

Review of: "Evolution Isn't Teleological, Writing About it Is"

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This paper provides a carefully conceived and coherently written contribution to the ongoing (if not seemingly endless) debate for and against alleged contrivance, purpose, agency, and intent in the natural world. It posits the novel thesis that though the process of *natural selection* driving evolution, as proposed by Wallace and Darwin (arguably, I suggest, in that order of priority), does not countenance teleology, it is difficult if not impossible to articulate evolutionary theory without incorporating teleological elements of purpose and intent. Specifically, the paper claims 'any written account of evolution will necessarily elicit some kind of teleology. Not only is the very grammar of natural language saturated with agency and intention, but narrative accounts, including nonfiction explanations of impersonal phenomena, have teleology baked into them' (p.13). This is an intriguing thesis and worthy, as it stands, without revision, of publication in a very good journal.

In elaborating and supporting this claim, the author makes what he refers to as a 'fairly standard distinction' between *external teleology* and internal teleology because, as he observes, 'it corresponds roughly to the ways teleology is talked about in colloquial science texts' (p.2), which is 'the main channel through which non-experts encounter descriptions of Darwinian evolution and attendant notions of teleology' (p.2). A critic might add that it's the main channel through which those with a strong materialist, atheistic agenda (such as Daniel Dennett, Richard Dawkins, David Hanke, Alex Rosenberg, discussed in this paper) choose to advance their religious convictions and gain acceptance within their ideological group, without violating the agnosticism of mainstream science. And, it is also where opposing voices such as Michael Behe (also mentioned in this paper) mount their ripostes. Standing somewhere in the middle is complexity theorist Stuart Kauffman, who recognises 'the organism does shape its environment for its own ends, and this is precisely what distinguishes the living from the nonliving' (p.6), which implies internal purpose and intent. Though not mentioned in this paper, it is worth noting that Kauffman has always been aware of the cosmological dimension of science, of *Being at home in the universe* (1995), and also *Reinventing the sacred* (2008).

Having reviewed these and other texts, and despite the desire of most authors to prove their non-teleological credentials, the author concludes that 'all popular works on evolution violate' the standard of being non-teleological, even texts 'that explicitly deny teleology' (p.13). Indeed, he says, 'It would be difficult to write a popular introduction to evolutionary science without resorting to at least some form of internal teleology' (p.8). The reason is not philosophical or biological; it's a matter of language, especially, the author believes, a problem of written language, narrative, because language and narrative are inherently teleological.

Notwithstanding my assessment that this is a very well-argued, persuasive thesis and my agreement that language is inherently permeated with teleology, for all the reasons given by the author, I would like to raise two quick points regarding

language. First, I am not sure whether it applies to all languages, ancient and modern. It certainly applies to English and the classical languages of Latin and Greek, but what about Chinese? Is Chinese inherently teleological, or is it much more saturated with duties, relationships, and hierarchies? I suggest the author clarifies whether his thesis extends to *all* languages, past and present. Second, (many, most) all languages have teleology 'baked in', but I suggest the root cause is cosmological and massively predates language, especially written language, which is exceedingly recent. We do not know when humans started to possess language, whether it arose with our own species of *homo sapiens* some 200-150 thousand years ago, or whether, as I suspect, it is earlier, possessed by Neanderthals. But language and thought are not synonymous, and at a neurobiological level of analysis, 'Language is primarily a tool for communication rather than thought' (Fedorenko, et al., 2024, p. 575). As soon as our ancient human ancestors acquired the ability to categorise and ponder the world in which they found themselves, they would have experienced it brimming with 'functions, purposes, goals, and intentions', with teleology. Teleology didn't have to wait for the onset of language.

I have one further suggestion to make, this time regarding Wallace and Darwin and the impact of natural selection on belief in teleology. I'm not sure if the author was pressed by a word limit for this paper, but if there is space for an additional 300 words, they would be well spent expanding on how natural selection 'annihilated teleology in nature' (p.1). Briefly, as the author likely knows, from at least the end of the 17th century, but with earlier roots, a growing fascination with the "new science" and the hope invested in empirical investigation saw a massive rise in botany. Often, in Britain, this was conducted by clergymen who had the time and motivation to investigate and categorise species. What they found was a world in which species seemed to be contrived to suit the strictures of their environment. Species appeared to be designed, and that suggested a Designer, artificer God. No less than the God of the Judaeo/Christian (and Islamic) tradition, identified as Creator in the opening words of the Bible: 'In the beginning, God created the heaven and earth...'. Hence, the quest throughout the 18th and 19th centuries for evidence of purpose and design in nature. Hence Paley's (1743-1805) elegant (watchmaker) analogy that Darwin enjoyed and had with him on his voyages of discovery, and hence the *scientific* Bridgewater Treatises (1833-36), by scientist authors who were appointed by the President of the Royal Society. What Wallace and Darwin realised was that it wasn't that species had been shaped to suit their environment by Divine contrivance, but rather it was the environment, over uniformitarian geological time (Lyell), that had shaped the different species through natural (not Divine) selection, by chance and contingency.

My suggestion is that giving something of that background would counter the possible impression, when saying that natural selection 'annihilated teleology in nature', that teleology, in its heyday, was inherently non-scientific, if not anti-scientific (as some commentators considered in this paper would like us to believe). Rather, the issues as they arose in context were viewed as very scientific and in need of empirical investigation.