

Exploring the shift in worldview post-Darwin's theory

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Darwin's theory of evolution caused a shift in how people perceived the world, and tried to understand their surroundings. Slack, in his book 'The Battle over the Meaning of Everything', writes "what [the dover trials were] really about was neither evolution nor ID, but the worldviews they enabled" (Slack, 39-40). Slack points out that Darwin's theory fundamentally altered the way individuals thought about the world, rather than simply adding on to their existing notions. It dramatically shifted people's view of different fields, different concepts and introduced new ideas to fields that it wouldn't directly be applicable to, such as Computer Science, Design Theory, and Mathematics.

To understand this idea, we have to first look at defining, and understanding Darwin's theory and understanding the impact it can create. To begin understanding Darwin's theory we should first explore the principle of natural selection. At the beginning of his chapter on natural selection Darwin poses the question "[can] the principle of selection, which we have seen is so potent in the hands of man, apply in nature?" (Darwin, Origin, 80), and the principle of natural selection is the theory that stands to answer this question. Farmers and many other professions have practiced the principle of selection by letting their best animals breed and so can that same principle happen in nature, but occur in all living creatures instead?

Darwin explains it best through the idea that "[man] selects only for his own good: Nature only for that of the being which she tends" (Darwin, Origin, 468), which represents

the idea that an individual selects only for her own good, but nature selects for the adaptation and progress of all beings. Darwin's ideology of natural selection stands on top of the idea that "every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good" (Darwin, *Origin*, 83). Natural selection is to preserve variations that leads to an advantage, and elimination variations that contribute to injury or death.

In addition, another big part of Darwin's theory is the notion of a struggle for existence. Darwin's explanation of the principle for struggle for existence is important to note: "As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself, under the complex and sometimes varying conditions of life, will have a better chance of surviving, and thus be naturally selected. From the strong principle of inheritance, any selected variety will tend to propagate its new and modified form" (Darwin, *Origin*, 14). Huxley's explanation is the idea that populations would have grown geometrically without the struggle for existence, but the struggle for existence corrects for it. Darwin's view is that the struggle for existence is a larger metaphor for the inner workings of a larger natural system, which in itself is a very powerful idea.

Moreover, another interesting observation is that different people who have written about theories involving Darwin's theory have different views of defining natural selection or the theory of evolution. This is interesting to observe as it depicts the ways these authors have thought about these theories, and applied it in their own ways. The theory of evolution involves a lot of different components to it, and in order to understand the worldview that their theories represent it is important to note how they portray it. Different individuals form different opinions on the theory given their personal assumptions beforehand, and also mould it to apply to their topic.

Pagel, in his book 'Wired for Culture: Origins of the Human Social Mind', writes "[natural] selection does not maximize happiness or even well-being, but rather long-term reproductive success" (Pagel, 24). Pagel here expresses natural selection as concept for leaving more progeny in future generations. His view of natural selection represents a worldview that it always looks positively to improve the number of offspring we have in the future, but doesn't necessarily care about how the process occurs or how it adapts us. Similarly, Dawkins, in his book 'The Selfish Gene', describes evolution as a "good thing", especially since we are a product of it, [and] nothing actually 'wants' to evolve. Evolution is something that happens, willy-nilly, in spite of all the effort of the replicators (and nowadays of the genes) to prevent it happening" (Dawkins, 19). Dawkins' view on evolution can be seen both positively and negatively. The can be seen positively because it depicts the marvels of the theory of evolution, and how over a long period of time it has created such complex creatures such as ourselves. However, the negative side expresses the ideology that we have no control, and the idea that nothing 'wants' to evolve, but goes through the process anyways is a huge realization to undergo. The idea of having no control is important because it forces individuals to think about the broader power and importance of a process such as evolution.

The worldview of many individuals around the world was very different before Darwin's theory of evolution, and changed a lot in the 200 year period before and after Darwin, 1750-1950. There were a few key theories that individuals developed that scientists at that time found to be credible. Firstly, there was evolutionary theorist called Jean Baptiste Chevalier de Lamarck who started the discussion of biological change and started to develop and build scientific theories that started questioning the process of how we are what we are. Lamarck was prominent to the theory that organisms arose into their natural forms by spontaneous generation, then were transmuted over a long period of time to becoming more complex, and

Lamarck described his theory the organisms moving up a ladder of progress. Lamarck was also known for his theory of Inheritance of Acquired Characteristics, which hypothesized that changes that occur in an organisms life may be transmitted to its offspring. Previous to Lamarck's work biologists used to believe that spontaneous generation would occur to form complex beings.

After Lamarck, a French scientist, Georges Cuvier was the first to document proof for the idea of extinction. Cuvier did not believe in Inheritance of Acquired Characteristics, but believed that there was no connection between different species, and one's characteristics would not impact the future of its offspring. He believed in the theory of catastrophism, which explained how certain species were killed off before a new species came. His observations stood from the standpoint of looking at layers of rock, and seeing each level of the rock formation to be extinctions. Another important theory was proposed by Charles Lyell. Lyell made the argument that by studying the geological processes in the present day we can begin to understand the history of the earth. This is an important idea, and one that seems obvious to us as we read now, but is important because it allowed Darwin to understand the significance of studying Geology, and sparked the idea that if there exists a connection between different species then by studying their fossil record we can help discover their origins or the connections between them.

A plethora of work led to what we now know as the Theory of Evolution. It's clear to see that the ideas leading up to Darwin's theory shifted the perspective of how Darwin saw and perceived things around him. The introduction of the concept of extinction, the idea of acquiring characteristics from our parents, and much more helped Darwin perceive a new worldview in the same way our worldview shifted by Darwin's theory.

My thesis is that the theory of evolution led to a revolution in worldview that far out views the direct applications that come out of it.

Pagel looks at how languages evolve by utilizing his worldview of the biological evolution and nature selection theories.

“Evolution, he said, permits a relativistic, purposeless, Godless view of the world, in which self-aggrandizement and pleasure are sufficient ends in themselves, and the only objective measure of goodness is reproductive fitness.” (Slack, 40-41)

“Our invention of culture around that time created an entirely new sphere of evolving entities. Humans had acquired the ability to learn from others, and to copy, imitate and improve upon their actions” (Pagel, 2).

“Our cultural survival vehicles were built not from coalitions of genes but from coalitions of ideas roped together by cultural evolution” (Page, 46).

“As man advances in civilization, and small tribes are united into larger communities, the simplest reason would tell each individual that he ought to extend his social instincts and sympathies to all members of the same nation, though personally unknown to him. This point being once reached, there is only an artificial barrier to prevent his sympathies extending to the men of all nations and races.” (Darwin, Descent)

In conclusion, I truly believe that the shift in worldview that Darwin has caused is revolutionary, and it is more important than the direct applications of evolution. Darwin’s theory of evolution has allowed individuals to go one step beyond our basic understanding of the world, and to use their worldview to explore areas like explaining the evolution of culture, and building Artificial Intelligence that utilize these concepts of evolution.

References

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