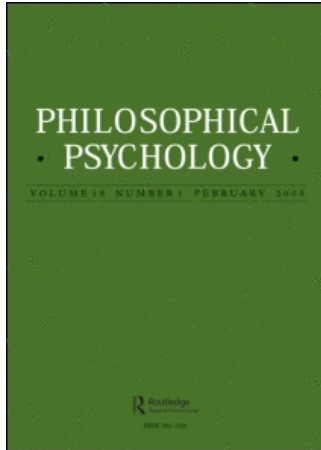


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A Plea for Human Nature

Edouard Machery

Philosophers of biology, such as David Hull and Michael Ghiselin, have argued that the notion of human nature is incompatible with modern evolutionary biology and they have recommended rejecting this notion. In this article, I rebut this argument: I show that an important notion of human nature is compatible with modern evolutionary biology.

Keywords: Evolutionary Psychology; Human Evolution; Human Nature; Species

The notion of human nature has fallen into disrepute in various quarters and a remarkable number of charges have been filed against it. Some social critics have alleged that it contributes to the justification of oppressive social norms (e.g., Haraway, 1989; Lewontin, Rose, & Kamin, 1984; for discussion, see Pinker, 2002), while some philosophers, such as Sartre, have challenged it on metaphysical grounds.¹ More seriously, prominent philosophers of biology have argued that the notion of human nature is incompatible with modern evolutionary biology. In a well-known article, David Hull writes (1986; see also Sober, 1980):

All the ingenuity which has been exercised trying to show that all human beings are essentially the same might be better used trying to explain why we must all be essentially the same in order to have such things as human rights. (...) Until this question is answered, I remain suspicious of continued claims about the existence and importance of human nature. (pp. 11–12)

Evolutionary biologist Michael Ghiselin concurs (1997):

What does evolution teach us about human nature? It tells us that human nature is a superstition. (p. 1)

And, more recently, David Buller has attacked evolutionary psychologists for endorsing the notion of human nature (2005):

The idea of a universal human nature is deeply antithetical to a truly evolutionary view of our species... A truly *evolutionary* psychology should abandon the quest

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for human nature and with it any attempt to discover universal laws of human psychology. (p. 419)

While some criticisms of the notion of human nature might well be justified, I argue in this article that many charges filed by philosophers of biology are unwarranted. Because Hull's (1986) article is the source of many attacks against the notion of human nature in the philosophy of biology, I focus exclusively on it here.² For the sake of space, I do not elaborate on the positive arguments for the notion of human nature.

Here is how I will proceed. In Section 1, I characterize in some detail two distinct notions of human nature—an essentialist notion and a nomological notion. In Section 2, I show that Hull's objections invalidate the essentialist notion of human nature, but not the nomological notion. In Section 3, I reply to two objections.

1. Two Notions of Human Nature

It is important to realize that there are many ways to construe human nature and that the arguments for and against human nature often bear on specific construals rather than on human nature in general. In this section, I describe two distinct construals.

According to the essentialist notion of human nature, human nature is the set of properties that are separately necessary and jointly sufficient for being a human. Furthermore, the properties that are part of human nature are typically thought to be distinctive of humans.

Philosophers and scientists have proposed numerous candidate properties for inclusion in human nature, so construed. In the *Discourse on Method*, Descartes argued that language, understood as the capacity to express and understand an infinite number of sentences, was distinctive of humans, in contrast to animals and machines (1637/1987):

We can certainly conceive of a machine so constructed that it utters words and even utter words which correspond to bodily actions causing a change in its organs (e.g., if you touch it in one spot it asks what you want of it, if you touch it in another, it cries out that you are hurting it, and so on). But, it is not conceivable that such a machine should produce different arrangements of words so as to give an appropriately meaningful answer to whatever is said in its presence, as the dullest of men can do. (p. 187)

Reason, morality, humor, and knowledge of death have also been proposed by philosophers and scientists as good candidates for belonging to human nature.

The essentialist notion of human nature is plausibly rooted in folk biology. Folk biology is the intuitive body of knowledge about animals, plants, biological properties, and biological events (death, disease, etc.) that people spontaneously rely on when they reason about biological matters. An important component of folk biology is the belief that each species is characterized by a distinctive set of properties, which develop endogenously and are transmitted across generations (Atran, 1990; Gelman & Wellman, 1991; Griffiths, Machery, & Linquist, submitted). Because humans are just one species, believing that humans share a set of necessary and

jointly sufficient properties, which set them apart from other species, seems to be a natural extension of this component.

Noteworthy, even if the essentialist notion of human nature is truly rooted in folk biology, it does not seem to be widespread across cultures and times, in contrast to other components of folk biology. When one looks at how people have thought about humans across cultures and times, one typically finds an emphasis on what distinguishes humans into distinct groups, rather than an emphasis on what is common to and distinctive of humans. To give a single example, during the last decades of the nineteenth century and the first decade of the twentieth century, European and American psychologists, sociologists, anthropologists, and biologists developed various pseudo-scientific racial classifications of humans that were allegedly grounded in what was then understood of human evolution (Degler, 1991).

The nomological notion of human nature stands in sharp contrast to the essentialist notion. According to this second notion, human nature is the set of properties that humans tend to possess as a result of the evolution of their species. According to this notion, being bipedal is part of human nature, because most humans are bipedal animals and because bipedalism is an outcome of the evolution of humans. The same is true of biparental investment in children, fear reactions to unexpected noise, or the capacity to speak. According to this construal, describing human nature is thus equivalent to what ornithologists do when they characterize the typical properties of birds in bird fieldguides.³

Although I do not have the space to elaborate on this point here, it is important to see that the nomological notion of human nature inverts the Aristotelian relation between nature and generalization. For Aristotle, the fact that humans have the same nature explains why many generalizations can be made about them (for a recent development of this idea, see Walsh, 2006). For me, on the contrary, the fact that many generalizations can be made about humans explain in which sense there is a human nature.

It is worth highlighting the contrast between the nomological notion and the essentialist notion of human nature. Most important, according to the former notion and in contrast to the latter notion, human nature does not define membership in the human species: the properties that are part of human nature are neither necessary nor jointly sufficient for being a human. Although biparental investment in children might be part of human nature (according to the nomological notion of human nature), membership in the human species has nothing to do with biparental investment in children.

Because the properties that belong to human nature are not definitional, they are not necessarily possessed by *all* humans. Although the capacity to speak is part of human nature, not all humans are able to speak, because the development of this capacity requires exposure to language. Not all humans have fear reactions, because the amygdala of some humans is impaired, following brain traumas or particular developmental trajectories. What is required of the properties that are part of human nature is that they be shared by *most* humans, as a result of a specific causal process—the evolution of humans.⁴ Relatedly, the properties that are part of human nature do

not have to be possessed *only* by humans. For instance, like humans, many animals react fearfully to unexpected noises. Finally, the properties that are part of human nature are not permanent; human nature might change.

Two additional points should be noted. First, nothing is said about the nature of the evolutionary processes in the proposed characterization of human nature. The traits that are part of human nature can be adaptations, by-products of adaptations, outcomes of developmental constraints, or neutral traits that have come to fixation by drift. In addition, human nature is not normative; there is nothing wrong in not having the properties that are part of human nature.

According to the nomological characterization of human nature, bimodal traits are not part of human nature (because they are not widely shared among humans in general). Thus, if males and females have different evolved mating psychologies, the properties of male and of female mating psychologies are not part of human nature. One could alternatively propose to include in human nature all the properties that humans have because of the evolution of their species, *whether these properties are shared by most humans or only by some subset of humans*. Then, males' and females' evolved mating psychologies would be part of human nature (supposing that they really differ). To support this alternative proposal, one could push the analogy between human nature and the description of birds in fieldguides, noting that fieldguides usually characterize a species with pictures of males, females, and members of geographic subspecies.⁵

Although this alternative proposal is perfectly coherent, I would like to resist it, because it is useful to have a notion that picks out the similarities between humans, particularly their psychological and behavioral similarities. Much of the social sciences attempt to characterize and explain differences between humans. Differential psychology (e.g., personality psychology) focuses on individual differences, while much of anthropology focuses on cultural differences. In addition, cultural and individual differences are more salient to common sense than similarities. The notion of human nature is thus a useful counterpoint to the widespread neglect of the similarities between humans.⁶

2. Hull's Arguments

Hull's (1986) main argument against the notion of human nature is straightforward:

Generations of philosophers have argued that all human beings are essentially the same, that is, *they share the same nature* . . . Periodically a biological species might be characterized by one or more characters which are both universally distributed among and limited to the organisms belonging to that species, but *such states of affairs are temporary, contingent and relatively rare*. (p. 3, my italics)

This argument is rooted in the understanding of the nature of species that emerges from Darwinian population thinking (Mayr, 1976). According to evolutionary biologists (Hull, 1986; Sober, 1980; Sterelny & Griffiths, 1999, chap. 9), membership in a given species is not defined by the possession of specific (intrinsic) properties. Thus, an animal is not a dog in virtue of having a given set of properties. As a result,

the biological notion of species does not entail that conspecifics share a set of (intrinsic) properties.

Furthermore, as Hull rightly emphasizes, evolutionary biologists insist on the variability of conspecifics. Because developmental conditions vary, it is biologically unlikely that all conspecifics share a given property, when in addition to being universal, this property is supposed to distinguish conspecifics from the members of other species. To focus on humans, it is hard to find any property that is both distinctive of humans and common to all humans. Furthermore, even if a property were both distinctive and universal, this state of affairs would be contingent. It would not be a necessary property for being a human.

The way biologists conceive of species clearly invalidates the essentialist notion of human nature, but certainly not the nomological notion of human nature described above, for according to the latter notion, the properties that constitute human nature are not definitional and they need not be universal among humans or distinctive of humans. Thus, Hull's argument leaves the nomological notion of human nature unscathed.

In addition to the argument summarized above, Hull also argues against a revision of the essentialist notion of human nature (1986):

Nor does it help to switch from traditional essences to *statistically characterized essences*. If the history of phenetic taxonomy has shown anything, it is that *organisms can be subdivided into species as Operational Taxonomic Units in indefinitely any ways* if all one looks at is covariation. (p. 11; my italics)

The reply Hull is considering here goes as follows. Rather than characterizing human nature as a set of properties possessed by all humans and only by humans, one might propose that human nature is the set of properties such that an animal is a human if and only if it possesses a sufficient number of these properties. According to this reply, the properties that constitute human nature need not be universal. Hence, this notion would be consistent with Hull's emphasis that it is biologically unlikely that all and only humans share a given trait. To counter this reply, Hull notes that it has turned out to be impossible to define the membership in species by means of clusters of properties. He concludes that appealing to a cluster of properties in order to flesh out the notion of human nature is of no help to defend this notion.

Like Hull's first argument, this second argument fails to invalidate the nomological notion of human nature. According to this notion, the properties that constitute human nature are not conditions of membership in the human species. Hence, whether or not one can define membership in the human species by means of a cluster of properties has no bearing whatsoever on the value of the nomological notion of human nature.

To summarize, Hull's arguments invalidate the essentialist notion of human nature and variants of this notion. Because species are historical entities and because conspecifics vary, one cannot characterize membership in the human species by means of a definition or by means of a cluster of properties. But, this conclusion does not mean that humans have no nature, if one construes human nature as those

properties that humans tend to possess as a result of the evolution of their species. This notion of human nature is consistent with the historical nature of species and with the variability of the traits possessed by conspecifics.

3. Two Objections

In the last section of this article, I consider two objections against the nomological notion of human nature. Both objections grant that some properties are common among humans as a result of the evolution of their species, but question the identification of human nature with this set of property.

3.1. *A Canada-dry Notion?*

One might first argue that the nomological notion of human nature is a “Canada-dry” notion: it looks like human nature, but it isn’t.⁷ For, the critic might go on, the nomological notion of human nature is unable to fulfill any of the roles that the traditional notion of human nature—the very notion attacked by Hull, Ghiselin, or Buller—was supposed to fulfill. According to this notion of human nature and in contrast to the essentialist notion, the properties that are part of human nature neither distinguish humans from other animals, nor define humans, nor determine what a normal human looks like. If this objection were correct, my criticism of Hull’s arguments would be a pyrrhic victory: I would have shown that there is a notion of human nature that is not invalidated by these arguments—just one that is not worth fighting for.

This objection ought to be resisted. The notion of human nature has played many roles in the history of philosophy and in the history of science. The nomological notion of human nature certainly fails to fulfill some of these roles, as noted by the present objection. But it does fulfill other roles, which have traditionally motivated the notion of human nature. Particularly, saying that humans have a nature entails that humans form a class that is of importance for biology. The members of this class tend to have some properties in common in virtue of evolutionary processes. Furthermore, saying that a given property, say a behavior, such as biparental investment, or a psychological trait, such as outgroup bias, belongs to human nature is to say that this trait is common among humans and that its occurrence among humans can be explained in evolutionary terms. This is also to say that some kinds of explanation for the occurrence of this trait among humans are inappropriate. Particularly, this is to reject any explanation to the effect that its occurrence is exclusively due to enculturation or to social learning.⁸

3.2. *Do All Traits Belong to Human Nature?*

The nomological notion of human nature makes sense only if not all properties of humans are part of human nature. This necessary condition is easily fulfilled because

many properties are not widespread among humans and, as a result, are not good candidates for being part of human nature. For instance, the belief that the son of a god died on a cross in Jerusalem is shared by (only) one human out of six and is thus not a good candidate for being part of human nature.

In addition to this easily fulfilled necessary condition, it should also be the case that not all properties that are common among humans are part of human nature. It might seem natural to argue that this condition is also easily fulfilled because not all properties that are common among humans are common because of some evolutionary processes. Among the common properties of humans, those that are not common because of some evolutionary processes are not part of human nature, according to the nomological notion of human nature. For example, the belief that water is wet is not part of human nature, in spite of being common, because this belief is not the result of some evolutionary processes. Rather, people learn that water is wet.

The second objection considered in Section 3 denies that one can tease apart in this manner those traits that are common among humans and that are part of human nature and those traits that are common among humans without being part of human nature. The reason is that evolutionary processes causally contribute to any property that is common to humans.⁹ To see this, consider again the belief that water is wet. People acquire this belief by experiencing the wetness of water or, to put it differently, they acquire this belief by individual learning. Now, people would not be able to form this belief if humans had not evolved the sense of touch and the capacity to form beliefs about the qualitative properties of substances. Because of the truth of this counterfactual, evolutionary processes seem to be among the causes of the belief that water is wet. Since this argument can be generalized to every property common among humans, it seems that human nature includes all these properties—suggesting that the nomological notion of human nature is too inclusive.

It is probably correct that evolutionary processes causally contribute to the existence of any trait that is common among humans. But only some of these traits can be explained by reference to evolutionary processes. That is, only some of them are the object of ultimate explanations. What distinguishes these traits from the traits that are not the object of ultimate explanations is that they have an evolutionary history. Saying that a trait has an evolutionary history is to say something stronger than the fact that it has perdured across generations. Humans have probably believed that water is wet for a very long time, although this belief has no evolutionary history. For this trait is not a modification of a distinct, more ancient trait. By contrast, human shame is probably a modification of an emotion that existed among the last common ancestors of humans and of the great apes (Fessler, 1999).

Thus, the second objection considered in Section 3 ought also to be resisted. By appealing to the notion of ultimate explanation, one can tease apart the traits that are part of human nature from those traits that are merely common among humans, in spite of evolutionary processes causally contributing to all human traits.

4. Conclusion

The significance of Hull's influential attack against the notion of human nature is limited. It decisively invalidates the essentialist notion of human nature, a notion that might be rooted in folk biology. However, it leaves the nomological notion of human nature entirely unscathed: humans have many properties in common as a result of the evolution of their species. Importantly, because this notion of human nature is probably the relevant one for understanding sociobiologists', such as E. O. Wilson, and evolutionary psychologists' interest in human nature, Hull's attack fails to undermine their scientific projects.

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Notes

- [1] Sartre (1958) wrote that "there is no human nature. Man first of all exists . . . and defines himself afterwards" (p. 28).
- [2] For a discussion of Buller's criticisms, see Machery and Barrett (2006).
- [3] I owe this analogy to Paul Griffiths.
- [4] For a related point, see Griffiths (1999). In contrast to Griffiths, however, I do not single out the relation of descent as the main source of generalizations among humans.
- [5] I am grateful to Paul Griffiths and Karola Stotz for pressing me on this point.
- [6] The nomological notion of human nature is thus defended on pragmatic grounds. I should note that I am strongly attracted by the alternative proposal sketched by Griffiths and by Stotz.
- [7] From an old French advertisement for the ginger-ale soda Canada Dry: "It looks like alcohol, it has the taste of alcohol, but isn't".
- [8] This is of course not to deny that social learning, or indeed any other environmental influence, can be part of the explanation of the development of this trait.
- [9] I do not mean to suggest that evolutionary processes causally contribute only to those traits that are common among humans. I focus on traits that are common among humans, because being common among humans is a necessary condition for being part of human nature, according to the notion developed in this article.

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