How come we have a mind? And how can we even ask or answer this question?

By Nick Romeo  February 24 at 12:50 PM

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One of the least modestly titled works in the history of philosophy is René Descartes’s “The World.” Seeking to explain everything from planetary orbits to the properties of magnets and volcanoes, the 17th-century French polymath justified this grandiose title by exploring an astounding variety of subjects. Though he has become posthumously famous for his speculation that the external world might not actually exist, Descartes devoted much of his life to considering the mechanics of precisely how our world functions.

The philosopher Daniel C. Dennett’s new book, “From Bacteria to Bach and Back: The Evolution of Minds,” shows the same world-encompassing ambition as Descartes’s magnum opus. Dennett writes with clarity and ease on neuroscience, chemistry, computer science, linguistics, philosophy, biology and much else. But this profusion of seemingly disparate material is not just a display of encyclopedic erudition. Elements within each of these fields are relevant to the two questions Dennett wants to answer: “How come there are minds? And how is it possible for minds to ask and answer this question?”

That the pursuit of such fundamental questions would lead across the traditional boundaries of many academic disciplines is not surprising. Perhaps also unsurprising is the fact that completely satisfying explanations to these grand queries are somewhat elusive. Dennett quotes the physicist Emerson M. Pugh’s pithy formulation of the difficulty: “If the human brain were so simple we could understand it, we would be so simple we couldn’t.” Considering its vast ambitions, Dennett’s book is a fascinating and provocative inquiry, a feat of intellectual synthesis in the tradition of Steven Pinker’s “How the Mind Works” and Douglas R. Hofstadter’s “Gödel, Escher, Bach.”

His narrative begins with the prebiotic chemistry of molecules roughly 1.5 billion to 2 billion years ago. Before there was differential reproductive success — a basic aspect of Darwinian evolution — there were probably varying degrees of persistence.
How come we have a mind? And how can we even ask or answer thi... https://www.washingtonpost.com/opinions/how-come-we-have-a-m... within populations of molecules. A quasi-Darwinian process would reward those molecules capable of persisting long enough to accumulate other changes that might in turn allow for still longer persistence. Replication, Dennett argues, was just a particularly successful case of differential persistence that arose by chance. When two different single-celled entities collided and merged, the more complex cells known as eukaryotes were formed.

The apparent improbability of such a generative collision tempts many to invoke a supernatural designer. Dennett freely concedes the improbability of certain crucial developments in the history of life, but he cautions against conflating the improbable with the impossible. “Evolution is a process that depends on amplifying things that almost never happen,” he writes.

This description of evolution as a “process” uses neutral language, but Dennett often writes about evolution “designing” organisms, engaging in “R&D” to test functions and behaviors, and acting for “reasons” and with “purposes.” There’s a venerable tradition of scientists using the language of intention and motive as a pedagogical tool when explaining evolution — think of Richard Dawkins’s book “The Selfish Gene” or even Charles Darwin’s phrase “natural selection,” which implies a selector. Dennett’s frequent personifying metaphors are hedged with the standard cautions not to take them literally, but they do reflect a genuine conviction: that the design processes of search and selection that underlie everything from computer programming to architecture are also at work in biological evolution.

Bacteria and Bach represent extreme poles on a spectrum that runs from the mindless, bottom-up design work of natural selection to the highly intentional, top-down designs crafted by a brilliant human mind. But the latter exists only because of the former — minds emerged from the mindless, and comprehension from the uncomprehending. “A process with no Intelligent Designer can create intelligent designers who can then design things that permit us to understand how a process with no Intelligent Designer can create intelligent designers who can then design things,” he writes in a sentence that rewards rereading.

One memorable articulation of the idea that elegant design must imply a designer comes from Robert MacKenzie Beverley, a 19th-century critic of Darwin who expressed his critique of natural selection like this: “In order to make a perfect and beautiful machine, it is not requisite to know how to make it.” MacKenzie presented this proposition as absurd enough to be self-refuting, but Dennett emphatically endorses this claim, arguing that our familiarity with ingeniously designed cultural artifacts misleads us into presuming that structures in the natural world must also reflect the work of some intentional designer. When a ground-nesting bird distracts a predator approaching its nest with a feigned injury display, there is a good reason for its behavior, but the bird itself does not have a reason. Its behavior exhibits competence without comprehension.

Dennett loves to organize his ideas with alliterative slogans: design without designers, competence without comprehension, and reasons without reasoners are among his favorites. This tendency makes a certain sense in light of a key argument he defends throughout the book: that memes, like genes, are in a perpetual Darwinian competition to reproduce. Memes reproduce culturally, not genetically, spreading copies of themselves in the minds of their hosts, and they evolve and spread much more quickly than the products of genetic evolution. It’s true that the right combination of luck and design can spread a song, phrase or photo into the minds of millions within a matter of minutes. Maybe Dennett, with his catchy alliterative phrases, is just trying to promote the survival of his own mental offspring. He puts a more far-fetched spin on this idea in certain passages, suggesting that words may be parasitically occupying human brains to further their own reproductive goals. This is one of several...
deployments of intentional language that do more to confuse than clarify the subject of cultural evolution.

The book has other flubs and flops. Dennett gets the etymology of the word “ontology” wrong, and he has a frustrating inability to notice the achievements of female geniuses in the arts and sciences. (He musters a handful, then claims there are no others.)

But the work as a whole is a delightful summation of Dennett’s distinguished half-century career pondering some of the hardest questions in science. It’s also a welcome reminder that philosophers, when they venture beyond the cloistered boundaries of scholarly disputes, can still make important contributions to some of the fundamental questions that motivated the birth of their discipline in the first place.

FROM BACTERIA TO BACH AND BACK

The Evolution of Minds

By Daniel C. Dennett

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