

Brain Gut 3: Look In The Past To See Your Prologue

READERS SUMMARY:

1. WHAT ARE THE EVOLUTIONARY IMPLICATIONS OF A LEAKY GUT AS A POSITIVE ADAPTATION AT OUR SPECIES ORIGIN?
2. WHY DID BIPEDALISM ARISE BEFORE BRAINS IN HUMANS?
3. DID THE CLIMATE AND TECTONIC PLATES DICTATE THE EPIGENETIC CHANGES IN THOSE TRANSITIONAL PRIMATES?
4. DID RAPID CHANGES IN INNATE AND CELL MEDIATED IMMUNITY OCCUR BEFORE THE BODY PLAN CHANGES IN PRIMATES?

When our ancestor primates acquired this leaky gut mentioned in the last blog Brain Gut 2, it allowed them to assimilate a lot of new genetic material that would help them navigate their new surroundings. This genetic material was assimilated very quickly and in a short amount of time. Why do I say this? In the East African Rift during 'homo' speciation there was massive climate change. In times of environmental change species are subjected to something called punctuated equilibrium. This theory states for most of evolutionary time species are in an equilibrium with their environment and then something sudden happens to force adaptation. We saw this in the K-T event, the Young Dryas, and when primates evolved to humans during the late Pliocene. It appears that by studying the difference between primates and human DNA we find many striking differences in body composition, comparative anatomy, but what has occurred in our retrotransposons, gut, brain, and spine confers massive alterations to the 150 million year old mammalian body plan that was well conserved in eutherian mammalian adaptation. The spine in most mammals is adapted to be constructed perpendicular to gravity with four limbs suspended from it. In humans, this plan has been strikingly

altered rapidly. We must remember that Brain Gut 1 told us that humans, chimps and gorillas are very similar genetically but very different morphologically. That implies the major differences in them was forged by epigenetics. In Brain Gut 2, we saw how Mother Nature pulled that off by using viral marketing to shuffle our genome with retroviruses. Now , in Brain Gut 3, I take you to two new science branches to show you more data that lights the path to Optimal. Today we talk about geology and bio-astrophysics and how they helped shaped homo from transitional ape.

Evolution is not just one process, like genetics, but a collaboration of many processes and techniques, called epigenetics. Evolution is not inventive, but it is innovative. It uses fractal designs sculpted by the current environment a species finds itself in. Mother Nature is life's Michelangelo. She has sculpted life using the environmental triggers to guide her creations. The entire mammalian phylogenetic tree is being torn down and re examined now because of the **epi-genetics** we are uncovering now. We now know the bone collectors have had very little correct. Even today most of them can not fathom just how wrong they have been. Well we need to let the data, not the dogma, guide us if we want to get to Optimal.

The bone collectors have tripped over that often in theorizing their theories. I'll take it further, I've been very skeptical about aspects of the standard theory of evolution, especially the neo-Darwinian Modern synthesis, for quite some time but I have remained quiet until this series. Yes, I said it. I think Darwin had a lot wrong too. Let us examine that radical idea for a minute.

DARWIN'S DILEMMA:

The first problem that most of the bone experts, including Darwin had, was to explain how humans are the only mammal to become bipedal. For 150 million years Mother Nature

constructed an amazing mammalian body plan for the quadruped spine. To date, no theory yet, has solved the human riddle of bipedalism. I think the answer lies in retrotransposons of assimilated viruses and from miRNA from foods to drive genetic changes that later manifested in homo's body plans changes we see today. It also occurred because the rapid changes had to be first passed from the environment to our innate immune systems for processing and modifications. Our guts are the only way nutrients get in and out of our body. Our immune system sits right behind the brush border so the morphology follows the design where "**form meets a function.**" There is no way we could go from the trees eating fruits and fibrous roots/bark to a meat and fat eating human without some alterations. This implied to me that once the gut became leaky it began to shorten because of environmental triggers in the diet. It also implied the environmental antigens we faced **upon the ground** occurred in a new **COLD and WET** environment of the Pliocene. These environments were new challenges for the transitional primates to face. This meant their immune systems would also have to adapt to the rapid climate changes because it brought with it new pathogens to protect itself from.

RADICAL IDEA NUMBER THREE: The leaky gut allowed us to sense our environment and it stimulated **two simultaneous epigenetic** alterations but for different reasons. The first was development of a **rigid foot and ankle** because climbing trees in the cold and wet of a dwindling Pliocene forest is dangerous to primate's health. It makes climbing difficult and dangerous. Moreover with a dwindling forest in the Pliocene, their food supply became constricted in the trees. That meant that a terrestrial diet was selected for because climbing was harder in the cold and wet conditions and their food source diminished. How do we know this is true? Think about this analogy. Have you ever seen a quarterback try to throw a football in a torrential down pour? It is very difficult to control the wet skinned leather on a football in a cold wet environment. It also is hard for apes to climb in cold wet

weather in many zoo's in the US. This is also observed in the wild in many species as well. The apes avoid dangerous climbing in these conditions according to zoo keepers I spoke with. You are scoffing at me now with that football analogy, and I agree. But it does open your mind to the cause that might explain why our foot design was the first alterations before we began walking upright.

What if I told you that the lower limb, and specifically the foot and ankle, would be the first to adapt in a chronically cold and wet environment in the primate body plan? What if I told you that today's Western Mountain gorillas have more human feet because they spend more time on the ground because their environment is colder wetter environments even today? Their big toe anatomy approximates a more human position than an their warmer dryer cousins in East Africa (tree dwellers) who have a mid foot that is highly flexible for quadriped walking and a great toe that is away from the rest of its foot and is opposable for grasping for climbing. This reason has never been put forth in the paleoanthropology literature as the main reason for bipedalism, as far as I know. Feet are rarely talked about within this "group of experts" because the fossil record is horrendous in quality and quantity when it comes to foot bones of transitional apes. But what we know, is that Ardi and Lucy, who were transitional apes, were upright first before they encephalized. No one disputes this any longer. The bone collectors still have no answers for why this happened. Neither did Mr. Darwin in his time. I think I might have stumbled into the answer. In the cold and wet environment, this means they had to have more stable ankles and knee joints to walk. Want to see some proof of this speculation? Watch this video on gorilla foot and ankle anatomy.

I believe the reason apes became bipedal is because they lost the forests rapidly and the climate rapidly changed to a cold wet environment in the matter of a few months to years because

of the plate tectonics of the region they lived in.

RADICAL IDEA NUMBER FOUR: The food was split between land and sea as the Rift evolved because of the action of the tectonic plates of the Rift zone. Sea water entered the picture as the temperature also cooled. These rapid climatic events meant that the most nutrient dense source of food was radically different than what these apes were naturally adapted too in the forests and trees. So when your faced with starving, apes would begin eat what Mother Nature brought to them, just like humans had to after the Young Dryas we mentioned in Brain Gut 1.

The second advancement was that when we hit the ground the highest nutrient source available in the Rift Zone was predominately shellfish in shallow coastal waterways and lakes because water came into the environment as the forest dwindled as the temperature got cooler. The fossil record also shows these conditions were also present 5-7 million years ago in the rift zone.

The shellfish was abundant, and loaded with viral and bacterial pathogens that a primates immune system was not ready to deal with initially because they were herbivores and adapted to arboreal living. This is akin to how modern humans were dealt a death blow by Yersina Pestis in 1347 that we covered in CPC #4 or how humans fared initially against HIV in the 1980's. Those disease killed lots of humans back then, but the survivors had the tools to rapidly evolve and survive and thrive into the future. We also saw the same method of survival occur in the K-T event with all eutherian mammals as well. I also found it more curious that the placenta is also a retroviral adaptation for the mammalian tree. This is more evidence of fractal design in the practice building life. Most shellfish has pathogens like Vibrio species within them and many virus's contained within them that would have provided the RNA and DNA to help transitional apes naturally select for the leaky gut. Vibrio is know to inhabit coastal waters and is

a water born vector. Take a wild guess what else Vibrio secretes naturally? It secretes a zonulin occludens toxin too. Zonulin is what makes a human gut leaky today! The leaky gut helped fuel a lot more changes yet to come in the blog series.

I think zonulin toxin was assimilated from these shellfish and incorporated into the transitional apes who survived the initial infections. **These transitional apes eventually became us.**

AUTOIMMUNITY IS A HUMAN DESIGN INNOVATION:

Humans are the only mammal on the planet that can get an autoimmune disease easily. Many people today do not know this. In fact, many doctors do not know this because when I have said it at meetings they have told they did not know this. Primates do not get them easily because they do not have zonulin. Humans have zonulin and primates do not. Anyone starting to connect any dots yet? If not stop and ask why this might be true? Question lead to truthful answers. Theories with answers lead to dead ends often in science.

What would be the evolutionary advantages to **naturally selecting for a zonulin** like protein in our species?

Zonulin allows for more rapid assimilation of some nutrients and minerals from our gut, but it best allows rapid assimilation of antigens to present to our guts immune system (GALT) to allow for incorporation new RNA and DNA into our fossilized library in our junk DNA. In other words it allows us to collect more genetic parts in which to shuffle the deck to make epigenetic adaptations much more rapid. If the environment changes that quickly than Mother Nature dictates that life must follow suit as well. It appears that something in that isolated ape environment was introduced into our GI tract that selected for formation of a leaky gut. It made genetic recombination an easier task to drive evolutionary change to homo as the environment rapidly changed as well. This somatic recombination of DNA is the breaking and

rejoining of DNA strands to form new molecules of DNA encoding a novel set of genetic information. This is why modern genomic arrays of the human gut flora appear to have co-evolved with us in the places we have lived. This is why Northern Europeans have the ability to handle lactase and why the modern Chinese and Japanese rarely have this ability. The number of gut bacteria in our gut is close to 100 trillion cells and they outnumber our own number of cells in our entire body by a 100 to 1 margin.

RADICAL IDEA NUMBER FIVE: I believe our leaky gut allowed us to use the gut microflora to drive most of the morphologic changes we see in modern man today compared to primates.

It appears we use the gut microbiota to be our sixth sense for environmental adaptation. I think this is a rather ingenious use of bacterial/viral life to our advantage. Remember this is an 'old page' from the evolutionary playbook. We assimilated a bacteria to form mitochondria to make ATP billions of years ago as well. Evolution follows a fractal design where form always meets function.

It appears we absorbed much of their genetic material to make our immune system rapidly adaptable compared to our primates cousins. Want some more proof? We get almost all of our Vitamin K2 from our gut microflora today. We make very little of it endogenously. Do you ever wonder why we no longer need dietary vitamin C either? Our guts and their contents helped us make what we need to get by. We got by with the help of our friends in our guts. Are you seeing how this all might work for us now? Today, we look at leaky gut via an illness perspective. I no longer do. It's part of our evolutionary design! Our modern problem is that we live in a new world that creates a more leaky gut than we should have because our amazing brain can create mismatches that our genes can't handle well.....yet. I believe that is why humans face another unique human disease. That disease is cancer. Yes, I think cancer is not a disease but it is the way our body is trying to shuffle

the deck to look for cures to modern mismatches. Do you think that sounds crazy? I mentioned it in CT 2. Take a look at this link. I have been saying this for seven years and now the world is beginning to come around to this too.

I think when you realize they autoimmune diseases are due to modern environmental mismatches humans have created themselves because they have controlled their environment to our own detriment it gives you an entirely new perspective on what is a really disease or a master adaptation run aground by “bad decisions of a brain” formed by this leaky gut 2 million years ago. I think of a leaky gut at our origin as a stroke of genius. **It created a semipermeable membrane to fuel rapid and massive genetic information from our new environment to alter epigenetic expression by taking advantage of new environmental mismatches in the African Rift Zone.**

With the suboptimal choices made in our modern world today by humans, you can see how a novel mutation from 2.5 million years ago, can go awry, and be thought of as “bad” when its original evolution was seminal in our ascent from primates.

This adaptation allowed massive expansion of our immune system capability and it allowed us to fuel massive growth to the mammalian body plan that is highly conserved in evolution over the last 140 million years.

Ah yes, the mammalian body plan.....let us do get to that part of the idea.

RADICAL IDEA NUMBER SIX: If this idea is plausible we should expect the first two radical adaptations to appear in the fossil record to be bipedal gait (A) and an altered immune system in the HLA and KIR sites (B) in cell mediated immunity of the GALT. Why you ask?

A. Dwindling forests means less food and cold and wet means the food would have been terrestrial based and not arboreal. Guess what the data shows? The fossil record of ARDI and LUCY

say bipedalism happened before encephalization. This aspect of the idea is not controversial at all today.

B. But what about the immune system alterations that would have had to happen to allow these apes to rapidly alter their gut flora to eat foods they were not used to eating? This is more controversial and speculative but there is a lot of support for this belief today that we will examine as we proceed on in this series.

We will never know about the immunity issue because these apes immune systems are not capable of becoming fossilized. Or are they? Can we actually know what happened to ape guts? Yes we can. We know that they shortened tremendously from Dr Milton's work on evolutionary morphology of their guts. Many experts have focused upon the length and the morphology as key tenets, but neither one is the major factor in human ascent, in my opinion. They're consequences of the real game changer event. That change was the co-evolution of the gut microflora that sculpted the immune system via the leaky gut of these transitional apes. This all started with the HERV K retrovirus that made primates more likely to harbor latent virus that did not cause disease. They later became collectors of the retroviruses because of their leaky gut and they used the genomes of the viruses to expand and build their own on the X and Y chromosome. Here is more support of the idea.

The oceans on planet earth are the largest source of viruses and this means that food sources from the sea would be loaded with these retroviruses to become our future jumping genes that fueled the massive brain growth yet to come in hominid evolution. **Indolent host viral persistence allows the vast viral creative potential to contribute to the genesis of any new host.**

Let us consider the oceans as the vector and a partial food source for transitional apes. The oceans are a vast melting

pot from which all life has evolved on this planet. Few of us are aware that the oceans are also a vast and ancient viral cauldron on our planet. In fact, recent estimates suggest that the combined oceans contain about 10^{31} viral particles, mostly consisting of large icosahedral double stranded DNA viruses. I know that number is hard to conceptualize in words, so let me give you visual analogy. The diameter of each virus is about 100 nanometers, which is pretty small. If we lined up all the viruses side by side they would be longer than the universe is known to be wide as of 2012! (10^{24} meters for those counting)

So we had a vast source of viruses to fuel a new species who had a leaky gut that also allowed for easy egress of this transposable genetic material to assimilate into its own DNA to create massive deck shuffling of our DNA. In addition, most of this viral genomic mass in our oceans has been measured to **turn over every other day** due to mostly solar UV irradiation! The source is constant and never ending warehouse of genetic spare parts that would help us make a brain.

Is there any proof of this speculation? Ironically, there is. Take a look at this video from 12:50 to its end. I know that was very sciency video, but it shows you there is a massive difference between ape and human immunity in the KIR and HLA haplotypes. Ape and human immune systems are dramatically different in the two areas they need to be to facilitate rapid adaptation. **2 for 2 on this idea so far.**

WHY WOULD RAPID ADAPTATION BE REQUIRED FOR A RAPID EVOLUTION? GEOLOGY ENTERS THE SERIES!

Simple. It was the rapid climate change of the Rift zone caused by plate tectonics. Take a look at this excerpt from one of my cites below.

“The Turnover Pulse Hypothesis purports, the Variability

Selection Hypothesis requires climate change on a much more rapid time scale and without consistent pressure in the same direction. It states that dramatic and frequent climate changes drove adaptations that enabled individuals to cope with a wide range of environmental conditions. These frequent climate changes thus drove hominins to evolve ways to better adapt to a variable environment. Indeed, the fossil record reveals two methods adopted by different hominin species: brain expansion to think and manage environmental stresses, and massive jaws to eat anything, whatever the conditions." It appears most of that food source was in the waterways from the oceans on the flooded coasts.

"An example of such rapid climate change is El Niño-Southern Oscillation (ENSO), which currently has a major influence on East African climate. However, for there to be a strong ENSO, there needs to be a strong east-west atmospheric circulation called Walker Circulation. About 2 million years ago, Walker Circulation intensified to its modern level and may mark the start of ENSO. This would have resulted in extreme annual variations in local and regional climates from 2 million years ago onward, which correlates with the first appearance of Homo erectus and the last occurrence of Australopithecus africanus. Another example is the periodic extreme climate change that can come from orbital forcing, which is the wobble of Earth on its axis of rotation and orbit around the sun. Geologists have known for decades that orbital forcing controls the waxing and waning of ice ages, but we now realize that it may have profoundly affected tropical climates as well. The excellent stratigraphy available for the East African sites has allowed researchers to document the link between orbital forcing and ancient lake levels." I spoke about how orbital forcing played a major role in Factor X as well in my Webinar.

"No doubt rapid climate changes played a major role in speciation, causing adaptive responses to severe shifts in moisture availability and the consequential changes in the

ecosystems. The onset of Walker Circulation around the end of the Pliocene seems to have modified the response throughout the continent. For example, in southern Africa, the mixture of woodland-dominated and grass-dominated plants present through the Pliocene is replaced at that time by a system dominated by grassy plants, as Phil Hopley of University College London in the United Kingdom and colleagues have shown.”

Looks like the idea still is working for us. Lets look further at the plate tectonics of the Rift Zone.

Tectonics and the building of the human cradle:

“Recent studies show that tectonics modulates local climate, especially in East Africa. The formation of the East African Rift Valley between 10 million and 5 million years ago forever changed Africa’s landscape and climate and, it seems, the course of human evolution. In less than 5 million years, East Africa went from a relatively flat area with abundant rainforests to a region of extreme topography. As the rift opened, a region of mountains, plateaus and deep rift valleys formed, creating the so-called cradle of humanity.

The newly formed East Rift shoulder, or mountain range, prevented moist air from the Indian Ocean from passing over East Africa and significantly dried the other side of the mountains. This combination of topography and aridity shifted vegetation, which produced a climate that varies from cloud forest to desert scrub across the rift. On a local scale, Rhonda Quinn of Rutgers and colleagues have shown that in Koobi Fora in Kenya, grasses appeared later than in the rest of the region, likely driven by tectonic changes that altered the local hydrology. Without considering tectonic changes and the evolution of the East African Rift, sedimentary records in this area might be misinterpreted as primarily forced by global climate change. On a regional scale, too, the impact of tectonics is not straightforward. This is clearly illustrated by the large lakes of East Africa, which developed as the East

African Rift developed.

We've known that the rise of the mountain ranges caused aridity changes for awhile, but the relationship between orbital forcing, the tropics and moisture availability in the East African Rift Valley is new and quite exciting. It also sheds light on potential causes of changes in hominin evolution.

Water is rare in northern Kenya today and this water seen on the recent expedition to Suguta Valley disappeared within two days. Researchers had to use helicopters to reach the sites."

So far, all the things we need to set the table are present for us to come from transitional apes.

So what unifies climate and plate tectonics? Pulsed Climate Variability Theory: NOW BIO-ASTROPHYSICS ENTERS THE SERIES!

"What's needed, then, is a hypothesis that combines tectonic forcing with climate variability, thus linking orbital variation and the new topography. Enter the Pulsed Climate Variability hypothesis as suggested by Martin Trauth of the University of Potsdam in Germany and Mark Maslin.

Over the last 3 million years, the East African Rift Valley has become more arid, but we now know that this long-term trend was punctuated by short episodes of alternating periods of extreme wetness and aridity. Using detailed analyses and excellent stratigraphy, John Kingston of Emory University in Georgia and colleagues have found an extreme change in lake levels in the Baringo Basin in Kenya between 2.7 million and 2.5 million years ago at a precessional scale (about 21,000 years)." I talked about precessional changes as well, in my Factor X webinar in May of 2012.

“Such periods of extreme climate variability occurred three times in the last 3 million years. Trauth and his colleagues suggest that each of these periods coincided with a major global climate change during which East Africa became more locally sensitive to orbital forcing at precessional scales. This resulted in rapid shifts from wet to dry conditions, as moisture from the tropics alternately was available or denied to the rift valley, depending on orbital configurations. These periods of “pulsed climate variability” are characterized by the precession-forced appearance and disappearance of large, deep lakes in the East African Rift Valley. These lakes were huge and deep – well over 1,000 square kilometers and 300 meters deep. Trauth and his colleagues are continuing this work on large paleolakes found in the Suguta Valley in northern Kenya by trying to establish how quickly these large lakes appeared and disappeared. Their results show that the scale of Paleo-Lake Suguta is astonishing – only 13,000 to 10,000 years ago, there was a lake 300 meters deep covering 1,600 square kilometers.

Significantly, over the last 3 million years, such periods are focused at times of major global climatic transitions, such as the intensification of Northern Hemisphere glaciation 2.7 million years ago, the onset of Walker Circulation 2 million years ago and the mid-Pleistocene Revolution 1 million years ago – during which the ice ages started to become more intense and longer. These periods of pulsed climate variability may have provided a catalyst for evolutionary change and driven key speciation and dispersal events among mammals and hominins in Africa. In particular, hominin species seem to differentially originate and go extinct during periods of extreme climate variability. Although representing less than a quarter of the total period of highly variable East African climate, or pulsed climate variability, 12 out of the 15 known hominin speciations occurred between 5 million and 500,000 years ago.” 12 for 15 is a pretty good batting average.

“Despite the aridity of modern East Africa, in the past, much of the region has been covered with large lakes that have come and gone. Many of these paleolakes correlate with key steps in human evolution. One of the tasks of the recent expedition to the Suguta Valley was to map all of the old lake shorelines.” This means that hydrology and water played a massive role in forming humans. Many people like to lean on the aquatic ape theory because it addresses morphologic changes that the bone collectors have been stumped by. I however think the theory is too dumbed down for many reasons. However, the one point that I think is no longer debatable is that human evolved around water and even left Africa using the coastal waterways. Most of human civilization is tied to water supplies.

You can check out these Rift Zone water features if you open the cites at the end of the blog.

“Thus, the evidence seems to be leading us to believe that not only is highly variable climate associated with evolutionary innovation, but that pulsed climate variability is a mechanism for focused periods of innovation, whereby orbitally forced rapid climate changes are separated by periods of relatively reduced amplitude change. Furthermore, the evidence suggests that such climate changes would never have had the same extreme effect if it were not for the tectonic disruption, as the East African Rift formed.”

“Tectonics can thus be seen as a fortuitous intervention in human history, allowing orbitally forced tropical moisture changes to become a potent focusing mechanism in our evolutionary pathway. Local climate responses to these tectonic changes were likely amplified by the onset of Walker Circulation and modulated by precessionally forced variations in moisture availability, at least in East Africa. As a result, speciation also seems to have been earlier, and maybe even faster, in eastern Africa than in more stable southern Africa. However, the climate of southern Africa is not well-defined for the late Cenozoic, and we are just now beginning

to assemble a detailed history of this complex region. The "Pulsed Climate Variability" hypothesis thus integrates climate variability with major climate events, and provides a potential explanation for the rapid evolutionary innovation during this time period. Whether this directly led to speciation in East Africa, and later migration out of Africa, is still a major question. " If form follows function than on can immediately see why a biologic organism would need to rapidly become sensitive to its new environmental conditions. This is why we evolved a leaky gut and a rapidly adaptable immune system. The size effect of both was to gain a large brain because of what nutrients were contained in those new water sources.

Factor X predicted a progressive rapid increase in the speed of epigenetics (DNA expression) in all the eutherian mammals who survived K-T because the asteroid event also occurred within a matter of seconds to change the world to a colder, wetter environment. This set of circumstances was replicated in the cradle of humanity 63 million years later by a different mechanism! Geologic history repeated itself once again using a different formula for the climate change!

Let us review this all now once again. NON GEEK ALERT

SUMMARY:

The rapid changes seen in the East African Rift selected for the development of a leaky gut and it was then incorporated to the great apes to facilitate homo speciation. The African great apes were susceptible to retrovirus because 30 million years earlier they became infected with HERV K that gave them the unique ability to acquire retroviruses without getting ill. This leaky gut mutation likely happened to our transitional ape ancestors because we know we came from them and we have clearly have the molecular library to pull this off. It separates us from them and would not be found in their fossils, just in their morphology. Once this adaptation

was shuffled to match our new niche environment on the coastal waterways it was generalized to the apes who became the homo species. This separated genome broke free from the great apes because they left the jungles because they faced a new environment in a short amount of time. Back at our origin this was a great adaptation for rapid adaptation to a new environment. It appears this is why a leaky gut was naturally selected for in some of the great apes like Lucy and was generalized quickly to homo. The leaky gut allowed our guts to shorten but required a co evolution with our gut flora to provide some nutrients that our new environment was not deep in. Gut flora genomic arrays show that to this day, there seems to be different flora in different populations in different cultures and societies of humans. There is no longer any way medicine can deny the epigenetic power of the gut microflora to help in nutrient adaptation. These differences can lead to different traits and in many cases different disease risks. This branch of medicine is in its infancy today, but it appears why we see societal, cultural and racial differences in many modern human subgroups. This is rarely considered in modern medicine today. This has huge implications in modern disease planning and how we should treat certain conditions. The environmental changes Ardi and Lucy faced first, triggered assimilation of a vibrio like parasite and the transitional apes developed a "**leaky gut by design**". This was naturally selected for in the new environment that was created in the Rift Zone and generalized in the apes that were soon going to become us. The leaky gut became the conduit that made homo speciation possible because it rapidly increased our ability to add special transposable genetic elements to our DNA easily from our new diet all these changes made us more susceptible to rapid DNA expression changes (epigenetics) that caused all the morphologic changes seen in humans today.

This is, in fact, one of the biggest differences between our species that few talk about because it is brand new genomic

data. This ‘sped up DNA expression” is a result of retrotransposons in our genome that just 15 years ago we thought was “junk DNA”. Today we know that 97% of our DNA is used to alter our genome based upon epigenetic signaling. We have recently found out that 7% of human genes have undergone mutation just in the last 20,000 years. This rapid change has astounded scientists. It did not shock me one bit, because of the thoughts I had in 2005 about the findings in our own genome, and I am sharing with you in this series.

This is yet another reason that we must question today's conventional wisdom that man's genome has changed very little in the last 100,000 years as Cordain has said many times in books, articles and in interviews.

We now know paleo man's genome does not matter, but his expression of the DNA is tied to the fitness of his gut and his ancient diet as he evolved from primate.

We know it is the **retrotransposons** that matter most because of molecular biology. The epigenetic data of retrotransposons strongly says to me, we may need to question Cordain's wisdom now. We are quite different now than we were at our genesis, so that suggests our diet in the paleolithic may not be best for homo at all, even today! It's a point of speculation and theoretical evolutionary thought, but you must question everything in my opinion. In fact, I believe we were evolving away from our “best possible brain” as soon as man hits the paleolithic, given this new perspective of transposons. This is why my version of the Paleo diet is called the **Epi-paleo template** to heal humans of disease. We will tackle the

molecular biology of that belief in Brain Gut 4.

No other mammal on this planet has more “junk DNA” than humans. Do you think there is a reason for this now? This means we are very responsive to environmental changes and can rapidly mutate our genome using retrotransposons that can jump to other parts of the genome that need help. It is how humans are designed to shuffle their own decks to improve themselves based upon the challenges we face in our environment. Are you beginning to understand why environmental mismatches we face in the modern world might be killing us now? They do not fit our biology that we evolved to in the East African Rift Zone.

This modern human situation essentially speeds up genomic change using an epigenetic game plan. The result is more disease and devastation in the hopes of finding a new cure for our current ills. How did evolution come up with that idea?

That idea was born from the currency of **Factor X** that I covered extensively in my May 2012 Webinar and will be detailed in my book. If you become a member on the forum you can re listen to the that live broadcast. We are building the cornerstones of the Quilt in this series and connecting a lot of dots.

This is why and how, I believe, the table was set for man to evolve from transitional primates. These moves all set the tone for the biggest morphologic changes that occurred from ape to man. The change in the spine, pelvis, gut and the brain are massive evolutionary move that are unprecedented in all of evolutionary history . We are going to deeply explore that evolutionary mystery, because none of the current theories is without fault.

RADICAL IDEA NUMBER SEVEN: All evolutionary theories are equally true and false, depending upon how you use them. If they service you and your own thoughts they are not helping mankind. If they serve the path to finding the truth buried within our species, to better our understanding, then they are

in service to scientific truth. Can a blog post filled with words reveal a scientific truth? Can a truth be put into words?

The words, themselves, reveal no truth, they only can point our awareness toward a scientific truth. A scientific truth for our species is entirely woven from who we are and what we came from. It is just like the theory of relativity. There is always an error made because of the observation of a an event has altered our own perspective that is buried in it. And often, we are unaware of that illusion. For me now, evolution is the truth within everything I find out about our species. The more I discover, the more I realize life makes its sense of the randomness of the environment it finds itself mired in, in its own amazing ways.

It shows me who we are, without my observations getting in the way. This perspective helps me, help others, climb out of the rut of modern diseases. Everything we are, came from randomness, and we are products of that randomness. It is hard fact to accept, because of the illusion of truth we have been socialized to believe about our genesis is so strong. But I realize now that my perception of its reality, only brings me further from the scientific truth of our origin. I stopped allowing that in 2005 and it allowed me to realize how to help our species in decline.

Next up: We talk about the revolutionary “evolutionary marketing” of the idea in Brain Gut 4.

CITES:

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