all committed to defining sin as Genesis and Paul do, as rebellion against God. And this means we can assume that actions we now understand to be sinful were done by humans prior to the Eden episode, but because God had not yet given a command against these actions, these actions were not sinful. Therefore, sin can only occur after humankind has been brought into covenant relationship with God and given a command, as Adam & Eve were.⁴³ But Garvey argues that once Adam & Eve come into

⁴⁰ Garvey: “Given that Eden is, as it were, an outpost of God’s heavenly dwelling on earth, and if Adam and Eve, as I shall explore in subsequent chapters, were being “trained up” to be vice-regents to God, then it would actually be rather strange if representatives of Yahweh’s angelic host, attested throughout Scripture, were not present in Eden.”

⁴¹ Garvey: “Ignorance of Augustine’s actual ideas has led to a shorthand that he taught the genetic transmission of sin, which is impossible because neither genes nor genetics were known to him. In *The Genealogical Adam and Eve* Joshua Swamidass is at pains to explain how unreliable genetic transmission is. Most of our ancestors, even a relatively few generations ago, are ‘genetic ghosts,’ in that we carry not a single one of their genes. Hence no ‘sin gene’ could plausibly come to affect the whole species.

⁴² Garvey explains that “the commonest position now amongst those who reject a hereditary aspect to sin, and who therefore see no need for a historical Adam, is to attribute sin to evolution, usually through the idea of evolution’s “selfishness” being the very means through which humankind came into existence, so that such selfishness is inevitable, or at least in practice unconquerable by any higher aspect of our nature. This actually relies on a false view of science, for there is nothing intrinsically (or even extrinsically) selfish about evolution, even in its classical Darwinian forms, as I discussed in my previous book...This view has the additional disadvantage of the lack of any mechanism to explain how humanity gained an unconstrained free will through “selfish” evolution...once again God must be accountable for the weakness not only of his original mode of creation, but of his special endowments for humanity.”

⁴³ Garvey therefore insists that “sin is a product of the higher nature of humanity—it is truly a fall from a position of high privilege... as Genesis teaches, it is our higher, rational nature that is the source of sin, and hence of not only physical death (in a creature intended for eternity) but spiritual death, the breach of relationship with God.

relationship with God, and then break that covenant-trust by eating the fruit of the forbidden tree, “(they) could not go *back* either to ignorance of God, or to (their) previous naïvety, and (they) could no longer go *forward* into learning God’s wisdom, as no doubt God had planned in the first place.”

[@SinSpreadThroughCulturalExchange@](#) Therefore, once they are expelled from the Garden, Garvey suggests that sin – as both knowledge of God and knowledge that one can rebel against this God – would have been spread through *cultural exchange*.⁴⁴ Garvey writes, “Adam’s cultural contribution to the world would be the knowledge that there is a God who seeks communion with people and in whom is eternal life, but also the knowledge that one can assert one’s own wisdom against such a God and maintain (creative) independence.”⁴⁵ So where it had been God’s intention for Adam & Eve to fill the earth with the knowledge of the glory of the Lord⁴⁶ - to come into eternal life with God in Eden and then lead other humans outside of the Garden into the same new creation status with God - instead Adam & Eve’s contribution to humankind was knowledge of God coupled with sin.

[@Genesis4:17&26@](#) And Garvey sketches out how this might’ve played out beyond Genesis 3. Of course, the Genealogical Adam paradigm itself solves the problems of Genesis chapter 4, where Cain’s wife came from and how there were people to inhabit the city Cain builds.⁴⁷ But the end of chapter 4 also includes the strange statement that, after the birth of Seth and his son, Enosh, “At that time people began to call on the name of the LORD.”⁴⁸ Garvey contends that this indicates some outsiders were beginning to worship God in accordance with His special revelation of Himself provided through Adam & Eve.⁴⁹ In other words, their mission of

⁴⁴ Garvey expands on the background for this view: “A greater understanding of man’s fundamentally social nature (perhaps reverting somewhat accidentally to a more biblical world view) now enables us to see that it is only possible to become human at all through the absorption of our parents’, and community’s, culture. Our nature is not exclusively “from our genes,” and in fact genetics has a relatively minor role in the inheritance of complex behavior. It is not even just from our cells. We inherit speech by absorbing in infancy the language of our society, to express the world view of our society. And so there is a level at which our first enculturation, though a social rather than a genetic affair, is in a real sense the propagation of our very humanity from, first, our parents and then our society.

⁴⁵ He continues, “And thereby would have been born mankind as we know it—Homo divinus peccatum—“divine (but sinful) man.” then the restoration of a person to the full image and likeness of God requires a similar miracle. It requires a new creation, even, into a new society.”

⁴⁶ Habakkuk 2:14

⁴⁷ Genesis 4:17

⁴⁸ Genesis 4:26

⁴⁹ Garvey: “The verse, then, appears to suggest that some outsiders began to worship Yahweh either under his covenant

spreading the knowledge of God had been impaired by the fall, but not cancelled.

[@Genesis6:1-2,4@](#) This would also explain the talk of “sons of God” at the opening of Genesis 6. There, it says,

“¹ When people began to multiply on the face of the ground, and daughters were born to them, ² the sons of God saw that they were fair; and they took wives for themselves of all that they chose... ⁴ The Nephilim⁵⁰ were on the earth in those days—and also afterwards—when the sons of God went in to the daughters of humans, who bore children to them...”

Under Garvey’s framework, the “sons of God” would refer to the lineage of Adam & Eve, who carry both their legacy and knowledge of God,⁵¹ while the “daughters of men” refer to those whom they intermarry with, who are not from the lineage of Adam & Eve.⁵² [@Genesis10-11-a@](#) Garvey even suggests that the Table of Nations passage in Genesis 10, which precedes the Tower of Babel, should be understood not as a record “of mankind after a universal flood, but of the Adamic line⁵³ after a regional one.”⁵⁴

name, or at least in substance. Now the introduction of outsiders to Yahweh, like the growth of population recorded in these chapters, would actually be a limited fulfilment of the commission that God had always intended for Adam, and so it has a logical place in the unfolding story. This mission was impaired, but not cancelled, by the fall, just as the parallel commission of Israel, marred from the start by the rebellion at Mount Sinai, nevertheless moved forward under the hand of God.”

⁵⁰ On the Nephilim, see two footnotes below.

⁵¹ Garvey: “‘Sons of God’ is applied to God’s chosen people in both Testaments, used of Israel in the Old, and of the church in the New.”

⁵² On the Nephilim, Garvey writes, “I am dealing with the giants, nephilim, of Genesis 6 separately because it is not clear to me that they are intended to be the same as the mighty children of the mixed marriages just described. In fact, they are mentioned as being on the earth “in those days, and also afterwards,” “afterwards” being when these mixed marriages occur. Perhaps the “mighty men” were the nephilim, or perhaps they were the children of the marriages—the wording is ambiguous—but they cannot have been the children if they also existed beforehand.... (They are)also described as existing after the flood, thus incidentally showing that the author of Numbers, at least, did not consider the flood to have been universal. There they are said to descend from Anak, whose clan is said to be part of the nephilim. Anak was a Hittite. All this suggests some particularly strong or tall group independent of Adam’s line, but probably...”

⁵³ Continuing his thought from the asterisked quote about twenty footnotes about, Garvey writes, “*Indeed, religion is attested all over the world at any plausible date when Adam might have lived. Yet Genesis 2—11 deals only with those who worship Yahweh. The most likely reason for the absence of people outside Adam’s line, then, is not that only the biblical characters existed in the world, but that the writer was as uninterested in the others, for his literary and theological purposes, as he was uninterested in their pantheons.”

⁵⁴ While the young earth view contends that the entire earth was repopulated from the few humans who survived on Noah’s ark, Garvey suggests this repopulation would just refer to Adam’s line. On the flood being referenced, he writes, “The flood may be that of Shuruppak around 2,900 BCE, according to archaeology and the Mesopotamian literature.

@Genesis10-11-b@ And then what about Babel? Even apart from Garvey's scholarship, this passage has already been shown to be best understood as God's breaking up of the first empire,⁵⁵ rather than the birthplace of diverse language or a story warning about human pride. Garvey affirms the first-empire interpretation, but suggests more particularly that Babel is an instance of Noah's descendants - the Adamic line - seeking to forcibly impose their own language and culture upon the other peoples of the land.

@AMoreGloriousMetaStory?@ A final point I want to relay about Garvey's proposal for how scripture can be understood in light of the Genealogical Adam paradigm is that he suggest this understanding of early Genesis provides the Church with an understanding of scripture's overarching story that is *even more* glorious than the understanding that has dominated for more than a millennium. And I agree with him.

You see, when one holds to the traditional view of early Genesis, the overarching story of the Bible is essentially about sin and redemption (which is great! It's good news!). According to that view, God created everything that is, including Adam & Eve as the first human beings, and almost instantly they screwed it up for all of us. So the whole Bible - including Jesus' death and resurrection - is sortof a "cleanup on aisle four" scenario; seemingly everything about God's dealings with humankind is about cleaning up our mess. But Garvey's interpretation suggests that God started creation more than 13 billion years ago - with the Big Bang, which led to the creation of our galaxy and solar system and planets, including our earth, where eventually life emerged and exploded into the evolution of millions of species - until humankind finally emerged. So with both a setting and a species suitable for relationship, as Genesis 1 describes, with a setting that is "good" and a species that is "very good", the Lord deigned to make us into new creations - capable of not just biological life, but a spiritual life - eternal life - with Him. And so, He came down from heaven into the Holy of Holies of the Garden of Eden. This view leaves science to tell the story of old creation and makes the Bible all about new creation, for which sin is only a speedbump. And so, rather than the Bible being about the bad

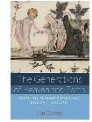
Since this gives us a figure between the flood and Abraham more than twice that of even the elevated biblical ages, we must suppose some generations have been omitted, though not enough to completely falsify the genealogy."

⁵⁵ See, for example, <https://twitter.com/AriLamm/status/1560611622162501634>

news of human sin and the good news of Jesus' redemption, the Bible would be about the good news of new creation and the *better* news of the lengths God went to in Christ to finally bring it about!⁵⁶

And if this is the case, and the scientific discoveries of an old earth and human evolution can allow us to understand the good news of the Bible even more gloriously than before, then I would suggest these discoveries have been the gift to the Church that Smith & Cavanaugh asked us to consider that they might be.

Technical Support



Conclusion

@conclusion@ Well, this concludes our five class course on Adam & Eve & Evolution. I hope that in the very least this class has provided you with some new perspectives that enrich your faith and perhaps even your grasp of God's magnificence. And I hope many of us can agree that it is possible for science and the Christian faith to co-exist and that we need not fear scientific advancements *or* one another, whatever our perspective on these questions.

Thank you for participating!

@tech support@

⁵⁶ Garvey on **Jesus coming "at the right time"**:

"The time frame of the Bible narrative still matches quite reasonably the frequently mocked chronology of Ussher from 1650, which graced the margins of King James Version Bibles for centuries. It is often forgotten that Ussher's work was regarded at the time as a masterpiece of applied science, the culmination of a research program that also included Isaac Newton, and it relied on the best historical corroboration available to him... As for that time, let us assume that, in accordance with traditional theology, it was necessary for all men to be 'in Adam' before they could be 'in Christ.'... Scripture tells us that in the course of time, Christ died for the ungodly "at the right time" (Romans 5:6). There might be many reasons why 30 CE was the right time: the completion of OT prophecy and the culmination of Daniel's succession of empires, or the widespread Jewish diaspora that provided a foothold for a Jewish gospel, or the Pax Romana making travel easier. But one reason might well be that this was just the time when Adam's genealogical lineage became that of every human being on earth. The science tells us that it was, at any rate, not too much longer than would guarantee this, even without considering special divine knowledge.

Adam & Eve & Evolution

Class 5 Discussion Questions

1. What stood out for you about the scientific evidence for human origins? Was the evidence more compelling or less compelling than you expected?

2. Were the statistics presented in Part 2 (titled “Why what we believe about Human Origins matters”) alarming to you? If so, how do they inform your posture moving forward about these issues? If not, why not?

3. Do you have any clarifying questions about Swamidass’ Genealogical Hypothesis?

4. Is the Genealogical Hypothesis a game-changer for you? Why or why not?

5. What, if anything, did you find most compelling about Garvey’s interpretation of early Genesis through the Genealogical Adam lens?

6. Footnote 25 notes that Garvey has an M.D., but not a PhD in theology or Biblical Studies. Does this fact discredit him for you at all or is it possibly fitting that God could provide someone like him with these insights (if you find them compelling)?

7. Read the final footnote (#55) on “Jesus coming ‘at the right time’”. Does this resonate for you at all? Why or why not?

8. At this point, do you believe Adam & Eve were a real historical couple? And do you believe in human evolution? Why or why not (on each)? [Any answers are okay!!!!]