Disclosure

of things evolutionists don't want you to know

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Guitar Cladistics

Cladistics is a useful tool, but it depends on subjective judgment.

This month's newsletter is a continuation of last month's discussion, in which a professor of systematics challenged our assertion that the biological classification system is arbitrary. We should again mention that just because something is arbitrary, it isn't necessarily bad. In the United States it was arbitrarily decided that Thanksgiving Day should be in November. In Canada, Thanksgiving is in October. There is no inherently "right" or "wrong" in either decision. Sometimes decisions just have to be made arbitrarily.

Human Bias

It is good to eliminate human bias, so scientists like to use tools that make decisions according to fixed rules, not subjective feelings. Cladistics is an objective tool scientists use to determine similarity—but it isn't really as free of subjectivity as some people might believe.

Cladistics is important to evolutionists because they believe that biological similarity is the result of common ancestry. The more closely related two creatures are, the more similar they will be. So, they feel they can recreate the evolutionary tree by organizing creatures according to similarity.

We reject the premise that evolution can be inferred from similarity. The validity of inference in general is addressed in this month's Email column, so we won't address it here.

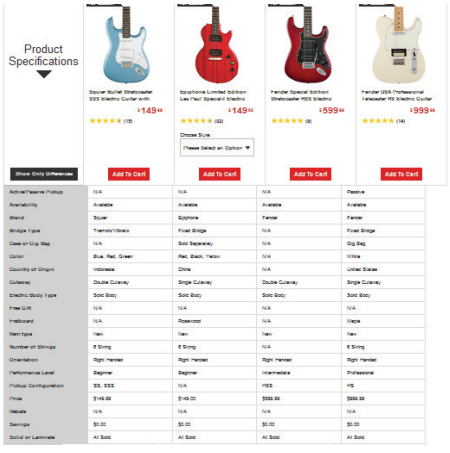
This article addresses the false notion that cladistics is an unbiased way to determine similarity. Yes, cladistics is an objective way to measure similarity, but it isn't an unbiased way.

Classified Guitars

If cladistics is a valid tool for determining similarity, it should not be limited to biological creatures. It should be able to be used to determine the similarity of any set of objects. So, let's try to use it to determine the similarity of electric guitars.

There are many different variations of electric guitars. Some have one, two, or three magnetic pickups (microphones). The length of the strings from the bridge to the nut can be 25.5 inches, 24.75 inches, 22 inches, or some other less common length. The guitar body can be solid, semi-solid, or hollow. The frets can be narrow or jumbo, or some intermediate size. There are many more guitar attributes that could be listed.

There are so many different kinds of guitars, with so many different attributes, that a matrix of all guitars (with a column for each model, and a row for each attribute) would look a lot like this Guitar Center comparison chart of 20 product specifications of four guitars, but with many more rows, and many more columns.



So, imagine you have a huge matrix with 1,000 columns of guitars and 50 rows of attributes. How would a computer determine which guitars are the most similar? It would compare the attributes in

each column with the attributes in every other column, looking for the largest number of exact matches. It might wind up with an 857-way tie of guitars with 42 identical attributes. How would it break the tie? You would have to tell the computer which attributes are more important. Most people would think that a difference in color is not nearly as important as the number of pickups, or the length of the neck. So color should be given less weight than the number of pickups or neck length. That's just an opinion.

Hopefully, it has already occurred to you that you will get different answers depending upon how much weight you give to each attribute. Last month we quoted an explanation of cladistics that included this sentence.

> Different datasets and different methods, not to mention violations of the mentioned assumptions, often result in different cladograms. [1]

What that means is that we will get different cladograms (that is, relationship diagrams) if we use a different set of 1000 guitars, or a different set of 50 attributes for the original set of 1000 guitars, or give different weights to each attribute. The next sentence in that quote was,

> Only scientific investigation can show which is more likely to be correct. [2]

That means, by tweaking the weights of each attribute, and/or eliminating guitars and/or attributes, you can eventually come up with a guitar cladogram that "makes sense" from a "scientific" perspective. In other words, you can adjust the program again and again until it finally confirms your prejudice. Then you have firm, scientific proof that you were right all along. ☺

Biological Taxonomy

Biologists create huge databases of attributes of living things. There are lots of attributes such as skin covering (fur, feathers, scales, none); type of eye (simple, compound, *etc.*); number of digits (fingers and toes); *etc*. Microbiologists like to use databases of genes and proteins and such things instead. Regardless, a computer program compares the columns of creatures with the rows of attributes and computes similarities which depend upon the number of attributes compared and the weights given to each attribute. The only way to tell if the results are "right" is to compare the computer's answer with the reasonably expected result. If the answer is reasonably close to the prejudged outcome consistent with the scientist's bias, it is assumed to be right. Otherwise, the parameters are adjusted and the program is run again, hoping for a better outcome.

Assumed Missing Ancestors

The cladograms produced by a cladistics program are structured in a particular way. Every branch is a split from an unknown ancestor. Therefore, it can't possibly create a correct family tree if there are no unknown ancestors. In a previous article we showed that this is why it could not work for the British Royal Family tree. [3] If a computer program doesn't give the correct answer when you know what the correct answer is, why would you trust it to tell you the correct answer when you don't know what it is? The answer to that rhetorical question is that you want to believe it is the correct answer.

The Eye of the Beholder

A cladistics computer can tell you which things are most similar if you tell it which characteristics are most important. Some scientists might think that different things are more important than other scientists might think. That's why you see so many different, contradictory cladograms in peer-reviewed articles. A significant portion of these technical papers is the justification for why they selected certain parameters, and how much weight they gave to each one.

If we used a computer program to make a cladogram of guitars, its plausibility would depend how much weight we gave to color and how much weight we gave to neck length. But given a cladogram of guitar similarity that seems reasonable, that would not prove that the two very similar guitars are variants of an unknown previous model that blended the characteristics of both guitars. Yes, maybe Fender did start with a sunburst Stratocaster, and then decided to make an all yellow Stratocaster and an all black Stratocaster later; but you can't know that for sure just from the existence of those guitars. A cladogram can't tell you that. You need factory production documents to know for sure.

An Actual Example

We used the fictional guitar taxonomy example because it is easy to understand. It is easy to find real instances of contradictory examples in the professional literature; but most of them are too technical for the general public to understand (especially the ones based on genetics). We were able to find this real example of two contradictory cladograms published in the journal *Nature* that isn't too hard to follow:

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[1] https://en.wikipedia.org/wiki/Cladistics
[2] *ibid.*
[3] *Disclosure*, October 2015, Caffeine and Insects, http://www.scienceagainstevolution.info/v20i1e1.htm

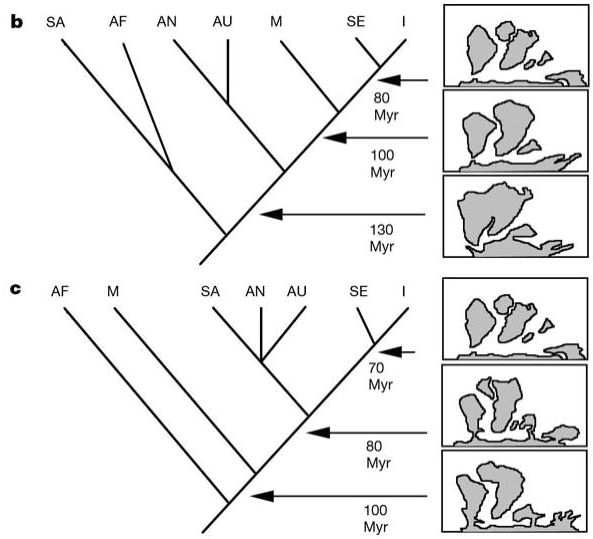

FIGURE 2. Continental area cladograms for the Indian Ocean region based on chameleon phylogeny and geological break-up models. [4]

In a nutshell (and that is a particularly accurate description) the article tried to infer a geological timeline for the breakup of Gondwana using the inferred evolutionary history of chameleons. It is hard to summarize their belief with a straight face, but we will try.

Evolutionists believe that once upon a time, many millions of years ago, all the continents formed one supercontinent called Gondwana. But then, slowly over time, mysterious (but apparently very powerful) convection currents deep within the earth pulled Gondwana apart, creating the continents we see today.

They also believe there were lizards on Gondwana which evolved into the chameleons of today. The pressing question (in their minds) is, "Did these chameleons evolve before or after the continents separated?"

They said,

> Chameleons are one of the few extant terrestrial vertebrates thought to have biogeographic patterns that are congruent with the Gondwanan break-up of Madagascar and Africa. Here we show, using molecular and morphological evidence for 52 chameleon taxa, support for a phylogeny and area cladogram that does not fit a simple vicariant history. Oceanic dispersal—not Gondwanan break-up—facilitated species radiation, and the most parsimonious biogeographic hypothesis supports a Madagascan origin for chameleons, with multiple 'out-of-Madagascar' dispersal events to Africa, the Seychelles, the Comoros archipelago, and possibly Reunion Island. … Previous cladistic studies, using 11–24 morphological characters, supported conflicting biogeographic hypotheses that are partly congruent with Gondwanan break-up-, or that suggest a post-Gondwanan, Madagascan origin for chameleons. [5]

We don't care about their results. All we care about is how they got those results. They said,

> For phylogenetic analysis, a total of 85 morphological and behavioural characters, and 972 bases of mtDNA (236 3' terminal codons of ND4, $tRNA^{Ser}$, $tRNA^{His}$ and $tRNA^{Leu}$) were used. … For the list of morphological and behavioural characters see Supplementary Information. [6]

We don't have space to list all the characteristics they compared in the Supplementary Information—but here are characteristics 36, 37, and 39 to give you an example of what they were.

36. Testes color.
    0: white only
    1: white and black
    2: black only
37. Intestine color.
    0: not solid black
    1: solid black
39. Rib number.
    0: 15-20
    1: 14-13
    2: 12-11-10

In characteristic 39, they divided chameleons into three classes based on rib number. What's the justification for that? Why not two classes (14 or more, 13 or less)? Why not a different class for every rib number? It probably would have made a difference in the shape of the cladogram.

The authors apparently think we should believe their new cladogram because they used more characteristics. But what if the additional characteristics are less important than the original set? What if the next analysis uses even more characteristics and confirms the original theory?

How can you have any confidence in a method that keeps producing different results depending upon subjective choices you make in what to measure and how to measure it?

[4] http://www.nature.com/nature/journal/v415/n6873/fig_tab/415784a_F2.html

[5] *Nature*, 14 February 2002, Raxworthy, *et al.*, "Chameleon radiation by oceanic dispersal", pp. 784-787, http://www.nature.com/nature/journal/v415/n6873/full/415784a.html

[6] *ibid.*

Email

Scientific Inference

When is inference valid?

Joseph had this comment about last month's article on Arbitrary Classification:

> My only statement is that the word "infer" means to "draw a conclusion based upon evidence." The word is not inherently supposed to mean, "To just guess something, as best you can tell."
>
> I feel like you tend to see the word as the latter definition, although I admit that neither definition makes the word have a strong scientific slant.

Joseph brings up an excellent point about the definition of infer, and its two possible meanings. Let's compare his two different informal definitions with Webster's.

Webster's Definitions

Simple Definition of infer

: to form (an opinion) from evidence : to reach (a conclusion) based on known facts

: to hint or suggest (something)

Full Definition of infer

***1*:** to derive as a conclusion from facts or premises <*we see smoke and infer fire — L. A. White*> — compare imply

***2*:** guess, surmise <*your letter ... allows me to infer that you are as well as ever — O. W. Holmes †1935*>

***3a*:** to involve as a normal outcome of thought

***3b*:** to point out **:** indicate <*this doth infer the zeal I had to see him — Shakespeare*><*another survey...infers that two-thirds of all present computer installations are not paying for themselves — H. R. Chellman*>

4: suggest, hint <*are you inferring I'm incompetent?*> [7]

The dictionary says both definitions are valid; but rather than quibble about the legitimacy of the definition, let's focus on the important point that Joseph makes—specifically that inferences can be valid, reasonable conclusions, not simply wild guesses.

The National Science Teachers Association (NSTA) says:

> In science a theory is a well-substantiated explanation of some aspect of the natural world that can incorporate facts, laws, inferences, and tested hypotheses (NAS 1998). [8]

In light of the fact that inferences may be valid, or may simply be speculation, what place do inferences have in science? How do we tell when an inference is a reasonable conclusion based on facts, and when is it just a wild guess?

Where There's Smoke

By today (August 22, 2016) the Blue Cut Fire (which began 90 miles south of here on August 16, and had closed Interstate 15 for two days) had burned 37,020 acres and was 89% contained. The Cedar Fire (50 miles west of here) had burned 19,214 acres and was just 5% contained. The combined smoke from both fires was so thick that our private school closed today out of concern for the health of our students. Certainly there was lots of smoke here—but no fire here. Not a single flame. Therefore, one might try to argue that the inference, "Where there is smoke, there is fire," is not always valid. The inference is incorrectly applied if the word, "where," is taken to be too geographically specific. If "where" is taken to mean, "southern California," instead of "Ridgecrest," it is true that where there is smoke there is fire.

It's dangerous to draw conclusions from inferences because the inference might be incorrectly applied. It might be true in some cases, but not others.

Tracks

When I walk through the desert, I sometimes notice tracks in the sand, and I can infer that a coyote (not a motorcycle) made the tracks. There is no possibility that I might mistake coyote tracks for motorcycle tracks even though I didn't see the tracks being made. I can make a correct inference because I have seen coyotes make a trail of paw prints in the past. I have seen motorcycles leave tire tracks. I've seen the different causes, and I've seen their effects. When I see a familiar effect, I can infer the cause.

[7] http://www.merriam-webster.com/dictionary/infer

[8] http://www.nsta.org/about/positions/evolution.aspx

On those rare occasions when it rains here, I've seen raindrops make marks in the sand. They are randomly spaced, randomly sized depressions. The probability that raindrops will make depressions in the sand just like a coyote paw is very, very small. But, given enough trials, very improbable things can happen. Given the exceedingly large number of drops in just one rainstorm, theoretically, it is remotely possible that large raindrops could land in a pattern identical to the pattern produced by the paw of a coyote. And, if it could happen once, it could happen multiple times. So, if there is a series of depressions in the sand that form a line in a particular direction, theoretically, that trail could have been caused by the rain—but I've never seen it happen. I've never read any report that says other people have seen it happen. So, when seeing a trail of depressions in the sand that look just like the paw prints coyotes make, it is reasonable to infer that a coyote made them. It isn't reasonable to infer that the trail was made by the rain. And it certainly isn't reasonable to assume they were made by a motorcycle.

If you have observed the cause and its effect many times, and you have never seen the effect produced by any other cause, you can legitimately infer the cause from the effect.

Inferring Motive

So, we see a trail of coyote footprints. Why did the coyote cross the sand? Sadly, we don't have a coyote crossing the sand punch line. ☺ Some might say he was looking for a rabbit to eat—but we can't absolutely infer motive from the tracks. The tracks might be distorted in the way they get distorted when a coyote is running rather than walking; but that still doesn't mean the coyote was chasing a rabbit. If the tracks are very clean, it might mean the coyote was sneaking up on a rabbit rather than running after it. But if there aren't any rabbit tracks around, how do we even know there was a rabbit in the area? And if there are rabbit tracks, how do we know they were made at the same time? Maybe the rabbit hopped along here after the coyote was gone.

The Watchmaker Inference

In 1802, William Paley argued that if a pocket watch is found on a heath, it is most reasonable to assume that someone dropped it and that it was made by one or more watchmakers, and not by natural forces. We've all seen pocket watches, wrist watches, and grandfather clocks. Every single one of them was made by a watchmaker. Nobody has ever seen a pocket watch that was not made by a watchmaker. Therefore, it is reasonable to infer the existence of a watchmaker from the discovery of a watch. But it is not possible to infer who that watchmaker was, or why he made it.

Evolutionary Inferences

Now that we have clarified our agreement with Joseph that inferences aren't always simply wild guesses, and can be part of a legitimate scientific theory, let's see if evolutionary inferences are legitimate.

Dawkins says that one can infer evolution (but one cannnot infer the existence of an optical designer) simply from the existence of eyes.

> It has been authoritatively estimated that eyes have evolved no fewer than forty times, and probably more than sixty times, independently in various parts of the animal kingdom. In some cases these eyes use radically different principles. Nine distinct principles have been recognized among the forty to sixty independently evolved eyes. I'll mention some of the nine basic eye types-which we can think of as nine distinct peaks in different parts of Mount Improbable's massif-as I go on. [9]

How many documented cases of optical systems designed on purpose are there? Very many. How many times have optical systems been observed to have been caused by random chance? Not once. Why should one infer a cause (evolution) that has never been observed instead of a cause (design) that is commonly observed?

Apparently evolutionists believe inference is a valid form of reasoning when it is unfounded speculation that is consistent with their prejudice, but not when it is a reasonable conclusion based on observable evidence if it contradicts their prejudice.

Has anyone ever observed a sweat gland evolving into a mammory gland? No, they haven't. That's why we rejected the inference that mammory glands evolved from sweat glands. [10]

Evolutionists infer motive. If you haven't heard an evolutionist make up some fairy tale about why some characteristic evolved, just pay attention. You soon will.

Whenever you come across any evolutionary theory about how something evolved, you should ask yourself, "Is this inference based on an established track record of observance, or is it just wild speculation?"

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[9] Dawkins, Climbing Mount Improbable, pages 139 - 140

[10] *Disclosure*, January 2002, "Sweating Milk", http://scienceagainstevolution.info/v6i4e.htm

by Lothar Janetzko

Dallas researchers out to scientifically prove biblical version of creation

http://www.dallasnews.com/news/metro/20140814-dallas-researchers-out-to-prove-creation-with-science.ece

Institute for Creation Research Review

If you search the Internet for information about the creation versus evolution debate, you will certainly find references or links to the work of the Institute for Creation Research. In this month's website review, we look at an article published in the *Dallas Morning News* that discusses the work and some of the background history of the Institute for Creation Research (ICR).

The staff writer of the *Dallas Morning News* begins his article by stating that: "Most scientists believe Darwin got it right: Single-celled creatures evolved into complex ones, a process of natural selection and genetic adaptation that over eons turned a primordial swamp into shape-shifting cells, into ape-like primates, into people." He correctly states that "His [Darwin's] theory is taught in virtually every science classroom in the world." He then makes some statements about how the theory of evolution is "used to demystify the complexity of life, translate the language of DNA, and make sense of geology, biology and paleontology." This is the propaganda you often read in the press regarding the theory of evolution.

After this introduction, the article author begins his discussion of the Institute for Creation Research. Since the article appears on *Dallas Morning News*, I assume the author visited the Institute since it is currently located in Dallas. From the article you learn that ICR is a group of nine Ph.D.s "from places like Harvard and Los Alamos National Laboratory that say all that molecules-to-man stuff is nonsense. And they're out to prove it."

The article reports on some of the statements and views held by many ICR scientists. From the general tone of the article you get the impression that the author is not just discussing his visit to the Institute, but also interjecting a lot of material that he believes proves that critics of the Institute are correct in their views of claiming the research done by the Institute is "pseudo-science."

I think it is interesting to read about the challenges the researchers at the Institute face and some of the early history of the organization.

To the staff writer's credit, a brief video by the staff of ICR is available at the beginning of the article allowing the reader to hear about the work done at ICR.

If you want to learn about the ICR first hand, just visit their website at www.icr.org. Here you will find a great deal of information about ICR, its publications, resources and plans for the construction of the ICR Discovery Center for Science and Earth History.