

A Living World of Purpose and Meaning

FROM DARWIN TO DERRIDA: Selfish Genes, Social Selves, and the Meanings of Life. David Haig. xxx + 477 pp. MIT Press, 2020. \$39.95.

David Haig, an eminent geneticist at Harvard, begins his new book, *From Darwin to Derrida*, with an enticing invitation to follow him as he explains “how a physical world of matter in motion, of material and efficient causes, gave rise to a living world of purpose and meaning, of final and formal causes.” The four kinds of causes Haig mentions are the venerable Aristotelian instruments of explanation, for which he provides brief definitions: “The *material cause* was the stuff out of which a thing was made; the *formal cause* was that which made of this stuff one kind of thing rather than another; the *efficient cause* was that which set a thing in motion; and the *final cause* was the purpose or end (*telos*), that for the sake of which the thing existed.”

Final causality has been deemed an unfruitful concept by scientists going all the way back to Francis Bacon, who compared it to a barren virgin, but Haig intends to show that it can be productive in an evolutionary setting. He pumps life into final causality with a simple formulation, which he repeats in various ways throughout the book: If a gene persists because its phenotypic effects have been selected over many generations, then its present effects “*exist for the sake of their cause* and can be considered the gene’s *raison d’être* (or final cause).”

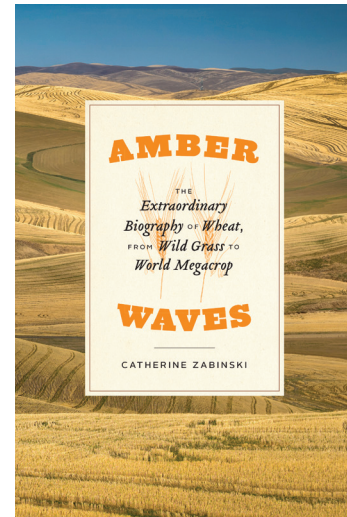
A hasty reading of this proposal seems to imply the silly idea that a future goal (the effects) influenced the existence of a present entity (the gene)—this would be causation from the future, which is the usual complaint about the use of teleology in science. Haig escapes this conundrum by drawing a nice distinction between a gene as a particular material entity in a given organism (the gene as “token” in philosophic parlance) and the gene as an abstract entity that might be carried by any number of organisms (the gene as “type” or kind). His

revivification of the concept of teleology, then, amounts to this: Genes (as tokens of a given type) in the past were chosen by natural selection because of their phenotypic effects. So, the current gene (as type) has come to exist for the sake of its effects—that is, because of its past effects, which will likely be similar in type to its future effects. Aristotle refers to the final cause of an entity as its purpose, and Haig notes that “Genes can be said to have *purposes* to the extent that they possess properties that have promoted their own survival and replication.” Later in the book, he extends his analysis of teleology and purpose a step further, to capture meaning and to wrestle with the apparent contradiction between genetic determinism and free will.

In chapter 2, “Social Genes,” Haig confesses admiration for and allegiance to Richard Dawkins’s conception of *gene selectionism*, the idea that “the complex behaviors and structures that have evolved by processes of natural selection [are] adaptations for the good of the relevant genes . . . rather than for the good of individual organisms.” The chapter takes a daunting dive into the genetics of bacteria to indicate how a sense of communal action can be squeezed out of the behavior of a lone bacterial gene. This quite technical account is followed by a chapter on the evolution of ideas—*memes* in Dawkins’s sense (units of cultural transmission)—thus abruptly passing from the intricacies of the evolution of bacterial genes to a broadly analogical account of the development of ideas. The rationale for this third chapter seems to be that it offers a way of discussing new meanings for the concept of the gene. But that could have been done in a few sentences without taking an excursion into memology.

The connections between many of the subsequent chapters seem comparably arbitrary and thin. I eventually found the explanation for the perplexing arrangement of chapters and their varying levels of technicality in the book’s back matter, where a brief section on sources explains that chapters 2 through 11 are modified versions of essays that were published over the course of 20 years in a variety of journals with diverse audiences. The modestly reworked chapters could have been shuffled into many other arrangements with equal justification. Nevertheless, they are both interesting and dexterous, and they range

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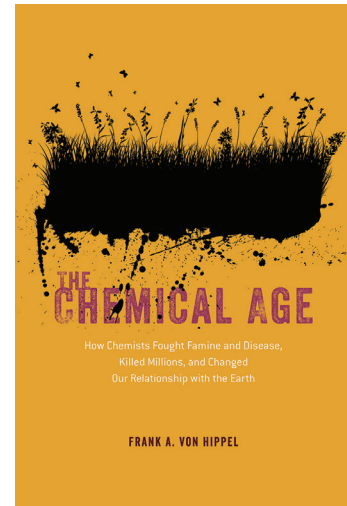
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over such topics as genetic conflicts, homology, altruism, and information theory. Most begin with a historical account of the concept to be investigated and then quickly move to its contemporary status. Haig's historical surety and ample allusions to novels, poetry, and philosophy testify to an ever-curious intellect, and the range of biological examples in the book indicates that he is a scientist of considerable depth and comprehension.

of an observer." This appeal to Derrida is part of Haig's effort to show the compatibility of science and the humanities and to suggest that they have similar goals pursued by different means.

Another recruit from the humanities side is Immanuel Kant. Haig agrees with Kant that we cannot know things in themselves but only their appearances in our consciousness. Does this entail that our conscious inter-

the text of our bodies. That is who we have become, who we are. Actions that flow autonomously from our souls must, then, constitute the very meaning of freedom. We have escaped from the power of our genes at the lower level because we have been repurposed with conscious reasoning at the upper level. The purpose of conscious reasoning, then, is to adapt us to constraints of our culture, but also to buffer us from the dictates of that culture.

In the last several chapters of his book, Haig has attempted to capture what is distinctive about the human animal: reflective consciousness, free will, and moral capacity. The same formula he has used to attribute meaning and purpose to the action of genes (that is, that the phenotypic effects are the purpose of the gene's activity and the final cause of its survival) becomes the formula that indicates the purpose of consciousness and morality—namely, survival of the human organism. Although Haig does not explicitly put it this way, his argument brings a deflationary conclusion: In the Darwinian world, the meaning of human life is survival.

Pliny, in his *Natural History*, tells the tale of a contest between two famous Greek painters, Zeuxis and Parrhasius. When Zeuxis unveiled his painting, the grapes in his picture were so realistically rendered that little birds came to peck at them. When it was time for Parrhasius's painting to be unveiled, he asked Zeuxis to do it, but when Zeuxis tried, he discovered that the veil was the painting. I feel a bit like Zeuxis. I'm hesitating before the veil. Haig's way of construing meaning and purpose does have a lively vitality and at one level is quite convincing. But is that what we worry about when we ask, Does life have meaning? Maybe, though, Haig's Darwinian understanding of freedom and morality is real enough.

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What, Haig asks, is the teleological purpose of consciousness? In the case of human beings, our consciousness is designed to interpret, through an evolved instinct of sympathy, the subjective attitudes and intentions of others.

But what about the promise to derive existential meaning from the complexities of the evolutionary scenario? And what is the relevance of Jacques Derrida to the primary issue of meaning (aside, that is, from having a last name that adds pleasing alliteration to the title)? Chapter 11 is followed by five chapters that focus on answering these questions.

Derrida, who has been a fugitive for most of the book, comes out of hiding in a two-page section in which Haig claims solidarity with the French philosopher on the nature of textual meaning, stating that "Texts have no meaning outside of interpretation." Haig applies this Derridean idea even to the internal operations of the cell: Thus, for a ribosome, which acts as interpreter, "the meaning of an mRNA is a protein." This rendering of meaning, taken at face value, is puzzling. If a text has no antecedent meaning, what exactly is being interpreted? And if an interpretation forms another text, then it would seem to have no meaning without another interpretation, and so on. Haig seems vaguely aware of this paradox, but he still finds advantage in the formulation, because—as information theory suggests—meaning as interpretation implies that meaning, like information, "is not an objective property of things in the world but represents the epistemic uncertainty

actions with the world are without objective content? Neither Kant nor Haig would sanction this conclusion. But then what is consciousness for? What, Haig asks, is the teleological purpose of consciousness? The gazelle's consciousness, he proposes, must interpret objectively the actions of the cheetah if it is not to become lunch. In the case of human beings, our consciousness is designed to interpret, through an evolved instinct of sympathy, the subjective attitudes and intentions of others. This ability, Haig maintains, allows us to understand others from a first-person point of view and to see ourselves reflected in the consciousness of others, from a third-person perspective. These abilities become the root of an objective, moral capacity in human beings.

Moral action requires the assumption that the agent acted freely, as Kant contended. But many humanists (Gertrude Himmelfarb and Marilynne Robinson, for instance) have rejected Darwinism on the grounds that it seems to imply that we are determined by our genes and thus bereft of moral possibility. Haig rejects this implication. He argues that our natures, our souls—he again reverts to Aristotelian language—have resulted from the gradual process of evolution acting over millennia, with each iteration infusing new meaning into