

# Re: A FUNDAMENTAL ISSUE

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*Source:* <http://sci.tech--archive.net/Archive/sci.bio.evolution/2005-08/msg00501.html>

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- *From:* "whitesickle@xxxxxxx" <whitesickle@xxxxxxx>
  - *Date:* Sat, 27 Aug 2005 14:04:37 -0400 (EDT)
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Mr. 1g:

You state, "Often comments appear in forums such as sbe, to the effect that we humans are this way or that way or another way because our distant ancestors encountered this or that or the other situation. But if acquired characteristics are not transmittable, then how would any experience of our human, and/or pre-human, ancestors have had any impact upon us --- or even upon their own offspring --- at all."

The theory of acquired characteristic is attributed to Lamarck who postulated the environment as being the causative change in the species. The most commonly cited reference is the giraffe who grows a long neck because it has had over time to reach high in the trees for leaves. This theory of acquired characteristics has been time and again scientifically experimentally proven false.

You ask, "But if acquired characteristics are not transmittable, then how would any experience of our human, and/or pre-human, ancestors have had any impact upon us --- or even upon their own offspring --- at all." And, "Does not all the evidence indicate that the source of all evolutionary change originates from mutations resulting from "errors of duplication" in the codes in reproductive organs and their output?"

The main source of evolutionary change is if a species is adaptable to its environment. In the modern world natural selection has been somewhat decreased but still functions. To answer your question not all evolutionary change originates from "errors of duplication" in the codes in reproductive organs and their output.

I do want to reply to your following question, "But if acquired characteristics are not transmittable, then how would any experience of our human, and/or pre-human, ancestors have had any impact upon us --- or even upon their own offspring --- at all."

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The answer to that is simple. Despite evolutionary change of the species over eons there have been some traits selected by natural selection which have remain encoded in our DNA and which are "basically" shared with many other creatures. Other primates and mammals as well as insects. This is not acquired characteristics but natural selection.

You write, "Granted, those individuals, among any sexually-reproduction-dependen-t species. who have not survived -- at any given time in the history of life on Earth -- have not passed along their more favorable or more unfavorable codes. But those who survived, mated, had offspring, and raised those offspring for as long as necessary for them to, in turn, reproduce... did not pass along any acquired characteristic. Isn't that right? They merely passed along "correct" copies of the codings that got passed along to themselves or they passed along modified copies of the codes that got passed along to themselves. Isn't that right?" Then you apparently attempt to answer your own question.

"So, the experiences of the parents who reproduced would have had no influence upon shaping their young exactly like themselves or shaping them differently from themselves. Right? Of course, if the parents (or adoptive parents, or group as a whole) did not survive to raise the offspring long enough to survive on his/her own, that "experience" would make a difference. But the difference still would not pass along anything acquired by the "rearsers," right?"

Wrong. This reminds me of when I suggested modifying aggression through germline genetic engineering and some posters concerned it would leave some nations vulnerable to those whose aggression hadn't been modified. Darwinian evolution in "general" is an extremely long and gradual and incremental process which doesn't occur in a generation's lifetime or innumerable generations. The changes are imperceptible. It's only really been through molecular genetics we've recently been able to draw some rough but good speculations and conclusions.

In reference to modifying the substrate aggression this would certainly be intervening in Darwinian evolution but even this would take such a long time (but nothing compared to Darwinian evolution) that the concerns posters cited are moot. They would not occur.

The following reminds me of Matt Nuenke on a better day. Eugenics is very subtly introduced in the following:

"In a nutshell then, why could not progressive offspring, generation after generation, change in accordance with what situational filters each encountered (as individual or as participants in the species at any given increment of its evolution)? Over time, what difference would it make if

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the ancestors lived in water, crawled on land, flew, or ate one kind of thing from the food chain or another kind? And, in fact, is this not exactly why there is so much diversity of life today? Because offspring were constrained only to be enough like their parents to avoid being abandoned too soon, and enough like the parents to be able to live off what the parents provided by way of food and protection until it (the individual offspring) could go its own way and be as different as it could be and still survive to propagate?"

This definitely has the tinge of Darwinian evolution. The "state" this author suggests already exists but it seems he would like to intensify the process. He states, "And, in fact, is this not exactly why there is so much diversity of life today? Because offspring were constrained only to be enough like their parents to avoid being abandoned too soon, and enough like the parents to be able to live off what the parents provided by way of food and protection until it (the individual offspring) could go its own way and be as different as it could be and still survive to propagate?"

Regarding the diversity of life today we are currently engaged in the sixth mass extinction of species on earth. That hardly adds to diversity. Furthermore, I don't think the human species in general is that "complex". Genetic "diversity" without "complexity" is an oxymoron in my opinion. Yeah, everybody has their own unique DNA but how complex is it?

The author states, ""In a nutshell then, why could not progressive offspring, generation after generation, change in accordance with what situational filters each encountered (as individual or as participants in the species at any given increment of its evolution)?"

First of all, although theoretically one could say Darwinian evolution is going on as we speak for all intent purposes it is not. Again, it takes in some cases millions of years for Darwinian evolution to effect noticeable change in an organism. Although not directing stating I don't believe "situational filters" for "progressive" offspring (what would you define as progressive?) would be agents for evolutionary change. I believe the environment has played a significant role in Darwinian evolution but environments change. As I've stated at least a hundred times on s.b.e. over the years I believe Darwinian evolution has not adapted to our current environment and threatens the species with extinction. Regarding germline genetic engineering of humans obviously the genetically engineered human will be "different" but not so alien and strange it won't be wanted by "normal" couples.

The author writes, "Over time, what difference would it make if the ancestors lived in water, crawled on land, flew, or ate one kind of

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thing from the food chain or another kind?" All the difference in the world. Are the similar genetic behaviors of our evolutionary ancestors as well as current creatures necessarily compatible with civilization and more importantly our continued survival?

The author anonymous author asks, "In short, what do most of us believe? Do we believe evolution is a matter of what ancestors experienced (other than whether they survived to propagate)? Or do we believe today's creatures are constrained in their appearance and behavior by what happened to ancestors hundreds of thousands of years ago... or longer?"

I think the two are interrelated. For example, aggression was necessary in our evolutionary past due to non-human predators and this was encoded in our DNA by natural selection. Today, aggression is a deadly nuisance. For whatever strange reason "nature" allowed us science and technology and it has continued to grow but this process came about through means of "exaptation".

Michael Ragland

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• ***Follow-Ups:***

- ◆ ***Re: A question of timing***  
◇ *From:* Michael Nuwer

• ***References:***

- ◆ ***A FUNDAMENTAL ISSUE***  
◇ *From:* g

- Prev by Date: ***Re: Maximum entropy principle***
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