

# All humans are cut from same cloth

by **Mark Pavilons**

What if you found out you were related to everyone else on Earth?

What if you discovered that we are all connected, by blood?

We are!

Each and every one of us is related through our common ancestors ? our primitive predecessors (Adam and Eve if you like), who lived in Ethiopia roughly 200,000 years ago.

Believe it or not, there are people who are trying to create the biggest family tree ever by examining this lineage!

We're at the top of the food chain, due to our larger brain with a particularly well-developed neocortex, prefrontal cortex and temporal lobes, all of which enable high levels of abstract reasoning, language, problem solving, social interaction, and culture through social learning. Humans use tools to a much higher degree than any other animal, and are the only extant species known to build fires and cook their food, to clothe themselves and create and use numerous technology and the arts.

I saw a piano-playing chicken on America's Got Talent, but I don't think we'll see a singing dolphin this season!

But what exactly makes us human?

The human genome is the complete set of nucleic acid sequences for humans, encoded as DNA within the 23 chromosome pairs in cell nuclei and in a small DNA molecule found within individual mitochondria. While there are significant

differences among the genomes of human individuals (on the order of 0.1%), these are considerably smaller than the differences between humans and their closest living relatives ? the chimpanzees (approximately 4%) and bonobos.

Humans also share approximately 70% of our DNA with slugs and 50% with bananas!

Hmmm.

The Human Genome Project produced the first complete sequences of individual human genomes, with the first draft sequence and initial analysis being published in 2001. The human genome was the first of all vertebrates to be completely sequenced. As of 2012, thousands of human genomes have been sequenced, and many more have been mapped at lower levels of resolution. The resulting data are used worldwide in biomedical science, anthropology, forensics and other branches of science.

It's expected that genomic studies will lead to advances in the diagnosis and treatment of diseases, and to new insights in many fields of biology, including human evolution.

What does all this mean? It seems that we're all quite unique, but share some common characteristics with our peers, and our animal ? cousins. ? Maybe it's because we're all related!

This investigation will help unravel our inner most mysteries. But it won't necessarily address other origin theories.

While humans have been roaming around for more than 200,000 years, we only formed real societies some 10,000 years ago when we established farming communities.

If you think about it, we've only been walking around in our current form for a very small measure of time in the grand scheme of things. Even if we consider that 'modern' man has been prancing around for a few thousand years, we've come so very far.

Maybe farther than we think.

In order to learn and grow we must at least be receptive to other perspectives and takes on things.

I'm a believer in aliens, UFOs and life on other worlds. It seems silly to me that the powers above would create only one planet with one species of humanoids on it.

The universe is so amazingly complex and perfect that it begs a few very big questions. But it may take another 200,000 years to get some concrete answers.

I'll toss out some theories and speculations for you to consider.

Are we unique? In all of the eye witness reports of alien encounters, they're described as humanoid - two eyes, two arms and two legs. I find that incredible.

Why aren't aliens big furry, winged creatures with flippers? If they are indeed human-like, it indicates a much closer relationship. What would their DNA reveal?

Did we evolve from protein molecules coming together in the primordial ooze of a bubbling planet millions of years ago? Seems like a very long, complicated process to me.

Or did we human beings originate elsewhere in the universe? Some believe that Earth served as an experiment for alien species, who planted the seeds of life and watched them sprout and grow. Adam and Eve could have been two early astronauts, sent to oversee the project. Or, Earth could have been a penal colony for other worlds, who dumped their dregs, allowing them to fight it out for survival.

The odds for all the necessary materials coming together to form life are, to me, astronomical. How is it that carbon, oxygen, hydrogen and nitrogen are abundant in just the right quantities to sustain life on Earth? Just how did we end up with enough water, and the perfect amount of sunlight, to allow life to survive and thrive?

Are we merely players on an infinite stage, performing our story?

I am thrilled that my ancestors enjoyed the benefits of fire and the wheel. I am equally glad that my lineage triumphed, and I am here today.

And I am oh, so happy, to have millions, perhaps billions, of siblings!