The Non-Darwinian Revolution: Reinterpreting a Historical Myth by Peter Bowler; The Mendelian Revolution: The Emergence of Hereditarian Concepts in Modern Science and Society by Peter J. Bowler
Review by: Michael Ruse
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BOOK REVIEWS


Historians of science have always felt somewhat tense about philosophers of science, often with good reason. Too frequently philosophers have rushed in, arrogantly intuiting “truths” that historians know can be uncovered, if at all, only by careful and thorough research through the published and unpublished documents.

Recently a growing number of historians has changed from the passively hostile to the aggressively hostile, for they have embraced with unseemly enthusiasm an extreme form of relativism, almost designed to make your average philosopher shudder with Popperian fury. Out of the window go such dusty old concepts as reason or truth or reality or objectivity or progress. Everything, we are told, is a “social construction”. Causes take priority over reason. Gone forever is the clash of idea against fact. In its place is the influence of ideology or of politics of class struggle or of the just plain nasty. From the calm rational domain of the logical empiricist, we are plunged into a Feyerabendian nightmare, where everyone is speaking with an Edinburgh accent.

One thus tempted toward subjectivism is Peter Bowler as the two books under review illustrate. The major theme of The Non-Darwinian Revolution is given by the subtitle: Reinterpreting a Historical Myth. According to Bowler, the picture of the Darwinian revolution is of general and continuous development and acceptance. Pre-Darwinians came up with the idea of evolution. Darwin established the idea as fact, and proposed an adequate mechanism: natural selection. However, full acceptance of the mechanism had to wait until the beginning of this century, when Mendelian genetics was rediscovered and developed. Then the way was prepared for the synthetic theory (of Theodosius Dobzhansky and Julian Huxley), and truth and reason had prevailed.

Bowler argues to the contrary that, although he established the fact of evolution, as a theorist Darwin essentially failed. People just did not take up natural selection. Rather, they opted for all sorts of non-Darwinian mechanisms like Lamarckism (the inheritance of acquired characteristics). They made their choices not on the basis of fact, but for political and other reasons. Therefore, no Darwinian revolution happened, at least not in any conventional sense. First people swing one way because of their ideology, then they swing a different way. While we are now back with Darwinism, this change too is less one of logic and brute fact and more one of ideology.

Bowler’s other book, The Mendelian Revolution: The Emergence of Hereditarian Concepts in Modern Science and Society, gives us more of the same, except this time it is genetics which comes in for the constructivist treatment. Mendel, Morgan, Fisher, the lot, were all making it up as they went along. If you think I exaggerate, consider the conclusion of Bowler’s discussion of the Lysenko affair:

Genetics triumphed in America and Britain by establishing itself as a new science with an artificial focus on the problem of transmission, and by discouraging research in areas that might threaten the claim that the nuclear gene was the sole determinant of heredity. Lysenko’s approach seemed outlandish by the standards of classical genetics, but it arose from consideration of issues that were still taken seriously by most biologists outside the English-speaking world. Far from being a complete charlatan, Lysenko’s early physiological work was quite sound. The Lysenko affair can no longer be judged in black and white terms, and it forces us to confront the possibility that there may be ideological dimension to the rise of hereditarian theories. (Pp. 151–152)
Let me say loud and clear that I think that social constructivism is not simply philosophically wrong, but that it is morally pernicious. If power and success be all that count, then no distinction can be made between evolutionism and creationism—or, rather, the nod should probably go to the latter, since if you add up the fundamentalists of Christianity and of Islam, they surely outnumber the transformists. And if the scientifically grotesque, then why not the morally grotesque?

Note that I am not arguing against the relevance of sociological factors for a full historical understanding. What I am arguing against is simply the taking of their significance to the extreme. But, can one counter the full-blooded constructivist? All I can say is that—apart from the obvious problems of self-reference, if relativism be true, then why should one take notice of the relativist when the position is asserted?—Bowler certainly does not make a convincing case.

Since, in Bowler’s treatment of the Darwinian revolution, I am named as a conservative fuddy-duddy, I re-examined my Darwinian Revolution. While I saw that some people took up selection after the Origin (a fact that Bowler underplays), I noted explicitly that most did not. I acknowledge fully that (most particularly since I wrote my book) Bowler more than anyone has documented the extent to which people did not accept Darwinism (i.e., selection), but his overall thesis is simply not that new. And, this being so, at the very least one can say that those like myself, who think that facts and logic count, did not illicitly read this view into the Darwinian revolution because we did not know what was going on.

What of Mendelism? The traditionalists (like myself) argue that the coming of Mendelian genetics, particularly as it was generalized to population genetics, was crucial. Bowler disputes that any of this represents objective truth. But, recall his apologetics for Lysenko. In response to these, let me put the record straight: Lysenko had no interest in theory. Such speculations as he had were cobbled together for him by the philosopher I. V. Prezent. So far from his early physiological work being “quite sound”, his ideas and practices were wasteful and foolish, and were bitterly opposed from the beginning by the best Russian agriculturalists. His main evidence that vernalization could effect species change was one (one!) stalk of wheat. Indicative of the quality of his thought was the fact that Lysenko proudly announced this fact himself. And his views were not perverted by Marxist rhetoric because his knowledge of Marxism was about on a par with his knowledge of genetics. Lysenko’s Marxism gave lip service a bad name.

Does any of this matter? Have we just got a clash between a forward-looking philosopher and a traditionalist? This I do know. In good part because of Lysenko, the Russian economy is still a shambles today. In good part because of Lysenko, decent hardworking, patriotic scientists were starved to death or shot in the head. In good part because of Lysenko, real science was destroyed or sent underground. For myself, I do not want to judge in less than black or white terms. Michael Ruse, University of Guelph.

JERRY FODOR. A Theory of Content and Other Essays. Cambridge, MA: MIT Press (1990), xii + 270 pp., $14.95 (paper).

Fodor’s latest is divided into two parts. Part 1, “Intentionality”, includes five previously published pieces and a substantial new offering occupying chapters three and four. Part 2, “Modularity”, includes four previously published works, and an appendix.

Dennett’s Brainstorms (1978) proved long ago just how effective a collection like this can be. Fodor has tried it for the second time. The present volume is, in my estimation, more successful than Representations (1981) because it focuses clearly on two related topics in a way that gives a compelling and complete (until now) exposition of Fodor’s views on mental content and psychological architecture.

In part one, “Fodor’s Guide” gives us Fodor’s view of the options, and it positions himself and others in a kind of decision tree: