Origins of Andon and Fonta

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Conventional wisdom on the origin of the human species is that, 4 million years ago in Africa, a little creature just over a meter tall emerged from the evolutionary melting pot, and stood up.

The first such creature to be discovered received the name "Lucy"--later changed to Australopithecus afarensis. Lucy had knee joints that allowed her to straighten her legs. Also she made footprints that confirmed that she stood up. Dating of fossils beyond 200,000yrs old is not easy. It is generally done indirectly by dating the ground where they are found--for Lucy at about 4 million years B.P. (before the present).

Lucy had a skull more ape-like than human and was probably no smarter than the average ape. Fossil remains of two other primate-like species found in Africa, Paranthropus boisei and Paranthropus robustus are thought to have been evolutionary dead ends. Supposedly Lucy and her buddies gave rise to the next step, named Homo habilis (handy man). H. habilis was a tool maker, may have appeared about 2.5 million years B.P., looked something like Lucy, but had a larger brain. He/she was about 1.5 meters tall, under 45 kg, probably a scavenger, and supposedly gave rise to the next evolutionary jump called Homo erectus. This guy was more advanced so is measured in feet and inches -5ft 6in. to be precise. He was almost indistinguishable from modern man except for a flattened forehead, prominent brow ridges and no chin (remind you of anyone?). Conventional wisdom has him originating in Africa around 2 million B.P. He was supposed to have taken a long time to get out of Africa and to migrate to Java (1 million B.P) and Peking. When Java man was re-dated to 2 million B.P. in 1970, the work was at first ignored. New dating puts two Java fossils at 1.8 and 1.7 million B.P., is probably reliable, but was unwelcome as did not fit conventional wisdom.

The oldest "human" fossils from Africa and the Middle East were put at 120,000 B.P. until new, also unwelcome reports from China came up with a 200,000 year old human skull. Neanderthal man is still in trouble. Dated from 200,000 - 20,000yrs B.P. he/she is thought to be either unrelated to modern man, or to have evolved independently into Europeans, or at least be ancestral to some Europeans. Take your pick.

How does this tie in with the announcement about the recent African

genesis of humans from a single "mitochondrial Eve" 200,000 yrs ago? (Wilson and Cann, Scientific American, April 1992). And how does that tie in to Andon and Fonta (about 1,000,000 B.P.) or Adam and Eve (37,898 B.P.)?

There are more ways than one of breaking eggs - but they may not all produce the same result. Mitochondrial Eve is based on the concept that the DNA of little energy-producing organelles in living cells derives only from the egg. The male part of the fertilization package contributes about half of the chromosomal DNA but none of the mitochondrial DNA. If we can measure the average rate of mutation of mitochondrial DNA and get some line on diversity, then maybe we can extrapolate backwards to when all mitochondrial DNA was one - or something like that. Wilson and Cann came up with Mother Eve having spawned the human species 200,000 yrs B.P.

Another way of breaking eggs looked at a different class of DNA, and combined this with the coalescence theory of population genetics to come up with the conclusion that all human alleles (variations of the same gene) date back no further that 400,000 yrs--which is twice as old as Mitochondrial Eve.

There are problems with both these methods. Taking the last one first, the idea is to select "neutral" genes randomly and do much the same thing as the Mitochondrial Eve job to date back to the ancestral gene. The problem is whether the genes are truly neutral. To be so there must be no selective advantage in comparison with other genes. The work that gave the 400,000 yr. answer was shot down in flames as being a vast underestimate. Now here's the bit that takes a swipe at Eve:

"In fact, the study demonstrated no such thing. What the authors did claim to establish - although contested by several investigators--is that all mitochondrial DNA variants are derived from an ancestral molecule borne by a female who lived some 200,000years ago. This conclusion, even if true, would not mean that the human pedigree began with a single mother but only that the extant mitochondrial DNA alleles coalesce to a single ancestral molecule extant 200,000 years ago."

What this says is that even if the data are correct it only means that there could have been a large population of Eve's at that time, all with the same brand of mitochondrial DNA.

Of more interest to Urantia Book readers are the other scraps that have come from these studies. Most of the work has been on the "MHC" genes of the human immune system concerned with "self-recognition." These ensure that if you get a skin graft from your neighbor, it will drop off. But if you get it from your identical twin, it

might stick. Besides telling us that we derive these genes from a cross species ancestry going back at least 65,000,000 years, it also permits an estimate of the size of breeding populations that give rise to a species, including the human species. Quote: "The MHC data imply that the early hominid line split, at some stage, into at least two populations--one of which led to modern Homo sapiens (us). This population consisted of at least 500 but more likely 10,000 breeding individuals who carried most of the MHC alleles and allelic lineages now found in human populations."

Many (most?) readers think that the Urantia Book claims that Andon and Fonta were the sole ancestral parents of all of us. In fact, it does not. It says: "Even the loss of Andon and Fonta before they had offspring, though delaying human evolution, would not have prevented it. Subsequent to the appearance of Andon and Fonta, and before the mutating potentials of animal life were exhausted, there evolved no less than **seven thousand** favorable strains which could have achieved some sort of human type of development. And **many of these better stocks were subsequently assimilated by the various branches of the expanding human species**." (734). Which would account quite nicely for the present polymorphism of the MHC alleles, as well as the estimates of the initial size of the breeding population at between 500 and 10,000. Ain't that marvellous?

Reference:

Klein, J., N. Takahata, & F.J. Ayala. "MHC Polymorphisms and Human Origins." Scientific American 269 (6) 46-51. 1993.