Disclosure

of things evolutionists don't want you to know

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When You're Hot, You're Hot!

From cold-blooded lizards to hot-blooded birds.

You can just imagine my joy when I saw an article titled, "The decoupled nature of basal metabolic rate and body temperature in endotherm evolution" in the journal, *Nature*. Well, maybe you can't imagine my joy—so you will have to take my word for it. I was really excited!

The abstract of the article said,

> The origins of endothermy [warm-bloodedness] in birds and mammals are important events in vertebrate evolution. Endotherms can maintain their body temperature (T_b) over a wide range of ambient temperatures primarily using the heat that is generated continuously by their high basal metabolic rate (BMR). There is also an important positive feedback loop as T_b influences BMR. Owing to this interplay between BMRs and T_b, many ecologists and evolutionary physiologists posit that the evolution of BMR and T_b must have been coupled during the radiation of endotherms, changing with similar trends. However, colder historical environments might have imposed strong selective pressures on BMR to compensate for increased rates of heat loss and to keep T_b constant. Thus, adaptation to cold ambient temperatures through increases in BMR could have decoupled BMR from T_b and caused different evolutionary routes to the modern diversity in these traits. Here we show that BMR and T_b were decoupled in approximately 90% of mammalian phylogenetic branches and 36% of avian phylogenetic branches. Mammalian BMRs evolved with rapid bursts but without a long-term directional trend, whereas T_b evolved mostly at a constant rate and towards colder bodies from a warmer-bodied common ancestor. Avian BMRs evolved predominantly at a constant rate and without a long-term directional trend, whereas T_b evolved with much greater rate heterogeneity and with adaptive evolution towards colder bodies. Furthermore, rapid shifts that lead to both increases and decreases in BMRs were linked to abrupt changes towards colder ambient temperatures—although only in mammals. Our results suggest that natural selection effectively exploited the diversity in mammalian BMRs under diverse, often-adverse historical thermal environments. [1]

Their results are absolutely absurd. How do they know, "Mammalian BMRs evolved with rapid bursts," but "Avian BMRs evolved predominantly at a constant rate?"

Feedback Loops

They claim to have discovered "an important positive feedback loop." Temperature regulation is a negative feedback loop, so they clearly don't understand anything about feedback loops, and their conclusions are ridiculous. However, it gives us an excuse to explain to you the difference between open-loop and closed-loop systems, the difference between positive and negative feedback, and why a cold-blooded creature could not evolve into a warm-blooded creature by natural selection.

The difference between an open-loop system and a closed-loop system is what makes a lawn sprinkler different from a toilet. Here in the Mojave Desert, if you want to have a lawn, you have to have an underground sprinkling system. You set the timer to turn the sprinkler on at a certain time, and then turn the sprinkler off after a certain amount of time. If you set the timer to water for 1

[1] Jorge Avaria-Llautureo, *et al*., *Nature*, 29 August 2019, "The decoupled nature of basal metabolic rate and body temperature in endotherm evolution", pp. 651-654, https://www.nature.com/articles/s41586-019-1476-9

minute, then your lawn won't get enough water, and the grass will die. If you set it to water for 1 hour, your lawn will get too much water, and the water police will give you a ticket. The trick is to set the timer to run long enough to give your lawn enough water to survive, but not so long that it wastes water. Since the timer has no way of knowing how hot it is, and how dry it is, the length of time the sprinkler runs is really just a guess.

If your toilet worked the same way, a timer would put a fixed amount of water in your toilet tank at specific times of day, regardless of how many times the toilet had been flushed.

The difference between a sprinkler system and a toilet is feedback. The float in the toilet tank tells the valve when it needs to turn on and off. The control loop is "closed" because the command goes out and a sensor feeds back status information to the controller, closing the loop. The lawn sprinkler gets no feedback as to how much water is needed. The control loop is "open" because there isn't a complete circle. The command goes out, but no status information comes back.

Closed-loop Systems

The problem with a closed-loop system is that it can become unstable. For example, driving a car is a closed-loop system. You turn the steering wheel, see where the car goes, and make corrections based on the visual feedback. Suppose your car starts to drift off to the right. You turn left a little bit; but if you turn left too much, the car starts to go toward the left lane. Then, if you then turn the wheel back to the right and over-correct, the car veers right too much, and rolls the car over, into a ditch. The car became unstable.

There are two things that determine if a closed-loop system is stable. They are gain margin and phase margin. In the hypothetical example above, the car rolled because of improper gain and phase. You turned the wheel too far to the left or right. There was too much amplitude (gain) in your response. You exceeded the gain margin of a stable system. You also turned the steering wheel too late, so the phase lag exceeded the phase margin. In real life, you can keep the car on the road because you don't turn too much, and realize when you need to turn quickly enough. You stay safely below the gain and phase margins.

Once upon a time, designing a stable control system was an art. Then, in 1932, Harry Nyquist discovered some stability criteria which turned that art into a science. [2] That science is now a required part of every college engineering curriculum. I hated taking the Linear Control Systems course in college because it is really hard to design a stable control system. When I graduated, I wound up having to design an incredibly fast and accurate control system for the AIM-95 Agile missile, and I needed everything I learned in that class (and more) to do it.

I began this essay by asking you to imagine how excited I was to read an article about metabolic control systems. That's because, although I hated control systems in college, my experience with the Agile missile deepened my appreciation for how carefully a closed-loop system has to be designed. It became my area of expertise. I presented a paper titled "Linear Control System Pitfalls" [3] at the Fifth Annual Embedded Systems Conference, in 1993. It was so well received that it was published in *Embedded Systems Programming* magazine [4] the next month, and I was asked to present the paper again at the next three Embedded Systems Conferences. The point of bragging about this is that I know a lot about designing closed-loop control systems in analog and digital systems, which makes me qualified to discuss biological closed-loop temperature control systems.

Feedback

In common speech, "positive" usually means good, and "negative" means bad—but not always. In control systems, positive feedback is as bad as testing positive for cancer. At some time in your life you no doubt have been in an auditorium and heard an ear-piercing squeal which was caused by positive feedback. The microphone heard a faint noise. The amplifier made it louder. The speaker reproduced the sound. The microphone heard the louder sound. The amplifier amplified it even more, and so on until the amplifier maxed out. It was a closed-loop (microphone to amplifier to speaker to microphone) with positive feedback which caused the system to go unstable. The gain exceeded the gain margin. The fix was to turn the volume control down.

The statement, "There is also an important positive feedback loop as T_b influences BMR," showed right off the bat that the authors of that article had no clue as to what they were talking about. If body temperature (T_b) had a positive influence on basal metabolic rate (BMR), then the warmer a bird got, the more internal heat it would produce, which would make the bird warmer, which would make it produce more internal heat,

[2] https://en.wikipedia.org/wiki/Nyquist_stability_criterion

[3] http://scienceagainstevolution.info/dwj/LCSP.pdf

[4] Do-While Jones, *Embedded Systems Programming*, November 1993, Avoiding Control System Pitfalls, http://scienceagainstevolution.info/dwj/ACSP.pdf

and so on, until it cooked itself.

The title of the article said it was about the "decoupled nature of basal metabolic rate and body temperature." "Decoupled" means "not connected." The article title claims there is no connection between metabolic rate and body temperature, making it an open-loop system which has no feedback at all. That's really ridiculous. If you get cold, your metabolic rate goes up to warm you up. If you get too hot, you sweat to cool down. Your body temperature is coupled to your metabolism.

The statement, "adaptation to cold ambient temperatures through increases in BMR could have decoupled BMR from T_b and caused different evolutionary routes to the modern diversity in these traits" makes no sense at all. If, as they claim, cold temperatures caused an increased metabolism to evolve through any route, the two are definitely coupled!

You don't need to be much of a scientist to have observed that warm-blooded creatures have a closed-loop temperature control system which uses negative feedback to maintain a stable body temperature. This brings us to these important questions: "What are the necessary components of a closed-loop temperature control system, how did those parts originate, and how did they become coupled to create a functional system?"

Here is the amusing beginning of their explanation:

> **Main**
>
> Phylogenetic statistical methods provide us with the opportunity to formally test whether BMR has been linked to T_b or ambient temperature (T_a) throughout the evolution of birds and mammals. By accommodating for and identifying heterogeneity in the rate of phenotypic evolution, these methods can detect and reconstruct accurate historical evolutionary processes. Evaluation of the evolutionary coupling between BMR and T_b has direct consequences for several longstanding ecological and evolutionary theories (including the metabolic theory of ecology) that assume coupling between BMR and T_b.
>
> We first quantified and compared rates of evolution for BMR and T_b along each branch of the time-calibrated phylogenetic trees of birds and mammals (hereafter, branch-wise rates (r)). r is a rate scalar by which the background rate of evolution (σ^2_b) is multiplied to increase or decrease the pace of evolution; it measures how fast a trait evolved along an individual phylogenetic branch. [5]

That is complete nonsense! There are no "accurate historical evolutionary processes." In order to quantify and compare rates of evolution, you have to measure the rates of evolution. Where did they get the "rates of evolution for BMR and T_b along each branch of the time-calibrated phylogenetic trees of birds and mammals?" You have to skip down to the last two sentences of the report to get the biggest laugh of all.

> No new data were generated for this study. The data used for this paper are available from the original sources cited in the Methods and Supplementary Information. [6]

They didn't measure any evolution at all! They just took some previously reported results and did some bogus analysis of them. There are no real "time-calibrated phylogenetic trees of birds and mammals" which show the rates of evolution. There are just stories that evolutionists have made up and published.

> If BMR and T_b were coupled during the evolution of endotherms, the amount of change along phylogenetic branches for both traits should be positively associated—in cases in which r_{BMR} is high, we expect it to be high for rTbrTb (Fig. 1 b). We tested this prediction against alternative evolutionary scenarios. First, we cannot make any inferences about coupling or decoupling in cases in which there is no rate heterogeneity for both BMR and T_b ($r = 1$ for all branches in the tree for both traits) (Fig. 1a). Second, we infer decoupled evolution if both traits show rate heterogeneity, for which the magnitudes of r values are negatively correlated (that is, branches that evolve at a high rate for BMR but a low rate for T_b, and vice versa) (Fig. 1c). We suggest this scenario indicates decoupled evolution because a negative correlation most probably indicates that one trait tends to be conserved while the other evolved rapidly. Third, we infer decoupled evolution if only one trait shows rate heterogeneity while the other evolved at a constant rate (Fig. 1d, e) or if both traits show heterogeneity but the branch-wise rates are not associated (Fig. 1f). [7]

Here's what they said in plain English: "No rate heterogeneity" means there was no difference in the rates of evolution because the rates were the same. If the rates of evolution were the same, they say they could not make any

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[5] Jorge Avaria-Llautureo, *et al*., *Nature*, 29 August 2019, "The decoupled nature of basal metabolic rate and body temperature in endotherm evolution", pp. 651-654, https://www.nature.com/articles/s41586-019-1476-9

[6] *ibid.*

[7] *ibid.*

inferences about any connection. If two things increase at the same rate, or decrease at the same rate, one might reasonably infer some sort of connection—but, unexplainably, they could not.

Second, in cases where one increased while the other decreased, they inferred that there was no connection. That is like saying, when the number of police officers in a neighborhood is increased, and the crime in that neighborhood decreases, there is no logical connection.

Third, in cases where the evolutionary rates were different, they assumed there was no connection. That isn't an unreasonable conclusion—but it isn't necessarily correct, either.

No matter what happened, they inferred no connection. If they both increased at the same rate, there was no connection. If they both decreased at the same rate, there was no connection. If one increased while the other decreased, there was no connection. If one changed while the other stayed the same, there was no connection. What's left? What set of conditions would have led them to the conclusion that there is a connection between body temperature and metabolism? They covered every possible scenario, and every one led to the same stupid conclusion.

The body of the report was filled with absurd data like this:

> When the branch-wise rates for BMR and T_b were compared, we found that in mammals both traits evolved at a constant rate in 10.6% of branches (Fig. 3a, consistent with Fig. 1a). In 60.2% of branches, only one trait evolved at faster rates while the other trait diverged at a constant rate. This indicates that BMR and T_b evolved in a decoupled manner along these branches (Fig. 3a, consistent with Fig. 1d, e). [8]

There's no real data here. How do they know that in 10.6% of all branches of mammals, body temperature evolved at a constant rate? How do they know that in 60.2% of all branches of mammals, body temperature and metabolism evolved at different rates? They didn't measure the body temperatures of extinct elephants and compare those temperatures to modern elephant temperatures, and neither did the researchers who published the data they used.

We've spent enough time on this stupid letter to *Nature*, which somehow managed to pass a peer review. Let's take our own reasonable look at the problem.

Biological Temperature Control Systems

Let's start with cold-blooded animals.

Reptiles, such as lizards and snakes, are cold-blooded. They have no internal mechanism for regulating their body temperature. They have to bask in the sun to warm up, or seek shade or a hole to cool down. This means that conscious thought is involved. The reptile has to realize that it is too cold, and move its body into the sun, or it has to realize that it is too hot, and find shade.

Just think about all that involves. The reptile needs a temperature sensor. The reptile needs a brain that knows what the ideal temperature is. The reptile needs to process the data from its temperature sensor and determine if it is too hot or too cold. The reptile needs to know that it is warm in the sunlight and cool in the shade. The reptile then needs to decide where to go and how to get there.

If you want to win first prize at a science fair, design a Lego robot which moves (on uneven terrain) closer to, or farther from, a lamp to keep itself at 98.6 degrees. If you can't do it on purpose, just write some random instructions and hope that it works! ☺

Now, let's consider warm-blooded animals.

The temperature regulation in warm-blooded mammals and birds is slightly different from cold-blooded reptiles. They still need a temperature sensor to determine body temperature—but the conscious part of the brain isn't necessarily involved. Mammals and birds might realize they are cold and move to a warmer place—but even if they don't do anything consciously to solve the problem, subconsciously, they change their metabolism to generate heat internally. If you are hot, you might choose to take a dip in a pool; but if that isn't an option you just have to sweat it out—and you will, automatically. Subconsciously, sweat glands will produce moisture which cools your body as it evaporates.

For a cold-blooded reptile to evolve into a warm-blooded mammal, sweat glands must evolve from nothing by chance. Then, the brain has to evolve a closed-loop control system algorithm which will make the mammal sweat just enough to cool off when it is too hot. If it is too cold, a warm-blooded creature's temperature control algorithm needs to burn enough calories to warm up, without overheating.

Try to imagine what a biological temperature control system needs to function. There must be multiple sensors to regulate the temperature in all parts of the body—otherwise it would be like my furnace (which keeps the hall much too warm

[8] *ibid.*

even though the bedroom is too cold). There are different ways animals control temperature. Birds don't cool their bodies by pumping more blood through their ears (like elephants do). Hormones must be involved in humans because women sometimes complain about hot and cold flashes (which is evidence that their temperature control system becomes underdamped as they age).

The point is that closed-loop control systems, from air conditioners to automobile cruise controls to missile guidance systems are notoriously hard to design. You even have to set the float in your toilet tank correctly to make your toilet function properly. For a cold-blooded reptile to accidentally evolve an endothermic metabolism which is controlled by an algorithm that just happens to write itself in the subconscious part of the brain is just nonsense.

Email

Extinction and Speciation

George repeated the same old arguments, which gave us this excuse to refute them all.

The conversation began with this brief email from George:

> Without evolution how can you explain that the vast majority of species that ever lived are extinct? God comes down and wipes them out and puts new ones in their place?

This appeared to be an honest question, so I gave him this short answer, which I hoped would point him in the right direction so that he could find the answer for himself:

> *Extinction happens, regardless of whether there is a god or not. Some species have gone extinct. Some new breeds of dogs, corn, and horses have been developed in historic times. Those are facts. If those new breeds are sufficiently different, some people might choose to call them new species. The concept of a species is purely arbitrary.*
>
> *The issue isn't whether or not new species go extinct or arise; the question is whether or not new classes, orders, families, phyla, or kingdoms arise. Of course, new breed of dogs and horses have arisen through breeding. That's not the issue. Species are just slight variations of existing creatures. The issue is where the first dog, and the first horse came from. Some breeds of dogs and horses might go extinct, and perhaps some day every breed of horse will be extinct, so there will be no more horses at all. That doesn't explain where the first horse came from.*
>
> *The idea that a badger with five toes is the ancestor of a horse with one toe (hoof) is without scientific proof.*

Admittedly, this was not an exhaustive answer. It was just intended to stimulate him to realize that dividing an existing group into smaller subdivisions is different from creating a remarkably different new group. The insufficiency of my answer turned out to be irrelevant because George didn't really want to know the answer. He just wanted to start an argument. Here is how he responded:

> A badger and a horse have more than 99% DNA in common. All animals, that is living things that do not have cell walls have an immense amount of DNA in common, more than 50%, so how can a tube worm give rise to a pterodactyl? You have to be able to observe that for several hundred million years or so.
>
> Fossils have been found for dinosaurs that have feathers. What else can explain this but evolution? I know to the casual eye that the abundance of life and its inherent complexity leave one to think it could not be an accident, hence the popular belief in Intelligent Design or God.
>
> However, 500 hundred million years of increasingly complex life can only be reconciled by chemical evolution that is genes and DNA. Moths changed color when England begun to burn coal is [*sic*] copious amounts such that soot was everywhere. When they stopped burning coal leaving soot everywhere the moths went back to their previous color. The existence of mitochondria and what it does shows that creatures can merge where the result is different from where it came from.
>
> Interstellar travel will never occur, it requires the complex infrastructure of a water world, with a moon and a magnetic field to make the planet stable. So life could only occur if it bootstrapped itself. Viruses and single cell creatures came first and on this planet they held sway for over 2 billion years, but that provided the seed material for the life explosion that happened 500 million years or so ago.
>
> Environmental stress lead to evolution. Individuals don't evolve populations do. DNA is the only common link, it can be no other way. Science has shown that the simplest explanation is almost always the correct one. You can measure evolution in the laboratory will simple creatures via many different methods.
>
> Arguing against evolution is like arguing for a flat earth.

Don't feel too bad if you had some trouble understanding his poorly written email. His statement, "All animals, that is living things that do not have cell walls," shows his ignorance right off the bat. Even if he meant to write, "All animals, that is living things that DO have cell walls," his understanding of the difference between plants and animals is clearly wrong. Both plants and

animals have cells with walls. The difference is that plants can make their own food, but animals have to eat plants or other animals for nourishment.

Since we've heard these old, worn-out evolutionary arguments many times before, we know what he meant and will explain his invalid arguments to you.

Let's start with his last sentence first. "Arguing against evolution is like arguing for a flat earth." It is a baseless assertion because it is a false comparison. It is a cheap attempt at guilt by association. The idea is that people who don't believe the world is round are stupid, therefore people who don't believe in evolution are stupid. The reason the comparison is false is that science has proved the world is round—but science hasn't proved that evolution is responsible for the origin and diversity of life on Earth.

About 200 years before Christ, Eratosthenes of Cyrene accurately calculated the circumference of the Earth by measuring the noonday shadows in two Egyptian cities which were a known distance apart. Measurements and geometry proved the world is round. But, if you don't believe in geometry, in 1519, Ferdinand Magellan began the first circumnavigation of the world. It took about 3 years to do it, but he did prove the world is round by sailing completely around it. If you think Magellan's journey was fake news, you have to explain how Global Positioning System (GPS) satellites work.

If I had not written the previous paragraph, and simply written "everybody knows the world is round," it would have been an unfounded assertion—not a scientific statement. It is a scientific statement that the world is round because (unlike the theory of evolution) there really are scientific arguments that prove it, and I presented them.

For the comparison with evolution to be valid, one would have to have as much scientific evidence for evolution as there is that the world is round. There isn't any valid scientific evidence for evolution. If there were any valid scientific arguments, George would have presented them. Instead, he presented fallacious speculation. First, he said:

> A badger and a horse have more than 99% DNA in common. All animals, that is living things that do not have cell walls have an immense amount of DNA in common, more than 50%, so how can a tube worm give rise to a pterodactyl? You have to be able to observe that for several hundred million years or so.

George mentioned the badger and horse because I used that example in my initial response to him. I used that example because evolutionists formerly claimed that horses evolved from a badger-like animal. As we explained 17 years ago, [9] that idea was first proposed in 1874 and was refuted in 1951. In 2001, we reported my field trip to the Chicago Field Museum of Natural History and showed a photograph of the display in which they admitted that they "once told the horse story wrong." [10]

We tried to find a scientific article reporting that "A badger and a horse have more than 99% DNA in common." It was a fascinating search. We found out that some scientists had used dogs with a keen sense of smell to distinguish badger poop from fox poop and coyote poop, and analyzed "DNA extracted from the sloughed intestinal cells contained in feces." [11] It seems to us that it would have been easier to take DNA from a badger in a zoo, than to trust the nose of a dog, but that was their choice. ☺ In any case, they didn't compare badger DNA to the DNA of a horse. So, we could not find any actual proof that badgers and horses have more than 99% DNA in common—but it could be true, depending upon how you choose to make the comparison. We showed how to manipulate computed percentages in a previous newsletter. [12] Even so, 99% commonality doesn't prove common descent any more than it proves common design. It is an irrelevant "fact," whether it is true or not.

George ended the quote above by asking how a tube worm could give rise to a pterodactyl. That's a good question, for which evolutionists don't really have an answer. They make the excuse that they haven't had several hundred million years to observe how it happened—but that doesn't prove it did happen. It only proves they believe something that cannot, by their own admission, be observed. If it has never been observed, it isn't scientific.

George's next point was,

> Fossils have been found for dinosaurs that have feathers. What else can explain this but evolution? I know to the casual eye that the abundance of life and its inherent complexity leave one to think it could not be an accident, hence the popular belief in Intelligent Design or God.

The dinosaurs with feathers argument just

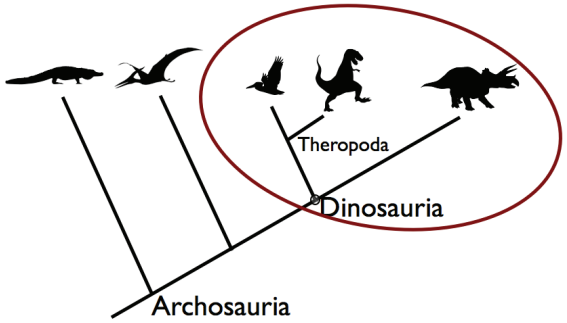
[9] *Disclosure*, February 2002, "Horses and Peppered Moths", http://scienceagainstevolution.info/v6i5f.htm
[10] *Disclosure*, December 2001, "A Field Trip to the Field Museum", http://scienceagainstevolution.info/v6i3f.htm
[11] Deborah A. Smith, *et al*., *Science*, 19 Jan 2001, "Canine Assistants for Conservationists", https://science.sciencemag.org/content/291/5503/435.2
[12] *Disclosure*, January 2003, "98% Chimp", http://scienceagainstevolution.info/v7i4f.htm

points out how arbitrary scientific classification is. It used to be, if a creature had feathers it was a bird. So, in the past, if someone found a fossil with feathers, it would have been a bird, not a dinosaur.

What's the difference between a bird and a dinosaur? There isn't any difference, according to some evolutionists. For example, Patrick's "Paleocave Blog" (which has a title graphic proclaiming, "Trust us, we're scientists") says,

> *T. rex* and the pelican are more closely related to each other than *T. rex* is to *Triceratops*. … Bird[s] are dinosaurs not just because they evolved from dinosaurs, but because they are more closely related to some of the extinct dinosaurs than those dinosaurs are to each other! So next time that someone tells you that dinosaurs are extinct, you can tell them that, actually, there are probably more species of dinosaur alive today than there were in the Mesozoic! [13]

It must be true that *Tyrannosaurus rex* and the pelican are more closely related to each other than *Tyrannosaurus rex* is to *Triceratops* because Patrick is a scientist, and he has a cladogram to prove the relationship! ☺



How can you argue with a diagram like that? ☺ Actually, you can do it very easily. You ask, "What is the basis for the diagram?" We don't know what data was used in this specific example—but we know how all cladograms are produced. Every species is characterized by a list of important, distinctive, diagnostic attributes. For example, does a particular species of tree have leaves or needles? If it has needles, are they long or short? Do the needles come from the stem individually, or are they in clumps of two, three, or more needles? If it has leaves, do the leaves have lobes? If so, how many lobes? The lists of attributes for all the studied species are fed into an unbiased computer which compares attributes to see which species are most similar. Computers are unbiased, but the outcome is completely determined by the attributes the biased programmer tells the computer to compare. If the cladogram isn't satisfactory to the programmer, the programmer can change the list of attributes to get a more acceptable answer.

We've given examples of why cladograms don't work in previous newsletters, [14] [15] [16] [17] including one which showed why the method could not possibly correctly represent the relationships in the British Royal Family. [18]

George asked, "What else can explain this but evolution?" Then he answered his own question, "I know to the casual eye that the abundance of life and its inherent complexity leave one to think it could not be an accident, hence the popular belief in Intelligent Design or God."

Let's go on to George's next paragraph.

> However, 500 hundred million years of increasingly complex life can only be reconciled by chemical evolution that is genes and DNA. Moths changed color when England begun to burn coal is [*we think he meant, "in"*] copious amounts such that soot was everywhere. When they stopped burning coal leaving soot everywhere the moths went back to their previous color. The existence of mitochondria and what it does shows that creatures can merge where the result is different from where it came from.

His first sentence is nothing more than a baseless assertion. It is just as baseless as saying, "complex life can only be explained by creation." Saying something doesn't make it true.

The peppered moth argument has been refuted so many times by creationists that we are surprised George would fall back on such a weak argument. There were black and white peppered moths before the English burned any coal, and there were black and white peppered moths while the English burned lots of coal, and there are still black and white peppered moths today. No evolution happened. The demographics just shifted back and forth. Furthermore, the methodology was flawed, as we pointed out

[13] Originally posted in June, 2013, at http://paleocave.sciencesortof.com/2013/06/why-are-birds-dinosaurs/ and quoted on April, 2017, at https://sharerudition.com/2017/04/23/birds-are-dinosaurs/

[14] *Disclosure*, March 1998, "Dinobirds", http://scienceagainstevolution.info/v2i6f.htm
[15] *Disclosure*, June 2011, "Fishy Cladistics", http://scienceagainstevolution.info/v15i9f.htm
[16] *Disclosure*, September 2016, "Guitar Cladistics", http://scienceagainstevolution.info/v20i12f.htm
[17] *Disclosure*, April 2017, "Foolish Email 2017", http://www.scienceagainstevolution.info/v21i7e1.htm
[18] *Disclosure*, October 2015, "Caffeine and Insects", http://www.scienceagainstevolution.info/v20i1e1.htm

seventeen years ago. [19]

The statement, "The existence of mitochondria and what it does shows that creatures can merge where the result is different from where it came from," makes no sense, so we can't address it. Let's go on to George's next paragraph.

> Interstellar travel will never occur, it requires the complex infrastructure of a water world, with a moon and a magnetic field to make the planet stable. So life could only occur if it bootstrapped itself. Viruses and single cell creatures came first and on this planet they held sway for over 2 billion years, but that provided the seed material for the life explosion that happened 500 million years or so ago.

His first sentence makes no sense. Because we are familiar with the evolutionists' arguments, we know he meant to say that interstellar travel of life from another planet to Earth could not be the origin of life on Earth. Some evolutionists, who correctly recognize the fact that life could not have originated spontaneously on Earth, believe that life came from outer space. This concept is called, "panspermia," which you can search for on the Internet if you want more details. George apparently disagrees with the concept of panspermia because it would require, "the complex infrastructure of a water world, with a moon and a magnetic field to make the planet stable." George apparently believes Earth is the only planet in the Universe that meets his arbitrary criteria. He is just repeating an evolutionary argument he doesn't really understand.

The statement, "life could only occur if it bootstrapped itself," shows that George doesn't understand bootstrapping because bootstrapping is impossible.

This gives me an excuse to tell an interesting, self-indulgent, personal story which may not appear to have anything to do with evolution—but trust me, it does.

Bootstrapping

> The origin of this descriptive phrase isn't known. It refers of course to boots and the straps that some boots have attached to help the wearer pull them on and to the imagined feat of a lifting oneself off the ground by pulling on one's bootstraps. This impossible task is supposed to exemplify the achievement in getting out of a difficult situation by one's own efforts. [20]

If you are wearing boots, you cannot lift yourself up off the floor no matter how strong you are because, "For every action there is an equal and opposite reaction." That is, if you pull up on your bootstraps with 400 pounds of force, your boots will pull your hands down with 400 pounds of force, so the net force on your body is zero, and you won't budge an inch off the ground.

When your computer stops working, often you can fix it by turning it off, and then turning it back on again. This is called, "booting the computer." This has nothing to do with kicking the computer, despite how much satisfaction that might give you. It has to do with running the bootstrap program.

In 1975, my boss bought our branch a brand new PDP-11/20 computer, for which we had no need, and nobody knew how to use. (I worked for the government at the time.) So, it just sat in a corner, unused. At the time, I was way ahead of schedule on my part of the project, and was waiting for others to get their parts of the project to get to a point where I could proceed. So, I decided to teach myself how to use the PDP-11/20. (It turned out not to be a waste of taxpayer dollars because I soon used it to develop a signal processing algorithm for the FOLPEN radar and was awarded U.S. Patent 332,397 for it.)

A computer works by executing a sequence of instructions (a "program") that is stored in the computer's memory. The PDP-11/20 used a paper tape reader program to read an application program from a punched paper tape and copy the instructions from the paper tape into the computer memory. But, how do you get the program that reads the paper tapes into the computer's memory without a program already in the memory to read a paper tape? The computer would have to pull itself up by its own bootstraps, which is impossible. Since the computer could not do it all by itself, someone had to manually enter a "bootstrap program" into memory.

On the front panel of the PDP-11/20 there was a group of 18 address/data switches, then a group of 6 control switches, and one switch all by itself in the lower right corner.

[19] *Disclosure*, February 2002, "Horses and Peppered Moths", http://scienceagainstevolution.info/v6i5f.htm

[20] https://www.phrases.org.uk/meanings/pull-yourself-up-by-your-bootstraps.html

When a switch was down, it represented 0. When a switch was up, it represented 1. To enter the first instruction of the bootstrap program into the computer memory, I had to set the switches to 000001010111000001 and press the switch in the lower right corner of control panel. Then, to enter the second instruction, I had to set the switches to 000000000000010110 and press the switch in the lower right corner. Then, to enter the third instruction, I had to set the switches to 000001010111000010, and press the switch in the lower right corner. Fourteen instructions had to be entered this way. Fourteen times eighteen switches is 252 switches, which all had to be set in exactly the right position in order to enter the bootstrap program into memory. Then I had to press the start swtich (one of the six control switches) to run the Bootstrap Program, which would do nothing but read the Absolute Loader program from paper tape into a particular location in memory. The Absolute Loader program was a longer program which would read any program from paper tape and put that program in the proper place in memory and run it.

Modern computers have a small bootstrap program stored in memory. When power is turned on, it runs the bootstrap program which reads the operating system into memory, which loads all the other programs.

Here's what this has to do with evolution: A living cell is like a computer. It has the machinery to read instructions from memory (that is, the DNA molecule) and execute those instructions to build proteins, and do other stuff necessary for life to function. How did the cell get the machinery to read instructions from the DNA molecule? It built that machinery from instructions it got from the DNA molecule. But without the machinery to read the DNA, how could it know how to read the DNA to know how to build the machinery? And how did the billions of toggle switches in the DNA get set to the proper values which represent the instructions to make all the machinery in a living cell?

It might not surprise you to know that on one occasion (or maybe more than one occasion ☺) I did not set all the 252 switches to exactly the correct values, and the Bootstrap program did not run properly (and I had to try to set all 252 switches to the correct values again). If I could not set just 252 switches to the right values on purpose, how likely is it that the billions of genetic switches in the DNA molecule got set to the right values by accident?

This brings us back to George's assertion that "life could only occur if it bootstrapped itself." Life could not have bootstrapped itself any more than someone randomly setting the 252 switches on the front panel of a PDP-11/20 computer could enter a functional Bootstrap program.

The Final Four

George's final four arguments were packed in a single paragraph.

> [1]Environmental stress lead [*sic*] to evolution. [2]Individuals don't evolve populations do. DNA is the only common link, it can be no other way. Science has shown that [3] the simplest explanation is almost always the correct one. [4] You can measure evolution in the laboratory will simple creatures via many different methods.

1. The notion that environment stress led to evolution is a baseless assertion. If it were true, we should do everything humanly possible to cause climate change, which would increase environmental stress, which would cause plants and animals to evolve into better species. ☺

2. George is correct to say, "Individuals don't evolve[,] populations do." We first stated that demographics do change in the July, 1997, newsletter,[21] and have said so multiple times since. [22] Changes in the ratios of existing species have nothing to do with the origin of new species.

3. The simplest explanation isn't necessarily correct. "God said it, and it happened" is a much simpler explanation than descent with modification—but George clearly does not believe that science has proved that creation (the simplest explanation) is probably correct.

4. His final statement (that evolution has been measured in the laboratory) is misleading (to be charitable). Yes, microevolution (minor variations) has been observed. Creationists agree. In fact, creationists say that the two individuals of the "horse kind" on Noah's Ark begat all the different breeds of horses, which is why Noah's Ark was big enough to hold all the animals necessary to repopulate the Earth. There is no controversy about microevolution. Macroevolution (the origin of a fundamentally different species) is what the controversy is about. Macroevolution has never been observed in the laboratory, or in nature.

We were sad to learn that these old evolutionary arguments are still around, and sad that George was taken in by them—but we are glad for the opportunity to refute them (again).

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[21] *Disclosure*, July 1997, "Pigeons and Sparrows", http://scienceagainstevolution.info/v1i10f.htm

[22] *Disclosure*, July 2002, "No Nonsense", http://scienceagainstevolution.info/v6i10f.htm and *Disclosure*, June 2003, "Allele Frequency", http://scienceagainstevolution.info/v7i9e.htm

by Lothar Janetzko

EvC Forum

https://www.evcforum.net/

Understanding through Discussion

This month's website review provides information about the Creation/Evolution debate as presented by the EvC Forum website.

The main page of the site provides general information about the EvC Forum and how to best navigate the site. Here you learn that the Forum is "Dedicated to helping develop a better understanding of both sides of the issue of the ongoing Creation/Evolution debate." You can study details about the controversy by selecting a link to the Reference Library found on the site, debate issues by selecting the link to the Discussion Forums, and find a list of topics currently being discussed by selecting the link to Recent Topics List.

The main page of the site also provides links to: Site Navigation; Discussion; and The Forums. Under Site Navigation you find links to: Home; Reference Library; Religion in the News; Science in the News; Creation/Evolution Glossary; Geology Glossary; Discussion Boards; About This Site; Site Map; and Contact Us.

Following the Reference Library link, you learn how the EvC Forum addresses the abundance of information about the Creation/Evolution debate found on the Internet. "The web is rich with information on the Creation/Evolution debate, but it is often disorganized and hard to find. These pages reference and classify webpages from both the creation and evolution perspectives and is organized by both major topics and subtopics. Many of the links include short summaries." Here you will also find a list of major topics listed alphabetically. Information is provided on how to make the website better by submitting information about websites you've visited that are pertinent to the Creation/Evolution debate. You can fill out a template and email it to the website administrator.

The About This Site link provides some history about how the site was first created. "This site's predecessor was the Yahoo Evolution versus Creationism Club, founded on October 21, 1998, in a hotel room in Cupertino, CA." You also learn about the software currently used to manage the site.

The Discussion links provide all the details about the EvC Forum including: a list of all topics; a list of all forums; a member list; how to register; getting started; forum rules; and instructions for requesting a new password.

The Forums links serve as a guide to allow the reader to explore topics that are being debated by providing general classifications of the many topics that comprise the Creation/Evolution debate. While reading about a debate topic you can also just use a search box to find other interesting topics.