

Does evolution explain human nature?



Jeffrey Schloss

Totally, for a Martian.

Humans bear the stamp of a fascinating evolutionary past, and theories elucidating our biological origins immensely enrich our understanding of

what it is to be human. But, no, evolution does not “explain human nature.” In fact, the power of evolutionary theory to illuminate our humanity derives importantly both from what it is able to penetrate and from what remains opaque to it.

So what does evolutionary theory explain well? For starters, it provides one-stop shopping for many of the universal or nearly universal features of our species. It presents compelling accounts of our intense need to give and receive parental and social care; of our wide-ranging emotions and the ability to recognize them facially; of our shared cognitive biases, phobias, and desires; and of our capacities to form lifelong social attachments and aversions, to fall in love, and to envision not just the future but also other minds, including supernatural minds.

Evolutionary analysis also helps us to understand why human groups are structured around kinship and reciprocity, why they are monogamous or polygamous but rarely polyandrous, why they are averse to incest, reliant on the division of labor, and universally inclined to punish violations of fairness, to accumulate and transmit extra-genetic information, and to cooperate on a scale far beyond that of any other species on the planet. For all of these varied but crucial features of humanity, evolution provides a single, empirically assessable account in terms of a principle — natural selection — that also explains the features of other living organisms. Evolution locates human nature securely within the confines of nature itself.

Though many of the attributes that I have listed above are universal among humans, not all of

them are. Evolutionary theory helps us to understand this too, by reformulating biological notions of “human nature” in terms of central tendencies rather than inevitabilities. It navigates between naïve assertions of organically unconstrained cultural relativism, on the one hand, and fixed and universal biological nativism, on the other. The upshot of explaining the statistically normal while eschewing the normative is that evolution cannot provide counsel for what humans should be (work done by traditional concepts of human nature from Aristotle on) and only posits accounts of how humans came to be what we are.

It turns out, though, that even this more modest goal is not fully attained by evolutionary theory. In the first place, evolution is absolutely necessary but not sufficient for explaining just the most straightforward aspects of an organism. Bat wings, for example, only make sense as evolved derivations of mammalian forelimbs. But to understand them fully also requires concepts outside of evolution, like the principles of aerodynamics and gravity. Evolution is a search engine that combs possibility space, but to explain what it comes up with, we need to understand both the engine and the space. Like a Shakespearian play, the evolutionary drama is determined not only by the playwright (in this case, natural selection, a very dumb author) but also by the constraints of an Elizabethan theater company. To understand the human and our place in nature, we must understand the budget and the bounties of the world that made humans possible.

In addition, when it comes to the most distinctive aspects of humanity — language, morality, religious belief, altruism, even our capacity for science itself — we do not yet have complete or even agreed-upon evolutionary explanations. This does not signal a need to give up on evolutionary accounts. Indeed, there has been a recent flowering of promising proposals for each of these qualities. Among the alternative

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evolutionary explanations are theories based on sexual selection, cooperative adaptation, dominance displays, group-level function, and traits as byproducts. All of these contending accounts are consistent with the process of genetic selection that operates in other species.

But how do we engage the thorny issue of why our species so often makes choices that do not maximize or even contribute to our reproductive fitness? One possibility is the idea of “memes” (that is, transmitted units of cultural information), which may involve a distinctly human and non-genetic form of evolution. Since being proposed by Richard Dawkins to explain behaviors that “we alone on earth” exhibit, the idea has been criticized by some as too vague, too dualistic, too culturally reductionistic, or too assertive of human uniqueness. Whatever the precise character of the mechanism, however, one thing seems clear: genetic selection has sprouted an organism whose behavior is not fully reducible to genetic selection.

The very existence of these fascinating debates constitutes an instructive example of how evolution illuminates the distinctively human by what it is both able and not yet able to explain. This does not mean that we will not close the gap. But science does not give credit for future understanding. At present, evolution does not explain these important aspects of humanity.

Even if we achieve a fully adequate evolutionary account of things like morality, religious belief, love, and sentience (perhaps the most difficult question of all), it still would not tell us what these things *are* or what it is to experience them as humans. This is not a deficiency of evolutionary theory. To the contrary, it is a limitation directly related to its potency as an empirical science. But not all questions that we humans ask about ourselves are scientific ones.

On my bookshelf, I have an extensive collection of classic (and often conflicting) volumes on

evolution and human nature. It is uncanny how many of them begin with the same affirmation of the objective nature of their approach: their accounts, they suggest, are of just the sort that Martian biologists or intelligent visitors from another planet would develop. Several even claim that all of humanity’s own ideas about our nature prior to evolutionary theory are “worthless” and that we would be better off to “ignore them completely.” Indeed, one of the most prominent accounts — Richard Dawkins again — asserts that, if extraterrestrial intellects were to visit earth, it is unlikely they would be interested in music or religion, and Shakespeare might “mean nothing,” but they would revere Darwin, whose ideas “really matter in the universe.”

Given biology’s rejection of disembodied Cartesian rationality and our understanding of how reason is deeply intertwined with emotions and values, the Darwin versus Shakespeare dichotomy is probably just plain wrong. Nor is much gained by invoking a sort of interplanetary argument from authority: “E.T. believes me — so should you!” But the real problem with so starkly objective an approach is what is left out. What can we learn about the nature of being human from an account that in principle could be developed by an alien intelligence without access to human interiority or any interest in humanity’s most enduring questions?

Pretty much everything a Martian scientist might want to know.

Does evolution explain human nature? No. Does it enrich our understanding of the human? Most profoundly. But so does Shakespeare.

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