

## **HOMO NALEDI AND THE HOMINIDS: Have We Found the Missing Link?**

### **Interview with Dr. Fazale Rana**

*Pat Zukeran: In a cave in South Africa, there was recently discovered what scientists have announced as a new Hominid or pre-human species. Scientists named this early humanoid species Homo Naledi. Questions arise whether we have found the missing link between apes and humans and what implication this find has for our view of Genesis and Biblical anthropology.*

#### **Dr. Fazale Rana's Background**

Dr. Fazale Rana writes and speaks extensively about evidence for creation emerging from biochemistry, genetics, human origins, and synthetic biology. He is the Vice President of Research and Apologetics at Reasons to Believe. He is the author of several groundbreaking books including *Who Was Adam*, *Creating Life in the Lab*, and *The Cells Design*. He holds a PhD in Chemistry with an emphasis in biochemistry from Ohio University.

A serious scientist, Dr. Fazale Rana came to believe in God and eventually Jesus Christ.

He was agnostic when he started graduate school to study biochemistry. He didn't know if God existed or not and he really didn't care one way or the other. It wasn't important to him. But as he began to immerse himself in the study of the cell's intricacies and the different biochemical systems that make up life, he was deeply impressed with their elegance and their sophistication. In fact, their ingenuity almost looked as if they were designed by a mind. He began to seek out the scientific explanation for these systems namely from an evolutionary standpoint. He found that those explanations were inadequate and a result of that, he became convinced that there had to be a mind that was behind life that brought life into existence.

That made him ask even more important questions namely, 'Who is that Creator that I discovered in the cell and how do I relate to that Creator?' It was about six months later based on a pastor's challenge that he began to read the Bible. As he read Jesus' Sermon on the Mount, he was convicted of his sin and was convinced that Jesus must be who Christians claim Him to be. As a result of that, he gave his life to Jesus and acknowledged Jesus as his Lord and Savior.

#### **The Serious Scientist with Biblical Convictions and Christian Worldview**

Evidently, a scientist can be serious in the scientific field and be consistent with his Biblical convictions and his Christian worldview. In fact, even though we live in a world today where many people see science in conflict with Christianity, it is important to remember that as Christians, we should be at home in science because it's the study of nature. The more we learn about nature, the more that we should see evidence for God's fingerprint. Scriptures teaches us that God is revealed to us through the record of nature.

We can not only see evidence for God's existence in the creation but also begin to grasp some understanding of God's character and God's nature. A Christian biochemist at the University of Georgia, Dr. Russel Carlson, likes to say that the Bible tells us that God spoke the universe into existence; the creation is God's spoken word whereas Scripture is God's written word to us. As we study the creation, we should see evidence for God and evidence that the Bible is reliable when it speaks about God's work as Creator. As

Christians, we should be comfortable with science and not view science as a threat but really an ally to the saved.

*Pat Zukeran: Psalm 19 and Romans 1 indicate that creation every day points to a Creator. So, God not only speaks through special revelation, the Bible, but also through general revelation or His creation.*

### **When Science and Scripture Come into Conflict**

Whenever we're dealing with science-based issues, humility is a very, very important quality to embrace. We have to be willing to recognize that maybe we are wrong about certain things. The conviction we should have as Christians is that the record of nature and the words of Scripture should never be in conflict with each other. Science is the enterprise by which we interpret nature and theology is the enterprise by which we interpret Scripture.

We are fallible human beings. We can make mistakes and if we do, maybe there's going to be conflict that arises as a consequence of that. This is a false conflict. It's not a genuine one. If we look at our interpretations of Scripture and our interpretations of nature for places where maybe we made a mistake, usually if we correct that mistake we see harmony resulting, not conflict. There's a difference between interpretation and our interpretation of Scripture in nature and what nature and Scripture actually says.

*Pat Zukeran: So, when they seem to come into conflict with the scientific evidence appearing pretty strong, we shouldn't assume the Bible is wrong but perhaps our interpretation of the Scriptures sometimes needs to be refined or corrected. It's not the Bible but our interpretation of it.*

There's a big difference between what Scripture says and what our interpretation might be. Likewise, we also have to have the courage as Christians that if we really believe that this is the proper way to read Scripture and it's in conflict with science, we don't necessarily assume that science now is going to trump Scripture. We can adopt the position, as Christians, that maybe there are times where Scripture actually trumps science. This happens many times where it looks like there's a very strong scientific evidence that really challenges the Christian faith but as we learn more and more about that particular system, we oftentimes discover that what we thought to be the case scientifically turns out not to be the case. As we learn more about that system and gain new insight and new understanding, we suddenly see that there is harmony where prior to that there was conflict.

So, part of it is humility recognizing that we are fallible human beings that are interpreting nature and Scripture. But part of it, too, is to realize that sometimes science hasn't got it correct even though people may say this is the mainstream scientific idea. Sometimes science may not have it correct, or sometimes we may have incomplete scientific understanding. When that understanding becomes more complete what looked like a conflict many times becomes some of the most powerful evidences for the Christian faith.

One example of this has to do with so called "junk DNA." Around summer of 1999, there was literally nothing that we could say that was compelling with regard to addressing the challenge of junk DNA. According to this concept, most of the genetic makeup of organisms consists of nonfunctional junk DNA that presumably was the vestige of an evolutionary history. But, lo and behold, as time has gone on, we discovered more and

more examples of what we thought was once junk DNA which actually turned out to be functional to the point now that most scientists have abandoned the junk DNA concept. Now there's actually data that indicates that a vast proportion of a human genome more than likely consist of functional DNA sequences.

This is a situation where what looked to be the mainstream idea where there was a real challenge to the Christian faith when it came to junk DNA turned out later on to be some of the most powerful evidences we have—that the human genome which contains all of our genetic information is actually an elegantly designed system. This is one instance where just being patient and letting the science develop actually turned a conflict into a powerful positive case for the Christian faith.

### **The Genesis Creation Account**

Genesis 1 is a real historical description of God's creative work. What was described on the different days of creation is real literal history describing God's work as Creator. Genesis 1 is not exhaustive being the day of creation as kind of snap shot describing what God has done. There was a lot of information in details just simply left out. This is fun because we now have the privilege of discovering what God has done as we study life history in the history of the earth.

Genesis 1 is a real literal history and that includes the creation of humanity. God intervened in a direct and personal way to create human beings as Genesis 2 says who are Adam from the dust of the earth and Eve from Adam's side. It's a literal description of God's creative work. Rejecting an evolutionary perspective, we can see that God has orchestrated and intervened repeatedly throughout earth history to bring about His creative purposes.

*Pat Zukeran: There are some views out there that say there are other humans who were the first ones with the soul and spirit of God.*

Adam and Eve were the first human beings created in the image of God. They were directly and personally created by God. They were the first human beings, the progenitors to all of humanity and they stood apart from all of the creatures in that they uniquely possessed the image of God or the Imago Dei.

### **What Hominids Are**

Hominids is essentially a scientific term that refers to the primates that have the ability to walk erect. It looks as if some of the primates have the capacity to make tools but its production was crude and cumbersome. They obviously have some intellectual and emotional capability but there's no way that we could argue that they bore the image of God. Hominids are just simply creatures that existed for a period of time—created by God—but then later went extinct. We could think of them in the same vein that we would think of the great ape, chimpanzees, orangutans, and gorillas - fascinating creatures that have some measure of intelligence, emotional capability yet clearly are not like human beings in any way, shape or form. The difference between a chimp and a human, at least in large measure, is in the fact that we bear the image of God and those creatures do not.

However, we have really good data from observations of chimps in captivity and in the wild that they are able to manufacture tools, they even make stone tools, believe it or not. They can manufacture spears to

hunt with. People have observed that behavior in the wild. They would occupy caves; they make beds in trees that are pretty sophisticated structures. They even mourn their dead. They are doing all these remarkable things but, yet the cognitive ability of the chimp is nowhere near that of humans. Chimps are not spiritual creatures, but human beings are so when we compare chimps with humans, there's clearly a big difference.

As Christians, that difference is in large measure the image of God. So, why couldn't there be creatures like the Hominids, the Neanderthals, or Homo Erectus, or Lucy, or Homo Habilis, Handy Man that existed that behaved in a similar vein to chimpanzees, orangutans, and gorillas and then later on went extinct? Why would we necessarily look at these creatures as somehow being evolutionary preambles to human beings? We could easily see them as part of the creation that God put in place.

*Pat Zukeran: Many dismiss these Hominids as fraudulent man-made fabrications. There have been a few that have been fraudulent and proven to be so. However, some believe that these are valid and are actually ancestors of humans, perhaps the link between apes and humans. Approaching this issue is a concern where we don't want to be one who's extreme just completely dismissing them all, but we don't want to go to the other extreme as well.*

There have been number of instances where evolutionary biologists have engaged in forgery and fraudulent activity to try to pass off orangutan remains and things like that as a transitional intermediate to justify Darwin's theory of human evolution. But that doesn't mean that everything that has been discovered is fraudulent. For example, this recent discovery of Homo Naledi is clearly a creature that's unlike anything that we've ever been familiar with. It's a highly unusual specimen that looked like it walked erect very much like we would walk erect but also it looked like it had the ability to swing through trees. It had a very small brain size about the size of an orange yet also it also looked like it had the ability to manipulate tools with its hands.

This as a creature that God created that existed and then later went extinct. The evolutionary biologists view this Hominid fossil record in evolutionary terms where they argue that these are transitional intermediate. But the fact of the matter is evolutionary biologists really do not know how human evolution transpired. If you assume for a minute that human evolution is true, evolutionary biologists have no way of knowing how that transpired from the key transitional intermediate people point to as being part of the human descent like Lucy or Homo Habilis, Homo Erectus and the Neanderthal. In many instances, they are considered to be side branches and dead ends. They really were not part of the lineage that led to modern humans.

There's total chaos when it comes to paleoanthropology. People draw their evolutionary trees but none of them agree with each other. Then a new discovery is made like Homo Naledi which throws the whole discipline into chaos where everybody is rewriting the human evolutionary story. That doesn't sound like a discipline that's providing us with compelling reasons to think that human beings evolved but rather a discipline that struggles to explain how evolution happened which makes one skeptical that it even happened whatsoever.

These creatures do share certain traits in common with humans, at least biologically speaking, but you could see that as evidence for common design. People that design and invent things use the same designs over and over again and that reflects the work of an intelligent agency not necessarily evidence for common descent.

*Pat Zukeran: That's a picture that we do not see in public. In textbooks, it looks like the tree of life going from transitional forms, especially when it comes to these apes to the Hominids, to human being as if they've got a pretty compelling case which apparently is not the case. They really do not know and the evidence goes in many different directions.*

It's tragic that the way human evolution is presented to the public is that this is basically a theory that's all batten down, that there's no doubt that the human beings evolved. But when you actually dig into scientific literature, you'll see that there's all kinds of debates that are going on as to how the different Hominins relate to each other and which ones would be potentially part of the human evolutionary tree. There's so much dispute; there's no consensus whatsoever.

Those creatures that we traditionally think is part of the human evolutionary drama are rendered side branches and dead ends many times by evolutionary biologists themselves. People debate constantly over what constitutes a species and how many different Hominids species were there even with Homo Naledi. Even though the anthropologists who discovered this creature argue that it's a novel creature, there are others that have come along saying it it's just another example of Homo Erectus. So, there are those kinds of debates. With that kind of chaos and uncertainty, it's very difficult to feel comfortable that human evolution is indeed a fact.

Oftentimes, we need to recognize as Christians that there is a certain worldview in play that evolutionary biologists have. It's a worldview of naturalism or materialism where they would argue that there is no God and that the only way then we can explain human origin—if we adopt that mindset—is that human beings must have evolved. But that conclusion is more of a philosophical pre-commitment than actually something that emerges out of the data itself.

Prior to Darwin, there was a biologist, Sir Richard Owen, who actually developed a whole theory for biology built around the concept of an arc type where Owen argued that there is this arc typical design that exists in the mind of the creator and that different organisms display manifestations of that arc typical design. So, he would see shared features that animals possess, for example, as reflecting this common design as opposed to common descent.

When Darwin came along and proposed his theory of evolution, he was trying to explain the origin and the history of life through mechanism as opposed to Owen who was explaining it through the work of a mind. That time, people were so enamored with the concept and idea of mechanism that Darwin's theory just simply took over. Owen's ideas were rejected not because they lacked evidential support but because it was just more appealing to the scientific community that was leaning towards naturalism and materialism to look at mechanism as the way to explain the origin and history of life.

As a consequence to that, ideas and interpretations of the history of life that are friendly to theism, to a Christian perspective simply don't get an airing or hearing within the scientific community or with the public at large many times.

*Pat Zukeran: In studying the history of biology, it's very interesting we don't hear about the theories that were there. Suddenly Darwin comes on the scene with his theory and it just suddenly took off. The people were so*

*ready to accept Darwin's theory from a naturalistic worldview but not these others who were coming from a theistic worldview.*

It's a complex thought but to put it simply with an element of truth: most of the scientific disciplines by the mid-1800s were steeped in mechanism. This was very much the case for physics, chemistry, and geology as well. There was a strong desire on the part of biologists to make biology mechanistic as well. At that time, Owen prior to Darwin, had developed this very elaborate theory for explaining shared features but it was a theory that was friendly to intelligent design, to creation. When Darwin came along and presented mechanism as a way to explain the origin of life, because of that desire to make biology mechanistic as well, it just simply took over and Owen's ideas were abandoned. It wasn't that Owen's ideas failed, that they were tried, and they failed. They weren't even tried but were just abandoned.

### **The Different Types of Hominid Groups**

Australopithecus, the oldest one, are creatures that looked like they have the ability to walk erect. There's a debate right now as to whether or not their ability to walk was referred to as obligatory bipedalism or facultative bipedalism. Facultative bipedalism is a very crude type of ability to walk erect where these creatures would also still knuckle walk at times like the apes knuckle walk. They may have made their ways through trees like apes do. They weren't relying solely on the ability to walk erect although there's a dispute as to whether or not that's the case. Some people say that they have to walk erect as that was the only means of locomotion. But these creatures are very much like chimpanzees. They have very small brain sizes, diminutive in size, maybe four feet in height at the most, and had much in common with chimpanzees as anything else.

Homo Habilis is also a diminutive creature but it clearly walked erect and employed what's called obligatory bipedalism. It looks as if this creature was the first one to make tools at least among the Hominins and the tools that it made were relatively crude. It was taking rocks and striking one rock with another producing flakes and those flakes were in effect the tools. So, when we hear about these creatures making tools, we have to be careful not over ascribe capabilities of these creatures that they actually didn't have because the tools were simply stone flakes that they used.

Homo Erectus followed after Homo Habilis. This creature was about five feet in height, maybe about 120 pounds as an adult male with a little bit larger brain size. This creature clearly walked erect in obligatory manner, had body proportions that were more similar to modern humans than anything else. It made tools only a bit more sophisticated than what we see with Homo Habilis.

Neanderthals appear on the scene. We have genetic data from Neanderthals which is in itself is remarkable. It looks as if the Neanderthals really represent the side branch or a dead end. There's no evidence whatsoever that Neanderthals evolved into humans. These creatures were about the same height as humans, much more robust though with a bigger or larger stature. Their brain size is about ours, but its structure is very different than our brain and they didn't seem to have advanced cognitive capabilities. They did make tools, but their tools usage was very crude and cumbersome compared to that of modern humans.

All of these creatures being part of God's creation were fascinating and marvelous in their own right but yet creatures that were animals in that they lack the image of God. Any kind of biological similarity with humans reflects common design not common descent.

### **Lucy, Java Man, Peking Man**

Lucy is an Australopithecine. It's interesting that even though she's always drawn in the descent of man picture as being part of the human lineage, many anthropologists think that she's actually a side branch or a dead end and really not part of the human lineage. Again, this is in the scientific literature, but very seldom makes its way into the popular media for consumption.

Java Man and Peking Man are examples of Homo Erectus. They are genuine species and not fabrications. The scientist who discovered Java Man, Dubois, actually made a mistake where he had part of a Homo Erectus skull that he associated with a modern human femur. When people later on discovered that was the case, there were some Christian apologists who said, 'Look, we can't really trust or believe that Java Man was a real specimen because of a mistake that Dubois made.'

They later on discovered many, many other examples of Homo Erectus. Their features matched that of Java Man meaning that Java Man, at least the part that was attributed rightfully to Homo Erectus, is just one of the many Homo Erectus specimens that we have.

Peking Man was discovered by Davidson Black, a Canadian physician. It was originally attributed as its own distinct species. People later on figured out that it was also an example of a Homo Erectus.

### **Neanderthal Man**

*Pat Zukeran: It was taught that a diagram was drawn incorrectly by a French anthropologist who drew it, Boule. He made the jaw a little too thick and he moved the connection from the neck to the shoulders a little bit too far forward and that there was arthritis in the fossil making him look like he was a hunched over. He was just a human being with serious arthritis.*

Neanderthal Man is a distinct species that's separate from modern humans. One thing that we have to careful about is to look at mistakes that people made in the very early days of anthropology. Boule's interpretation of Neanderthals was in the very early stage of anthropology when people were just beginning to discover Neanderthal specimen. However, we literally have well over a hundred Neanderthal specimens, many of them complete skeletal remains. So, we have a very good understanding of their anatomy and how they grew and developed. We have skeletal remains of Neanderthal infants and even genetic material from Neanderthal.

All these data indicate that they were a distinct species from modern humans. From evolutionary standpoint or a side branch or a dead end, nobody—no anthropologist—believes that Neanderthals evolved into humans.

They did not hold to the idea that they evolved into humans because the anatomy is so different, and the genetic data indicates that there's not that genetic continuity between humans and the Neanderthals. So, the evolutionary biologists argue that Neanderthals are a side branch saying maybe there was a creature before

Neanderthals that gave rise to humans as a separate branch from Neanderthals. So, they have this Hominid called Homo Heidelbergensis about which they argue that that's the ancestor to humans and the Neanderthals. But there have been some recent studies where people try to validate the idea that the Homo Heidelbergensis is the ancestor to humans and the Neanderthals. However, those studies actually failed to demonstrate that. That's rather problematic because evolutionary biologists can't show that Neanderthals evolved into humans. They render them a side branch and say, 'well, this Hominid must be that ancestral species.' When they tried to confirm that with independent studies, those studies failed to show that. So, right now nobody knows who or what that ancestor was that gave rise to humans and Neanderthals. That's part of the human evolutionary theory but it's an idea that fails to have any kind of validation.

*Pat Zukeran: We're not just looking at one or two fossils of Homo Habilis or Homo Erectus. There are many fossils that are out there that make these legitimate animals out there.*

We've got large number of finds that now constitute the Hominins fossil record, so we have a pretty good idea, at least in broad brush term, what the different Hominids were. We have increasing understanding of their biology and what their behavior capabilities were like.

As Christians, we have to accept the reality of the Hominid fossil record. The good news is there are great ways for us to think about these Hominids from a Christian worldview perspective that allows us to affirm the Genesis 1 and 2 creation accounts without embracing the idea of human evolution. In other words, the existence of these Hominids doesn't equate to the idea that human evolution is a fact. These Hominids can exist and we can still be skeptical about human evolution and the evolutionary paradigm in a broad sense.

### **The Classification of the Hominids Compared with Apes**

The Hominids are not apes. They are their own separate thing. Just in the same way that we have chimpanzees and bonobos and orangutans and gorillas that all constitutes the great apes, when it comes to the Hominins, we have Neanderthal, Homo Erectus, Homo Habilis, and the Australopithecines that constitute the Hominins. The only difference is that we have the great apes with us today but these Hominids have gone extinct and disappeared. We don't have living examples of them but if we did, we would be impressed with them on one hand because they would be remarkable creatures in their own right. They're not the same thing as we are as human beings because they were animals and they lacked the image of God.

As much as we can tell from the archeological record, there's no reason to think that any of these creatures had advanced cognitive ability, had the capacity for language, art, or religious expression whatsoever. Those properties are only found in association with modern humans.

### **The Components of Human Behavior**

When it comes to the image of God, there are number of different models that theologians have advanced. One of which is called the "resemblance view" which basically says that what constitutes the image of God are capabilities that we have that resembles the capabilities of the Creator. They are not identical to the Creator's capabilities, but they resemble them.

For example, our technical inventiveness, our creativity, our capacity for rational symbolic thought—those would all be one aspect of the image of God. Our sense of morality that there’s a right and a wrong and our desire for justice would be other features of the image of God. Our desire to worship the Creator and to recognize a reality beyond the physical material world would be another aspect of the image of God. Also, our desire for relationship with each other and our relationship with the Creator and our desire for religious expression would also be part of the image of God.

While some of those aspects are not going to manifest themselves in the archeological record, other aspects actually will. The archeological record is a great way to probe for the image of God. It’s interesting because when we look at it we see no record that the Neanderthals engaged in art. They did make tools, but their tool usage was crude and cumbersome compared to humans. But when modern humans show up almost immediately out of nowhere, we see this very sophisticated behavior that shows up. We see artistic, musical, religious expressions, ritualistic burials that all are consistent of humans bearing the image of God and being unique and distinct from all other creatures.

Sometimes we hear that people who hold to the evolutionary theory view—this is an idea that traces to Darwin himself—say ‘well, humans are only different in degree, not different in kind from the other creatures.’ More and more of the anthropologists are actually arguing that there really is a thing as human exceptionalism; that human beings seem to stand separate from all other creatures. They were not different only in degree from other creatures; we really are different in kind. That’s rather a remarkable confession on the part of the evolutionary biologists. But the way in which we seem to be exceptional matches what we would expect if indeed human beings are uniquely made in God’s image. That’s extremely encouraging as a Christian.

### **Fitting Hominids into the Genesis Account**

*Pat Zukeran: It’s a great point that these Hominids are indeed valid, so it needs to fit in our Biblical narrative. We just can’t simply dismiss them.*

In the Genesis account, these Hominids would probably fit on the sixth day of creation where the text describes God creating animals on the land. That’s a very general description of what God did when He brought about animal life on the land. It’s not giving us a lot of specific details and information about the sequence by which God created the different animals that appear on the land. It’s just simply making a statement that God was the One who created the animals. The Hominids could be lumped in with the other creatures that God made on the sixth day of creation.

### **Why Some Species Go Extinct**

*Pat Zukeran: These species went extinct as well as other animal species. People ask why God would make species just to have them go extinct.*

Throughout the earth’s history, there have been changes on the earth so that at certain times some creatures are going to be able to survive and thrive. But as the earth’s conditions changed, those creatures are not going to be suitable for the environment of the earth so they’re going to be simply naturally die out. God would come along and recreate new creatures that would exist in the ever-changing environment of the earth.

This is just simply part of the process that God went through as He essentially transformed the earth and ultimately made it suitable and habitable for human beings.

This process referred to here is not the evolutionary process but rather this idea that God is progressively creating different life forms at different times in our history that would be suitable for the planet under those particular sets of condition.

### **The Homo Naledi**

This discovery made in Africa still remains to be seen just what its significance is. In terms of the magnitude of the discovery, it's pretty remarkable because they have over 1,500 fossil bones that can be shown the form of at least 15 individuals that are male and female, juvenile, and adult. This is an incredible find in terms of just having that many fossil bones as part of the find.

However, nobody really knows where these Hominids fit in the human evolutionary story. There's a dispute right now - is it a transitional form, is it a side branch? Nobody really knows what kind of significance to ascribe to this creature, at least, from evolutionary stand point. Again, this discovery threatens to rewrite the human evolutionary story which is so typical where new discoveries create chaos as opposed to bringing clarity. This suggests that we should maybe be skeptical about human evolution as a single discovery can force a rewriting of the human evolutionary story. Just how secure is that story? In science, new discovery should bring clarity and greater affirmation for theories if indeed it's a valid theory. The fact that it's not the case, it should give us reason to be skeptical about human evolution.

From a Biblical perspective, Homo Naledi is fascinating, interesting and it fits right into to the perspective and framework that it's just an example of a creature that's part of the Hominins fossil record that existed and later on went extinct. It's exciting because it's a cool creature that God created that we didn't know about and Lee Berger and his team of researchers uncovered an evidence for this particular specimen. This is not a threat to our faith whatsoever but seeing a model for the Hominins that is from the Biblical perspective being able to accommodate this discovery and other discoveries like it.

### **Homo Naledi's Classification**

Homo Naledi is either a Homo Habilis or Homo Erectus in the broadest sense. But even though you have those four main categories of Hominins, there's a dispute among anthropologist as to how many actual species there are. For example, there are people that argue that maybe Homo Habilis is a single species while others say perhaps it should be broken up to other species—Homo Habilis, Homo Rudolfensis, Homo Georgicus, as examples. When it comes to Homo Erectus, some people say maybe it was just a single species while for others maybe there was Homo Ergaster and Homo Erectus. Some say maybe Homo Georgicus belongs to Homo Erectus as opposed to the Habilis. When it comes to Australopithecines, people argue that maybe there was one or two species while others say maybe there's a whole bunch.

This is part of a debate that's taking place among anthropologists. However, in terms of broad categories, there are four which would be Australopithecine, the Homo Habilis, the Homo Erectus, and the

grouping that Neanderthals belong to which might even include creatures like Homo Heidelbergensis as an example.

### **A Summary on Hominids**

The Hominins were real creatures which existed for a period of time and went extinct. They are part of God's creation as animals. They had intelligence and emotional capabilities, but they lacked the image of God. They are in the same vein as the chimpanzees, orangutans, and gorillas which are fascinating creatures but clearly creatures that are nothing like human beings.

It's very difficult to defend the idea of human evolution from the Hominids fossil record and that just because Hominids existed doesn't mean that human evolution is a fact. We can see these Hominids as part of God's creation without seeing them as being evolutionary predecessors to modern humans.

### **Changes From Hominids to Human Form**

*Pat Zukeran: There's a huge jump or changes that need to occur to go from these creatures to a human being even at the cell level.*

The transition is enormous. Even to go from a knuckle walking ape to a creature that could stand erect involves such large changes in the anatomy and the physiology. It's very difficult to envision how that could happen even gradually over a protracted period of time. Even something simple as going from a knuckle walking creature to one that could stand erect requires wholesale rearrangement of the biology of the creature. It's hard to envision how that could happen in a coherent manner in a relatively short period of time.

*Pat Zukeran: Going from apes or monkeys to human is a huge jump but going from nonlife to amino acids combination to making proteins to RNA and eventually DNA is an even 'huger', bigger jump.*

The transition from nonlife to life is just beyond imagination—how something like that could happen through mechanistic processes alone. Even original life researchers who devoted their whole life trying to explain how that happens are very quick to acknowledge that we have no explanation from an evolutionary stand point how life came from nonlife.

### **About Dr. Fazale Rana**

Biochemist Fazale (Fuz) Rana writes and speaks extensively about evidence for creation emerging from biochemistry, genetics, human origins, and synthetic biology. As vice president of research and apologetics at Reasons to Believe, he is dedicated to communicating to skeptics and believers alike the powerful scientific case for God's existence and the Bible's reliability.

Fuz addresses science-faith hot topics through books - including *Creating Life in the Lab* and *The Cell's Design* - as well as articles, videos, podcasts, television and radio interviews and speaking engagements. He has addressed audiences at over 500 universities, churches, and conferences around the world.

Formerly a senior scientist in research and development at Procter & Gamble, Fuz graduated with highest honors from West Virginia State College (now University) with a BS in chemistry and went on to earn a PhD in chemistry with an emphasis in biochemistry from Ohio University, where he was twice awarded the Donald Clippinger Research Award. He pursued postdoctoral studies in the biophysics of cell membranes at the Universities of Virginia and Georgia.

Several articles by Fuz have been published in peer-reviewed scientific journals - such as *Biochemistry*, *Applied Spectroscopy*, *FEBS Letters*, *Journal of Microbiological Methods* and *Journal of Chemical Education* - and he has delivered numerous presentations at international scientific meetings. He also holds two patents, authored a chapter on molecular convergence and intelligent design for *The Nature of Nature*, and co-wrote a chapter on antimicrobial peptides for *Biological and Synthetic Membranes*.

Fuz has made countless media appearances, including FOX News, *The John Ankerberg Show*, and Harvest Television. He has also appeared in publications such as *People* magazine, *Charisma* magazine, and *WORLD* magazine.

Fuz lives in Southern California with his wife Amy. They have five children.

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