

The Daniel Dennett's New Mind: Darwin, Turing but no Bach

Daniel C. Dennett, *From Bacteria to Bach and Back. The evolution of mind*, Penguin Random House, UK 2017, pp. 467.

Daniel Dennett has been writing about concepts of the mind, freewill, and consciousness for most of his career. In his new book *From Bacteria to Bach and Back*, Dennett sets himself the goal of finally providing definitive explanations for these problems. He states on page 4:¹ “I have found a path that takes us all the way to a satisfactory—and satisfying—account of how the ‘magic’ of our minds is accomplished without any magic.” The challenge here is obvious, because for most of us, the mind is a great unknown, so let us review how well Dennett fulfills his promise.

Another word of introduction is needed, however. Dennett is an avowed materialist—some even call him an ultra-Darwinist. In other words, he belongs to a rather mili-

tant faction among philosophers. For such individuals, facts either support or undermine an argument—there are no grey areas, and nothing is unexplainable or unclear. The same applies to people as well—they are either for or against. For the people in the second category, their arguments are simply wrong, fairylike, and unworthy of mentioning. On reading the book, one can see who Dennett regards as in or out. Unsurprisingly, Dennett sees his fellow travelers as including Richard Dawkins, Sam Harris, the late Christopher Hitchens, and Lawrence Krauss. Among his enemies there are John Searle, Thomas Nagel, Steven Jay Gould, and Noam Chomsky, to list but a few. This observation is not just a tangential one. You will find reviews of Dennett’s work that declare his writings to be paragons of absolute clarity, yet you can also find reviews of that same work that are not so enthusiastic. You may well wonder where this divergence of opinions stems from.

The book is titled *From Bacteria to Bach and Back* with the subtitle *The evolution of mind*. It comprises some 450-plus pages of dense writing with ample technical jargon, neologisms, and other terms

¹ Page numbering refers to the version published by Penguin Random House, UK, 2017.

that seem familiar but which here are somewhat different. Dennett refers to these semantic changes, which are characteristic of his philosophy, as “reversions” of meaning. We need to watch out for these “reversed” concepts, because they are critical to the larger argument made in the book.

Dennett delivers the whole story of the mind to us in three parts. In the introduction, we are primed for what Dennett calls the “inversion of concepts.” In brief, he claims that everything we think we know about the mind and evolution is not what we believe it to be. It is rather what he thinks it is, and he is clearly going to tell us just that. In his own world, it is about “turning our world upside down, following Darwin and Turing; then evolving evolution into intelligent design; and finally turning our minds inside out” (p.6).

Dennett postulates that the complexity of the natural world is the result of evolution, a purposeless process (as evolution is). We naturally do not have a problem with this. He then states that all the “brilliance and comprehension in the world arises ultimately out of uncomprehending competences compounded over time into ever more competent—and hence comprehending—systems” (p.57). Dennett here

introduces Alan Turing’s concept of a calculating machine. For Dennett, the Turing machine is absolute proof that complex problems can be solved through mindless processes. In Dennett’s words, “Turing’s [...] novel idea [is] that [...] we may build comprehension out of a cascade of competencies [...] without having to comprehend [...]” (p.58). Translated into simpler English, Dennett’s Darwin and Turing arguments imply the following: Mindless evolution “created” complex biological systems, and this is Darwin’s contribution. The mind, reason, and intelligence (as we see it) have also been created (or emerged) in the same way, just as complex biological structures did. Through evolution mechanisms, mindless simple operations transformed into “comprehension” or in other words, the mind with all its complexities. This is what the Turing model is supposed to demonstrate, according to Dennett. Turing computations, which are very elementary at the basic level, can, through an appropriate process, become immensely complex. To complete the picture, we need to add memes into the mix (This happens in Part II of the book). Memes are units of cultural transmission, and the cultural revolution that is behind

the proliferation of memes is also Darwinian in nature. Thus, we have the mind. This is the concluding argument that is presented in the third part of the book.

As it turns out, however, this does not end the problem or answer the original question, at least if you really think about it. Dennett's arguments explain away complex notions of the mind and reason through Darwinian evolution and the rise in complex computing with Turing-like processes, yet these do not fit well together without some semantic massaging. Let us see why, at least for some selected examples.

If Turing machines explain the origin of the mind (as Dennett claims), one would expect the mind to be like a Turing machine. Now, if the mind were a Turing Machine, then what it would do is computing (Turing computing to be more specific), just as Turing machines compute. Mental operations would therefore be Turing-like computations, because the mind itself would be a computer, a Turing machine. According to Dennett, however, while Turing machines explain the origin and function of the mind, the computations that the mind performs are not Turing computations, and the mind is not a Turing machine. So, you may ask,

what it is that this mental Turing machine does? I leave it to the reader to attempt to discover Dennett's interpretation of what manner of computations the mind performs.

As some may already realize, bringing Turing into the discussion goes against John Searle's Chinese Room argument. In this, Searle claims that out of mindless operations, you get mindless systems—there are no semantics, no comprehension, and in particular, no mind. Dennett, meanwhile, claims that mindless operations create comprehension, semantics, understanding, and intelligence—everything is just a matter of scale. This proposition may hold up well initially, but for this logic to be sustainable, we need to tweak the meaning of some key terms. It seems that Dennett's idea of comprehension does not match that of Searle. Dennett's notion of comprehension is equated with competence, while Searle sees it as semantics and understanding. Thus, we have a Turing-based mind that does not compute and comprehension that is not actually comprehension but rather competence. This is what the mind is, together with consciousness, according to Dennett.

A few other minor peculiarities among Dennett's arguments are

worth noting. In his analogies or comparisons he quite often uses connections like “sorta” and “kind of,” not taking pains to explain what these terms should mean or why the things he compares are comparable. What makes them similar? Do they just look alike, or is there some deeper similarity? For example, he says things like “neurons are sorta robots” (p.162) and “the developing organism sorta understands” (p.154). The reader is left unsure, and Dennett does not help here, how this “sorta” logic works.

Dennett also quite liberally uses analogies that may seem odd. Here is an example: “[...] the simplest moving parts within neurons [...] are like [...] broomsticks in the Sorcerer’s Apprentice [...]” (p.162). One may therefore wonder why, and in what way, neurons are “like” magically animated broomsticks? Here is another example: “words play a role in cultural evolution similar to the role of DNA in genetic evolution” (p.202). Again in what way are these similar?

Of course, the selected analogies may not be essential to a full understanding of the book. Some may wonder, however, whether this firework display of logic with its “sorta arguments” and bewildering comparisons and analogies amounts

to an “explanation of the mind,” or is it just the poetic vision of a brilliant raconteur? As you may recall from Bertrand Russell’s comment on Hegel, bad logic breeds bad philosophy. You are left to judge on this.

The impression that emerges from the book is that everything is a product of mindless evolution, including reasoning and the mind. The mind is therefore an illusion, just as colors and free will are. As he expresses on page 368, “The scientists and philosophers who declare free will a fiction or illusion are right; it is part of the user-illusion of the manifested image. That puts it in the same category with colors, opportunities, dollars, promises and love.” Everything is the product of the combined activity of billions of mindless neurons, which has evolved to give us the mind, reason, and language. (This is apparently proven through Darwin, Turing, and memes!). This is fine, but the problem is not with his conclusion, which may well be right, but rather with an argument that does not seem to hold up under scrutiny. As an imaginative description of the mind’s inner workings, Dennett’s books is certainly interesting, yet it seems his arguments are missing in some areas.

Here are a few more observations about Dennett's style of exposition: The book is not written in a clear and accessible language style. What is more, this lack of clarity has little to do with its "academic jargon" or the logical complexity of the argument. It is simply a problem with the writer's pen. The author's main point is often lost, leaving the reader puzzling about how it all fits together. The book reads like the record of a lecture or a transcript of some freewheeling conversation rather than a carefully written, tightly argued philosophical discussion. By the way, several of Dennett's lectures are available on YouTube, and they offer a much clearer picture of his ideas, so they may be worth watching before plunging into his book.²

Of course, the question is how to "read" Dennett? Is it really worth the time? Many may be better served by listening to his lectures instead.

My personal view is that despite whatever deficiencies there are in the text; Dennett's book is worth reading. There are some preconditions, however: i) one is aware that he is a militant; ii) that he often uses "sleight of hand" arguments; and iii) that in his workshop, words melt down and shift in meaning, so nothing is what it seems to be. Consciousness for you is not what it is for Dennett. For his version, his argument may well work, but this may not be true for consciousness as many others conceive it to be. Dennett is also not always clear how he defines the terms he uses, so it is not always obvious how to interpret his arguments when they are stitched together with logical connections like "sorta" and "kind of." Thus, in the end, you receive a "sorta" argument and arrive at a "sorta kind of" conclusion, but an interesting reading.

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² Daniel Dennett, *From Bacteria to Bach and Back: The Evolution of Minds*, Talks at Google – <https://www.youtube.com/watch?v=IZefk4gzQt4>, [Accessed 3 March 2018]. *Daniel Dennett on the Evolution of the Mind, Consciousness and AI* – <https://www.youtube.com/watch?v=o86W0DgrmRc>, [Accessed 3 March 2018].