

## **Notes on the book:**

### ***Mystery of Mysteries, Is Evolution a Social Construction?***

**Michael Ruse (Harvard University press,  
Cambridge, Massachusetts, 1999)**

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**This was an interesting book. It looks at different approaches to and interpretations of the sciences underlying the concept of evolution. It describes key scientists working in the field, past and present, and by correlating their life's work with their personal histories makes several points about the role of personality in directing or steering science. It suggests that this is not to say that science is not objective, only that science as an activity needs to be alert to the role of human nature and catch and correct unfounded interpretations. Science does this through repetition of experiments by independent workers, where possible, and through peer reviews.**

**It gave me some reinforcement for my insight into the scientific process and its ability to be influenced by the investigator, especially in terms of qualitative observations and their interpretation. Training, temperament, experience, world-view, all can and often do play a role in interpreting data, and even in designing and carrying out experiments.**

**At the end of the book I fully agree with Ruse that though this is so, science's insistence of independent repeatability where possible, and on peer review, weeds out a lot of the**

**unnecessarily subjective and personal. Science is, by and large, a surprisingly objective human, and societally sponsored, activity.**

**But this insight, which echoes my own observations as a worker in the sciences, is not why I read the book. I read the book because in leafing through it I discovered several statements that appealed to my personal prejudices. These were largely to be found in the chapter on Richard Lewontin. This is Chapter 8, and begins on page 153.**

**I was taken aback by the fact that Lewontin and E.O. Wilson were once "friends and later bitter enemies." This caused me to read the Wilson chapter as well. Then I learned that Lewontin wrote an article with Stephen Jay Gould once, so I also read the Gould chapter. I think I read most of the book, actually.**

**In chapter 8, I found several insights that rang my chimes, prejudicially speaking. Why have I used the "prejudice" word twice already? To underscore the point that as a non-expert in evolution's underpinnings, any of them, my ideas of what should be found to be true in evolutionary biology are bold-faced prejudices. But they are my prejudices, and I seek to defend them by selective reading. Hence what follows:**

**On page 154 Lewontin is cited by Ruse as writing that . . . "the organism is not determined by its genes, although its different traits are undoubtedly influenced by its genetic constitution." As I read on I saw where he was getting this idea: the amazing variation that exists within a species can't be explained through looking at genetics alone.**

**The next page (155) has Lewontin carrying this argument to the human species and making observations about the pervasive alteration of the environment engaged in by this species. This alteration he calls "creative homeostasis" and through it, he claims, "humans transcend or escape their biology."**

**I have often thought this, actually. I have often thought that our intelligence allows us to govern the reproductive rate of our species to control our quality of life and assure stability and species-wide good health. The more primitive idea of unbridled reproduction is a primitive, genetic one unfortunately incorporated into several human-authored religious traditions. Perhaps these traditions, with their homophobia and their urging continuous reproduction are simply reflecting genetic programming by accident, however. The real motive, perhaps, is to simply outreproduce competing religious traditions and so overcome them by the dominance of sheer numbers. This also seems very primitive, and may also be genetic. But some of this line of thinking, this looking at ways to link behavior with genetic impulses, got whacked as I continued to read the Lewontin chapter.**

**I was really thrilled when I got to part where Ruse was describing Lewontin as attacking the "molecular revolution" and its "false promises." (Page 137) On page 138 Ruse writes of Lewontin's work as showing that in evolution a new, "more holistic" approach is needed. Genes do not work in isolation but "come packaged with other genes, and how one gene performs is very much a function of how other genes perform." Ruse then quotes Lewontin saying the same thing, in essence.**

**What follows next is the falling out between Ruse and Wilson alluded to above, over Wilson's "Sociobiology" work which Lewontin saw as bad science providing bad insights that may be used to set bad social policy. At least that is how I interpret what was written.**

**Then Ruse mentions an article, a famous one, co-authored with Gould that is very critical of those who seek to interpret every behavioral observation as an adaptation that can be related to natural selection, and who then concoct plausible scenarios of natural selection to explain what they have observed. This is also bad science, according to Lewontin and Gould, because it is unconstrained by facts or data, as was Wilson's work.**

**On page 160 Ruse goes on to show that based on his own work, Lewontin feels that an individual's characteristics are as dependent on genetics as they are on environment. Lewontin has a real hatred for genetic arguments used to support racial superiority ideas, by the way. Ruse explains why on pages 165-166. On those pages is a very interesting discussion of the way that Lewontin sees the rise of Fascism and especially its use of sloppy science to support its prejudices, . . . "cherishing some humans and regarding others—Jews especially—as vermin or nonhuman" in Ruse's words.**

**But for me at this time the more interesting part of the chapter is where Lewontin is described as writing attacks on biological determinism of all shades and colors, and here is where I found my one great gem of insight (pages 161-162) in a quote Ruse takes from a television documentary starring Lewontin, now in book form, called *Biology as Ideology: The Doctrine of***

**DNA.** In that publication Lewontin writes:

**We are, in Richard Dawkins's metaphor, lumbering robots created by our DNA, body and mind. But the view that we are totally at the mercy of internal forces present within ourselves from birth is part of a deep ideological commitment that goes under the name of *reductionism*. By reductionism we mean the belief that the world is broken up into tiny bits and pieces, each of which has its own properties and which combine together to make larger things. The individual makes society, for example, and society is nothing but the manifestation of the properties of individual human beings. Individual internal properties are the causes and the properties of the social whole are that effects of these causes. This individualistic view of the biological world is simply a reflection of the ideologies of the bourgeois revolutions of the eighteenth century that place the individual at the center of everything.**

**This quote, Ruse observes, takes us from science and brings us to philosophy, so then he unravels some of Lewontin's philosophy. I must say I liked the above quote because I have gradually come to see that society is bigger than any individual or any group of individuals, and has its own characteristics loosely relatable to a cross-section of individual characteristics, perhaps. But the point is that divisions of interests and labors create a society that provides an infrastructure within which individuals can grow and create, and thus expand and improve that society. Even such a dumb thing as a house outlasts its owners. No individual could live as rich a life outside of a well run society as within it. So,**

**Lewontin, you are preaching to the choir, but there is more to it than that society/individual thing.**

**Lewontin has some Marxist interpretations woven through his work, like the mixing of opposites to then become united in synthesis. In this context he suggested that environment and biology modify each other.**

**Moving on to page 169, Ruse argues that Lewontin's critique of trying to understand the whole by studying its parts, reductionism, was in fact what Lewontin himself did and constitutes his most solid achievements in and contributions to the science to which he devoted his working life. In other words, there was insight to be gained at looking at the smallest parts, but there were also macro considerations that need to be folded into interpretations of evolutionary processes.**

**But if I got nothing else from this book, it is its discussion of the limits of reductionsim that most fascinated me. In one part Ruse refers to the gas laws, which predict very accurately the physical state of a gas based on macro, not micro, properties. This he suggests is akin to trying to understand human behavior based on genetic coding. That coding is only part of what explains the properties of the whole, macro, organism.**

**Finishing this chapter, in which Lewontin is described as coauthoring a famous paper with Gould, and in which Ruse is rather more critical of Gould than of Lewontin, caused me to read the Gould chapter, number 7. On page 138 in that chapter the Gould-Lewontin paper is described as attacking reductionism. This is again explained as saying that (Ruse's interpretive words on his page 140) . . . "one cannot hope to**

**explain away everything at the upper, bigger levels by expressing them in terms of the lower, smaller level."**

**Ruse goes on to give examples such as a four-limbed animal requiring a frame of a certain strength, meaning there are limits to the range of possibilities for change. This means that small changes may take place, and may build some pressure for change that is implemented rapidly at some point. This is where Gould's famous "punctuated equilibria" hypothesis comes into the picture. A hypothesis more famous because it is popular than because it became widely accepted among evolutionists. It was never really accepted or found useful by workers in the field, according to Ruse.**

**On page 146 Ruse cites a popular article by Gould in which he marvels at the existence of humanity, given the many accidents along the way that could have killed our ancestors outright and prevented us from now existing. He said in a conclusionary sentence that:**

**We are glorious accidents of an unpredictable process with no drive to complexity, not the expected results of evolutionary principles that yearn to produce a creature capable of understanding the mode of its own necessary construction.**

**It is words like these that cause some other evolutionists to foam at the mouth and attack Gould. One example of such an attacker, who chomps down on Gould with no mercy, is Simon Morris who wrote a book that in its very title flatly contradicts Gould's statement. It is called *Life's Solution, Inevitable Humans in a Lonely Universe*. It is next on my reading list.**