BOOK REVIEWS

Kronfeldner, Maria, ***What's Left of Human Nature? A Post-essentialist, Pluralist, and Interactive Account of a Contested Concept.*** Cambridge, MA: MIT Press (2018), 336 pp., $45.00 (cloth).

The year 1986 was bad for human nature in the philosophy of biology. David Hull's PSA presidential address, "On Human Nature" (in *PSA 1986: Proceedings of the 1986 Biennial Meeting of the Philosophy of Science Association*, ed. Arthur Fine and Peter K. Machamer [East Lansing, MI: Philosophy of Science Association, 1986], 3–13), had appeared. It looked like the topic was essentially done for in the discipline. However, in the last decade, a group of philosophers of science have returned to the topic, breathing new life into its husk. One such philosopher is Maria Kronfeldner in her *What's Left of Human Nature*. Before reading her excellent book, I thought Hull had more or less settled the case against human nature. After reading Kronfeldner's book, my skepticism has been tempered, and certainly my thinking has been sharpened.

As Kronfeldner notes, the subject of human nature touches on innumerable scientific and philosophical threads (xv). Ultimately, Kronfeldner offers us a pluralistic account of human nature, namely, there are classificatory, descriptive, and explanatory natures. These are distinct natures of humankind (she distinguishes between *humankind*, i.e., members of our species, and *humanity*, i.e., persons; 4–7). Her project then is to show how her account overcomes what she calls the dehumanization, Darwinian, and developmentalist challenges. Surprisingly, she still thinks the term 'human nature' should be jettisoned.

The *dehumanization challenge* is the worry that how we think about human nature is quite perspectival and negatively affects how we treat others. We extend humanness to some but not all members of our species (e.g., women and non-Europeans). We use it to mistreat and oppress individuals depicted as "brutes, vermin, demons, lice or as mere objects of desire" (17). Thus, the concept human nature can be used to dehumanize humankind (26). This leads to a challenge: if the concept of human nature leads to dehumanization, then it is insufficiently objective and harmful. It looks like we should eliminate it.

The *Darwinian challenge* says that human nature presupposes that there are defining intrinsic essential properties of humankind that are responsible for the traits members possess, and these properties allow us to predict and explain other properties associated with the kind (34). But evolutionary theory shows us that there are no such intrinsic essential properties regarding species. Species are historical entities—their parts are spatiotemporally restricted

https://doi.org/10.1086/712878 Published online by Cambridge University Press

and connected by genealogical relations. Our species is a lineage that arose from a common ancestor *H. heidelbergensis*, and our most common recent ancestor is *H. neanderthalensis*. Evolutionary theory challenges the existence of a traditionally conceived human nature.

The *developmentalist challenge* is the worry that human nature requires a problematic "nature vs. nurture" dichotomy. Dialectical biology, development systems theory, and epigenetics all challenge, albeit in different ways, the sharp separation of organism and environment. Kronfeldner argues that genes are inert (i.e., they do not produce phenotypes by themselves), their effects are quantitatively incommensurable with the effects of environments, and we cannot extrapolate their effects from measured to unmeasured contexts (70–79). She notes that epigenetic processes regulate the action of genes without changing the structure of the DNA (79–82), and examples like lactose tolerance show that nature and culture interact evolutionarily (84). Thus, if human nature consists in those effects of development that are separable from the effects of the environment, development, and culture, then there is no such nature.

Kronfeldner provides a "post-essentialist, pluralist, and interactive reconstruction of human natures in the plural" to meet these challenges (89). As mentioned, there is a classificatory nature, a descriptive nature, and an explanatory nature. She distinguishes these natures by asking three questions (92):

> **Partaking Question:** How can it be decided who belongs to the species?
>
> **Description Question:** How can a species be described qualitatively?
>
> **Trait Explanation Question:** How are the evolution and reliable development of particular traits of the life form of a species in an individual or the group explained?

The Partaking Question is answered by the classificatory nature of a species. She claims that a species is a "separately evolving metapopulation lineage" (97). To be a *H. sapien* is to have the extrinsic property of being genealogically related to (being a descendant of) other humans. Note that this property provides only a classificatory nature because it does not answer any question other than the Partaking Question. It is silent regarding other properties humankind possesses.

Kronfeldner says that genealogy is given by biological inheritance, but given the discussion of the developmentalist challenge above, you might think it is coequally determined by cultural inheritance too. Not so (102–14). This is because the former is importantly different from the latter. Cultural inheritance is "autonomous," meaning it can occur, and yet biological inheritance remains unaffected (i.e., Lamarckianism is false). Both are "near-decomposable," which

is to say the elements of each subsystem of transmission interact more strongly within a channel of information than across them. Cultural transmission is content dependent, whereas biological inheritance is content independent; the former can switch between vertical and horizontal transmission, depending on the traits of interest, and the latter cannot. Biological inheritance is more stable than cultural inheritance, and thus it is more determinative of genealogy on her view.

The Description Question is answered by a descriptive human nature, which consists in those traits that are typical and stable for the genealogically identified humankind. Kronfeldner provides an argument for such a nature. "It is what is shared among humans, the foundation without which the diversity of phenomena studied by the humanities would be impossible. Thus, even the humanities and some social sciences (such as cultural anthropology or social psychology, which are interested in cultural differences) need a concept of descriptive human nature, that is, reliable generalizations about humans, even though often as a mere contrast foil or background condition" (125). Although there must be some stable and typical clustering of properties, they need not be necessary or sufficient for being human since the classificatory nature and descriptive nature are distinct. "What matters is that there is a historically slowly changing stable cluster of statistically typical properties of humans" (127). She defines the descriptive human nature as those "properties that are instantiated by a statistically significant number of humans that reliably reoccur over a significant time span" (145). Like others, Kronfeldner is skeptical about whether to include polymorphic traits that vary with respect to members by age or sex. This would lead to a "disjunctive regress" since any trait found can be disjoined with other traits. We would thus lose one of the epistemic functions of descriptive human nature—namely, prediction—by including disjunctive traits. However, in the end, she thinks the pragmatics of scientific practice will answer if and when disjunctive traits should be included in the descriptive nature (138).

The Trait Explanation Question is answered by an explanatory human nature that consists in the set of biologically inherited intergenerational developmental resources that is not intrinsic to any human, contrary to essentialists like Michael Devitt and Denis Walsh. More exactly, it is a "statistical cluster of biologically inherited developmental resources that happen to be prevalent and stable over a considerable time in the evolutionary history of the human species" (185). Contrary to developmental systems theorists such as Paul Griffiths and Karola Stotz, Kronfeldner argues that their approach is too inclusive since many polymorphisms will be part of human nature, and it is too exclusive since it does not accept the pluralism of natures.

Kronfeldner then turns to "explanatory looping effects" of human nature to discuss why we focus so often on the explanatory nature and ignore

thereby other developmental resources that are important for the production of traits. When we attempt to causally explain some explanandum, we almost always have to ignore causally relevant factors; there are simply too many. The population we choose is our reference class, and causal claims depend on the reference class so chosen. For example, being bit by a mosquito causes malaria provided immunity is infrequent (193). Thus, in that chosen reference class, it is normal for being bit by a mosquito to cause malaria. Choice of reference class comes with views of normality and abnormality. According to Kronfeldner, our reference class is selected by focusing on factors that we are "willing to control" either by backgrounding them so that they are not intervened on or by foregrounding them in preparation for so intervening. For example, in cancer prevention, social factors like economic inequality are often backgrounded, and biological factors are foregrounded (204). Thus, we shape ourselves by precluding things we are not willing to change and by focusing on only what we are willing to change. Considerations of normality can change our own nature.

In the final part of the book, Kronfeldner considers whether we should eliminate terms like 'human nature' given its "essentialist baggage" and association with dehumanization. She argues that her antiessentialist, pluralist, and interactive account does not introduce any new normative problems. For example, her "double-entry" solution to moral standing says that people have full moral standing provided they are a descendent of members of *H. sapiens* or they are able to interact morally and politically in adequate ways with other humans. Given our capacity to change our nature, Kronfeldner follows the liberalism of John Rawls and Martha Nussbaum that we as a moral community must decide on what humanity's nature should be (221–24). Thus, her view is compatible with a reasonable form of humanism. Additionally, Kronfeldner argues this normative nature is "essentially contested"; there can be no consensus regarding it. Following the work of W. B. Gallie, she argues it is essentially contested when (*a*) it has at least one agreed on exemplar, (*b*) it is internally complex, (*c*) it is initially contested, (*d*) it is open, (*e*) parties recognize its contestedness, (*f*) it is appraisive, and (*g*) the contest is productive (227–28). And, she argues that each is plausibly true of human nature. It is important that we not eliminate an essentially contested concept since we are more likely to achieve flourishing lives for humankind (and humanity) if we have these discussions and arguments (228).

Kronfeldner concludes by arguing that the importance of these discussions is compatible with our eliminating the term 'human nature'. The work of the sciences would not be impeded much by loss of the term; it is dispensable for their success (233). Dehumanization would not cease simply by dropping the term 'human nature'. Our descriptive human nature consists in a statistical cluster of properties, and those without them will likely still be oppressed. It is nevertheless a step in the right direction in challenging

that oppression (234–35). In fact, a precautionary approach endorses it—the social risks are high, and the cost of eliminating 'human nature' is low (241).

Let me close with a few objections with regard to Kronfeldner's account of human nature. As I mentioned at the beginning, I am still skeptical of the notion, but Kronfeldner has provided an extremely interesting and fruitful defense nevertheless.

First, I do not think she has shown that a descriptive human nature exists. The main evidence given is the "transcendental argument" I quoted above. Put succinctly, it is this. There are true reliable generalizations about humans. But necessarily if there are such generalizations, then there is a human nature. Therefore, there is a human nature. The problem with the argument is that the second premise is false. Consider the following true reliable generalization about humans; a free-falling human with no air resistance falls with an acceleration of 9.8 m/s^2. At most, this example shows that humans have a nature qua physical object. The argument does not show we have a nature qua human. Thus, the argument for a human nature fails. Additionally, so long as there are true reliable generalizations about humans, the social sciences can proceed. The social sciences do not need them to be true qua humans.

Kronfeldner could restrict the true reliable generalizations to our species (although she rejects such a restriction; 131). However, the worry here is that there do not seem to be such traits. Consider a few famous contenders. Bipedalism is often suggested to be such a trait. But other species are bipedal, including some nonhuman primates, birds, kangaroos, rodents, lizards, and even cockroaches, which run bipedally at their highest speeds (R. Alexander, "Bipedal Animals, and Their Differences from Humans," *Journal of Anatomy* 204 [2004]: 321–30). Emotional facial expressions have been similarly suggested. But they are homologous traits shared with other primates (B. M. Waller and J. Micheletta, "Facial Expression in Nonhuman Animals," *Emotion Review* 5 [2013]: 54–59). Another commonly discussed example is inbreeding avoidance and incest taboos. But inbreeding avoidance is found in lots of nonhuman species (A. Pusey and M. Wolf, "Inbreeding Avoidance in Animals," *Trends in Ecology and Evolution* 11 [1996]: 201–6), and incest taboos, where they exist, vary enormously across humankind (along with our very notions of kinship; J. M. Goggin and W. Sturtevant, "Calusa: A Stratified, Nonagriculture Society (with Notes on Sibling Marriage)," in *Explorations in Cultural Anthropology*, ed. W. H. Goodenough [New York: McGraw-Hill, 1964], 179–219). Some have suggested "rationality," but anencephalic children may survive for months if not years with no cerebral cortex (L. D. Botto, et al., "Neural-Tube Defects," *New England Journal of Medicine* 341 [1999]: 1509–19). The most plausible contender for a trait that is typical and specific to humans is natural language. FOXP2 is an important regulatory gene in the development of spoken language (those who have only one copy develop verbal dyspraxia; W. Enard, et al., "Molecular Evolution of FOXP2, a Gene Involved in Speech and

Language," *Nature* 418 [2002]: 869–72). It is highly conserved in most mammals, but in humans there are two unique mutations in the protein caused by nucleotide substitutions. However, in humans, Neanderthals, and Denisovans, FOXP2 appear to be identical. Given this and other circumstantial evidence, it is unlikely that spoken language appears only in our species (D. Dediu and S. C. Levinson, "On the Antiquity of Language: The Reinterpretation of Neanderthal Linguistic Capacities and Its Consequences," *Frontiers in Psychology* 4 [2013]: 397). The empirical case that there is a descriptive human nature is weak.

Second, Kronfeldner's account is subject to what I will call the "problem of diachronic polymorphism." Humankind can be classified by its phylogenetic position as we have seen. Let us suppose over some time interval T_1 there is a trait that is typical, and biologically inherited developmental resources explain its distribution, say lactose intolerance. However, over a distinct time interval T_2 things change; for whatever reason, lactose tolerance is typical and biologically inherited. From this, it follows that our species has no nature (neither trait is typical over the combined intervals $T_1 + T_2$), there is one arbitrary nature (we arbitrarily select T_1 or T_2 but not both), or there are two natures (we relativize to intervals). It amounts to a problem of "diachronic polymorphism." If we should reject polymorphic traits as elements of our nature in the synchronic case as Kronfeldner suggests, should we not do so in the diachronic case? We should note that the same sort of argument can be run with regard to our explanatory nature as well. Kronfeldner acknowledges problems like these and offers a pragmatic approach to resolving them (139–45).

Overall, I think Kronfeldner has provided an extremely rich philosophical anthropology of what is left of our notions of human nature. Like her, I think we should get rid of the term 'human nature', although our reasons differ—my skepticism is that there is none. I strongly recommend this book to human nature enthusiasts and skeptics alike.

Jay Odenbaugh, Lewis and Clark College

Roberto Gronda, ***Dewey's Philosophy of Science.*** Synthese Library 421. Dordrecht: Springer (2020), 204 pp., €88.39 (cloth).

Pragmatist ideas are alive and well in contemporary philosophy of science: one can find them in the works of Philip Kitcher, Ian Hacking, Nancy Cartwright, Peter Godfrey-Smith, Ronald Giere, Paul Teller, Hasok Chang, Sandra Mitchell, to name but a few. While Peirce is an obvious reference for philosophers of science interested in pragmatism, Dewey's ideas have also made their way among them: the centrality of intervention and experimentation in scientific inquiry, the