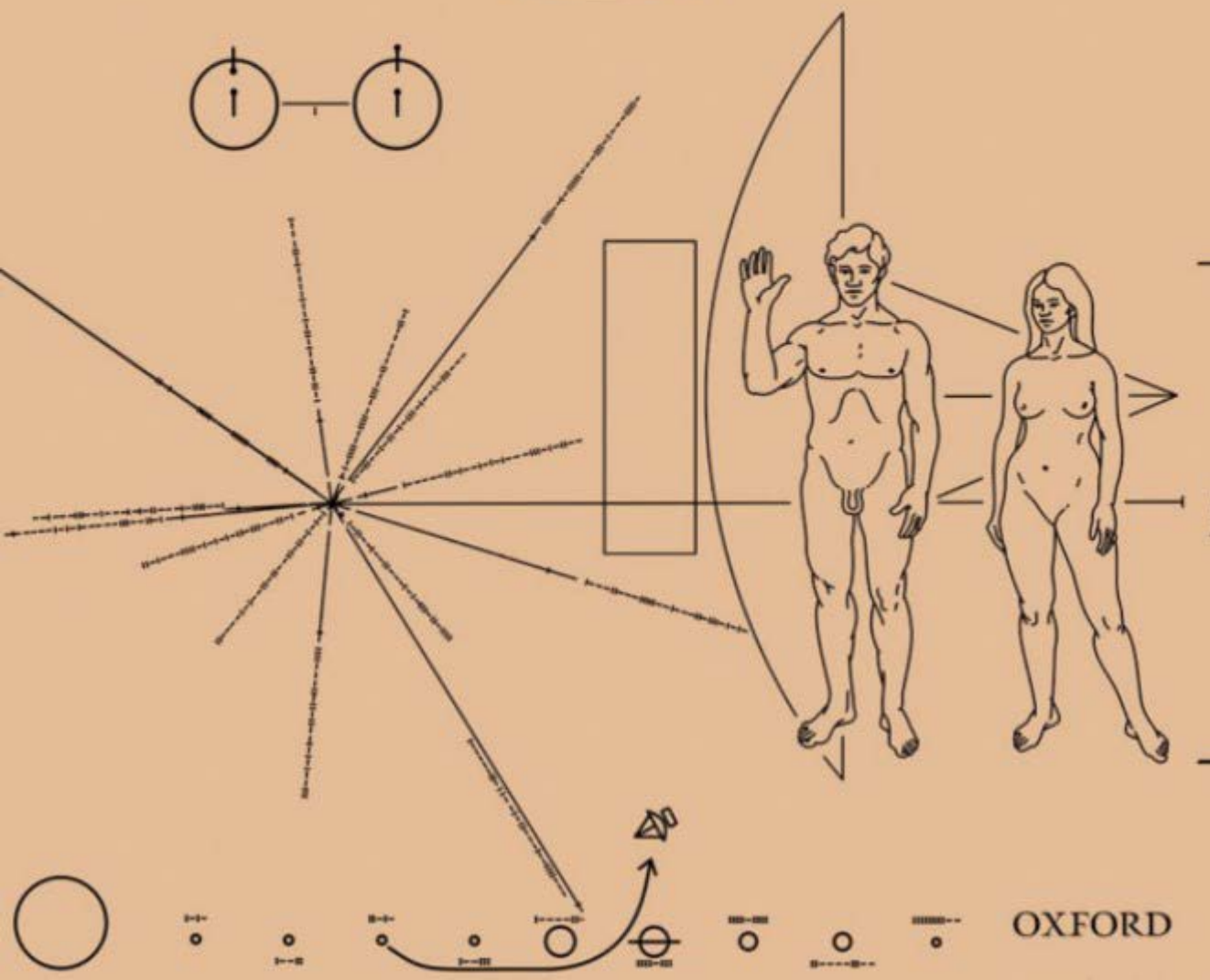


why we disagree about human nature

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Introduction: The Faces of Human Nature	1
<i>Tim Lewens</i>	
1. Doubling Down on the Nomological Notion of Human Nature	18
<i>Edouard Machery</i>	
2. Trait Bin and Trait Cluster Accounts of Human Nature	40
<i>Grant Ramsey</i>	
3. A Developmental Systems Account of Human Nature	58
<i>Karola Stotz and Paul Griffiths</i>	
4. Human Nature, Natural Pedagogy, and Evolutionary Causal Essentialism	76
<i>Cecilia Heyes</i>	
5. Human Nature: A Process Perspective	92
<i>John Dupré</i>	
6. Sceptical Reflections on Human Nature	108
<i>Kim Sterelny</i>	
7. The Social Construction of Human Nature	127
<i>Kevin N. Laland and Gillian R. Brown</i>	
8. The Use and Non-Use of the Human Nature Concept by Evolutionary Biologists	145
<i>Peter J. Richerson</i>	
9. Human Ontogenies as Historical Processes: An Anthropological Perspective	170
<i>Christina Toren</i>	
10. Divide and Conquer: The Authority of Nature and Why We Disagree about Human Nature	186
<i>Maria Kronfeldner</i>	
<i>Index</i>	207

Introduction

The Faces of Human Nature

Tim Lewens

Introduction

Humans today disagree, or so it seems, about human nature—about whether there is such a thing, and about how the idea of human nature might help or hinder our thoughts and actions. Some might be tempted to assume that the question of whether human nature is a scientifically respectable notion divides natural and social scientists along neat disciplinary boundaries, with biologists and psychologists as supporters, historians and anthropologists as detractors. After all, by giving his book *The Blank Slate* the subtitle *The Modern Denial of Human Nature*, the cognitive scientist Steven Pinker signals to his readers that a proper evolutionary perspective teaches us that we are not blank slates and consequently that human nature should not be denied (Pinker 2003). On the other side of the divide, the anthropologist Marshall Sahlins has argued for the ‘modest’ conclusion that, as he puts it, ‘Western civilisation has been largely constructed on a mistaken idea of human nature’—an idea that, in Sahlins’s view, even ‘endangers our existence’ (Sahlins 2008).

The truth is that debates over human nature are more complex than this easy disciplinary division suggests. While it is undoubtedly the case that many evolutionary theorists have enthusiastically embraced human nature, we must remember that large numbers of evolutionists have also rejected it. The philosopher David Hull’s (1986) modern classic ‘On Human Nature’ set the tone for numerous later assaults on the concept from writers well informed about evolution. It is also important to recognize the nuanced views on human nature that come from the side of the social sciences. Sahlins, for example, does not claim ‘that there is no such nature’, but instead he asserts that ‘its mode of existence and social efficacy depends on the culture concerned’. In other words, he is concerned to argue alongside Clifford Geertz (whom he cites approvingly) that ‘there is no such thing as human nature independent of culture’ (Geertz 1973: 49), not that there is no such thing as human nature *tout court*.

The contributors to this collection take very different stances with regard to the idea of human nature. They come from the fields of psychology, the philosophy of

science, social and biological anthropology, evolutionary theory, and the study of animal cognition. Some of them are 'human nature' enthusiasts, some are sceptics, and some say that human nature is a concept with many faces, each of which plays a role in its own investigative niche. Some want to eliminate the notion altogether, some think it unproblematic, others want to retain it with reforming modifications. Some say that human nature is a target for investigation that the human sciences cannot do without, others argue that the term does far more harm than good. The diverse perspectives articulated in this book help to explain why we disagree about human nature, and what, if anything, might resolve that disagreement.

The Anti-Essentialist Consensus

Amid the broad variety of views over human nature expressed over the past thirty years or so, a few points of consensus emerge. Charles Darwin learnt from his eight-year study of barnacles that variation was ubiquitous in all species: 'Not only does every external character vary greatly in most of the species,' he wrote, 'but the internal parts very often vary to a surprising degree' (Darwin 1854: 155). He went so far as to assert that it is 'hopeless' to find any part or organ 'absolutely invariable in form or structure' (p. 155). Variability in all parts of all species is a primary fact of nature, says Darwin, and this ubiquitous variation is the fuel that powers natural selection.

More or less all recent commentators have accepted this basic claim about variability, and most have moved on to argue that it rules out strongly essentialist conceptions of human nature, and of species natures more generally. If literally every trait within a species is prone to vary, then it cannot be the case that we will find any single trait whose possession is essential for membership of that species.

This fact of ubiquitous variability has consequences for how biologists understand species membership. Modern biologists are notorious for their failure to agree on the definition of what a species is. Even so, Darwin's insistence on the ubiquity of variation within species has led most modern biologists to understand species not as groups of organisms with internal features—genes, for example—in common, but instead as twigs on the tree of life. (Even here we have only a partial consensus, because not every taxonomist subscribes to this view. For example, the phenetic approach to taxonomy, according to which species membership is decided by a form of all-things-considered similarity, still holds sway in some circles (Lewens 2012a).)

For most taxonomists today, species are segments of the great genealogical nexus, with the result that what matters for species membership—that is, what it takes for an organism to be a member of a species such as *Canis familiaris* (the domestic dog) or *Homo sapiens*—is at least partly determined by genealogical relations. Just as membership of the British Royal Family is decided by who one's parents are, rather than by one's internal or external bodily features, so membership of a larger genealogical unit like a biological species is also settled by appeal to ancestry.

It is consistent with the rejection of very strong forms of essentialism—for example, with the rejection of the idea that what it is to be human is to possess a crucial 'human'

gene, or a distinctively 'human' form of gait, intelligence, language, technological facility, or whatever—that we might instead understand what makes an organism a human in terms of the possession of some reasonably large proportion of a cluster of such intrinsic properties (cf. Devitt 2008, 2010; Lewens 2012b). But the genealogical image of species as twigs on the tree of life rules out even this weaker form of essentialism, at least if we read it as a claim about sufficient conditions for species membership. Possession of a large proportion of a cluster of intrinsic properties cannot be sufficient for being a human—even though one might still try to argue that it is necessary—because ancestry matters, too.

The Taxonomic Case against Human Nature

It is primarily for these taxonomic reasons that biologically informed theorists like David Hull (1986) and Michael Ghiselin (1997) argued in the 1980s and 1990s that human nature was, as Ghiselin put it, a 'superstition'. For Ghiselin, human nature would have to pick out that set of intrinsic properties that make us human. Since Ghiselin, like Hull, had argued that biological taxonomy didn't work that way, he thought that the study of evolution exposed the very idea of human nature as an anachronism. But evolutionists have not been united in their rejection of human nature. In 1990, for example, the evolutionary psychologists John Tooby and Leda Cosmides announced their intention to defend 'the concept of a universal human nature' (Tooby and Cosmides 1990), and we have already seen that Steven Pinker, too, holds that the deniers of human nature are misguided. These authors' adherence to the human nature concept, in spite of their endorsement of dominant taxonomic practice, indicates that the likes of Ghiselin and Hull may have been too demanding in their views of what job the notion of human nature is meant to do.

Biologists these days rarely feel the need to formulate a catalogue of properties that are found in all and only humans. But we can give up on that anachronistic taxonomic project while keeping alive the thought that some properties—psychological, physiological, and anatomical—are present in almost all humans, and that evolutionary processes explain why those properties became and remain so prevalent in our species. Perhaps a claim like 'Trichromatic vision is an element of human nature' commits us to nothing more than an assertion of widespread presence and its evolutionary rationale.

It is hardly news that humans differ in terms of how they see colours. We have known about colour blindness for hundreds of years. Even so, the great majority of humans have three classes of cone cell in their retinas, and are free of colour-blindness because of this. What is more, there is a plausible evolutionary story to be told about why this trichromatic form of vision emerged: John Mollon has argued that it was favoured by natural selection because it enabled our primate ancestors to detect ripe fruits against a dappled, leafy background (Mollon 1989). To say that trichromatic vision is part of human nature does not, on this view, imply that literally all humans are trichromatic, or that colour-blind people are not members of *Homo sapiens*.

We have seen a background consensus that lies behind a number of disagreements. Few modern thinkers have tried to defend what we might think of as taxonomic species natures—natures the possession of which make it the case that an individual is a member of one species rather than another. Even fewer have tried to defend strict essentialist pictures of species natures, understood as properties that are necessary and sufficient for species membership. But perhaps those evolutionary psychologists we quoted above, in setting themselves the target of describing human nature, are doing nothing more than listing the traits that most humans have, by virtue of the evolution of our species (see Machery 2008). What could be wrong with that?

The Field-Guide Conception

23 January 2003 turned out to be the last day that NASA would receive a signal from the Pioneer 10 probe (NASA 2007). Even then, the spacecraft was already well beyond the limits of the planetary solar system, at an estimated distance of 12 billion kilometres from the Earth. Pioneer 10 had been launched in March 1972, and in anticipation of the possibility that it might eventually travel far enough to fall into the hands of intelligent aliens, a six-by-nine-inch gold-anodized aluminium plaque had been bolted to the probe's frame (Macauley 2010).

The plaque, which is reproduced on this book's cover, featured various images and diagrams intended to indicate the existence, intelligence, and location of the senders to alien receivers. There was also a picture of a human woman and man. This last element of the Pioneer 10 plaque gives us a useful jumping-off point to understand some of the reasons why—in spite of a broad anti-essentialist consensus—there remains vigorous disagreement about the very idea of human nature.

Some might argue that there is no way to attack the modest notion of human nature sometimes favoured by evolutionary psychologists without also denying that humans are part of the more general evolutionary order of things. Consider that we produce stylized representations of the members of all sorts of non-human species in field guides. My copy of the *Collins Bird Guide* (Svensson et al. 2010) features what are, to all appearances, entirely unobjectionable images of a typical male blackbird alongside a typical female blackbird. So why shouldn't we send aliens images of the typical human male and female? Carl Sagan and Frank Drake had designed the other elements of the Pioneer 10 plaque, and—partly because of her training in fine art, partly because of her availability at short notice—they asked Linda Salzman Sagan (Carl's wife) to produce the drawings of the humans (Macauley 2010: 108). She aimed to make her drawings 'representative of us all' (Salzman Sagan, quoted in Macauley 2010: 109).

The kind of generic images that feature in field guides give readers the ability to tell blackbirds from starlings; and, on the face of things, nothing stands in the way of including the species *Homo sapiens* in a field guide, enabling alien visitors to correctly pick out humans among the bewildering variety of organisms they will encounter on

first visiting our planet. It is hard to deny that field guides do their job well, that the generic images they feature are valuable for assigning individuals to the correct species, and that they can do this in spite of the equally hard-to-deny fact that every individual organism—whether human, starling, or blackbird—is strictly unique.

Quite a few philosophers have been tempted by this 'field-guide' conception of human nature. Edouard Machery once wrote that 'describing human nature is [...] equivalent to what ornithologists do when they characterize the typical properties of birds in bird fieldguides' (2008: 323). More recently, Peter Godfrey-Smith also notes that Martian visitors would surely want an entry on humans in their field guide to Earth, and adds that 'In that sense, there is surely nothing mythical about the idea of human nature' (2013: 140). We saw a little earlier that Ghiselin's argument against human nature turned in part on the variability, in all respects, that characterizes the members of every species. The appeal to field guides reminds us that images of general attributes of species members can have diagnostic power in spite of this pervasive variability.

The Pioneer 10 plaque helps us to understand both the strengths and the limitations of the field-guide conception of human nature. It is indeed uncontroversial that we can supply curious observers with diagnostic images that enable them to sort individuals into species with considerable, albeit imperfect, success. But this falls short of a full-blown specification of the 'nature' of a species. After all, diagnosis relies on using features that are relatively easy to observe. Field guides tend to describe where a bird is most likely to be seen, its plumage, its song, and so forth. They do not describe aspects of a bird's behaviour that are unlikely ever to be seen by observers, and they do not describe internal features of anatomy or physiology, no matter how typical they might be for the species in question. Importantly, field guides often attempt to describe the typical song of a given species, regardless of whether ornithologists consider that song to be innate or learned.

There is a long tradition of exploring the varying abilities of birds to learn both local song 'dialects' and the songs that are typical of alien bird species (e.g. Thorpe 1958). So while a field guide *does* usually aim at giving us a description of a species' nature understood as that which we can use to tell one species from another, it does *not* aim at giving a description of a species' nature understood as that which is independent of what we might think of as the species' 'culture'. And so we can reasonably ask why, if the Pioneer 10 plaque's images of a man and a woman are simply supposed to tell a travelling alien what to look out for on a visit, are the man and woman both shown naked? For the great majority of people across the world, the norm is to spend most of their time (when they are observable to casual onlookers) wearing clothes. Visiting groups of aliens will arrive with a mistaken impression of our usual appearance if they use the Pioneer 10 plaque as a basis for their expectations. Showing us without clothes is akin to refusing to describe bird song in field guides, in those cases where we worry that the song might be learnt.

Three Roles for Human Nature

Our discussion highlights that we might want to use the notion of human nature to do at least three jobs. We have already seen that human nature has a diagnostic function for some thinkers: the 'nature' of a species is something that observers can make use of in assigning organisms to the species of which they are members. This is the view of human nature that underlies the field-guide conception. A second function is also comparative: in asking whether humans are, in general, similar or dissimilar to the members of other species, we can also talk in terms of human nature compared with the nature of chimps, or dogs, or mice. In other words, in talking of human nature we simply talk of what humans are typically like. The third function requires that we consider human nature in a manner that contrasts it with 'human culture'. It asks us not merely to generalize about what humans are like, but to divide human traits into two categories. This way of thinking of human nature invites us to consider whether a widespread human trait—it could be anything from the ability to imitate the bodily movements of others to the susceptibility to visual illusions—is truly part of our nature, or whether we might instead attribute it to some form of cultural influence.

The second species-comparative view differs from the diagnostic view. First, aspects of human cognition that are very hard for casual observers to detect, such as our tendencies to make mistakes in probabilistic reasoning, become candidates for human nature so long as they are indeed typical of humans, even though their hiddenness makes them unlikely to appear in a hypothetical field guide. Second, aspects of human cognition or behaviour that also appear regularly in animals—perhaps the broad syndrome of neural and physiological reactions that underlie fear responses—also become candidate features of human nature, even if (as Darwin thought for fear) they are also features of the nature of dogs. Traits that are common to humans can, on this view, be elements of human nature in spite of the fact that their not being unique to humans makes them useless for the purposes of species diagnosis.

It is telling that Cosmides and Tooby characterize their project—which, as we have seen, they equate with providing a description of human nature—as the equivalent of providing a version of *Gray's Anatomy* that deals with human psychology (Tooby and Cosmides 1992: 68–9). Like a field guide, the original *Gray's Anatomy* was dedicated to the provision of practical knowledge. But Henry Gray's intended purpose for that knowledge was of a wholly different kind:

This work is intended to furnish the Student and Practitioner with an accurate view of the Anatomy of the Human Body, and more especially the application of this science to Practical Surgery. (Gray 1858: vii)

Hence *Gray's Anatomy*, unlike a field guide, describes hidden structures, and also structures that are very similar in humans compared with other creatures. Its purpose was not to allow species recognition, but to present a generic form of knowledge about typical humans in a way that would enable medical students—especially surgeons—to

learn and practise efficiently. By analogy, a version of human nature that might be articulated in a 'Gray's Anatomy of the mind' would simply tell us what typical humans are like with respect to their cognitive traits.

It is important to keep this second notion of human nature in mind, not only because it seems relatively uncontroversial to say that there are some fairly general truths about what more or less all humans are like—we are prone to predictable fallacies in probabilistic reasoning, we cannot see light in the ultraviolet range, we sweat when fearful, we frequently act for the sake of unrelated others—but also because there is reason to think that a notion very much like this one is at work in such well-known works as David Hume's *Treatise on Human Nature*.

The historian of philosophy Peter Kail (Kail 2012) has drawn our attention to an essay by Hume of 1741, entitled 'Of the Dignity or Meanness of Human Nature', in which Hume notes that in 'forming our notion of human nature, we are apt to make a comparison between men and animals, the only creatures endowed with thought that fall under our senses' (Hume 1995: 82). But while these forms of comparison help us to delineate human nature, human nature is *not* understood as that which makes us different from animals. This is not a diagnostic notion of human nature, and neither is it a notion according to which human nature names that which is *distinctively* human. Indeed, Hume's view—later expressed in the *Treatise on Human Nature*—is that commonalities in behavioural 'comportment' between humans and animals ultimately suggest to him that the mechanisms that underlie perception, cognition, and action are the same in our own species and in animals: in the 'whole sensitive creation [...] every thing is conducted by springs and principles, which are not peculiar to man, or any one species of animals' (Hume 1978: 397). It is not contradictory, on this conception, to say that human nature—what humans are typically like—is fundamentally the same as animal nature in many respects.

This brings us to the third role for human nature. Reflection on Hume reminds us of the differences between using 'human nature' merely to mark out a series of traits that are typical for our species, and using 'human nature' as a foil for 'human culture'. In Hume's case, there is evidence that he does use 'human nature' in the former sense, while refusing to use it in the latter sense. For example, Hume suggests that impersonal norms of justice are established by convention. Roughly speaking, his view is that humans collectively institute conventions such as respect for private property because of the advantages these conventions bring to animals like us that live in social groups. Even so, education teaches respect for these conventions, and this leads to an altered set of underlying motivational dispositions. Kail highlights Hume's assertion that feelings of justice take on such 'firmness and solidity, that they may fall little short of those principles which are the most essential to our natures, and the most deeply radicated in our internal constitution' (Hume 1978: 501). In other words, 'human nature' names that which is 'firm and solid', or that which has deep roots in our 'internal constitution', regardless of what processes—social convention, education, or otherwise—explain such traits' entrenchment.

The Perils of Human Nature

Human nature is a notion that is ripe for abuse. It can be used to entrench—as part of what Hume described as the ‘deeply radicated’ order of things, ‘firm and solid’ and hard to shift—that which is in fact quite amenable to change. The Pioneer 10 images that purport—in Salzman Sagan’s words—to be ‘representative of us all’ show the male figure with his hand raised in greeting, apparently taking the lead in approaching the oncoming alien. The female figure instead keeps her arms by her side, and seems turned slightly towards the man, giving the impression that while the man takes the job of addressing the alien, the woman looks at the man. It is not surprising that this effort to represent the general state of our species drew ire from some feminists at the time.

NASA’s website tells us how these supposedly pan-human images were generated: ‘The physical makeup of the man and woman were determined from results of a computerized analysis of the average person in our civilization’ (NASA 2007). In sharp contrast with this official line, Salzman Sagan’s own recollections of how she made the images suggest something more low-tech:

And I took some of my art books—I didn’t have anybody pose or anything—they weren’t done from life—but I looked at Greek statuary because that was what was readily available in terms of being more realistic than, for example, a figure from Van Gogh or Gauguin or anything. So, I looked at Greek statuary. (Salzman Sagan, quoted in Macauley 2010: 112)

Salzman Sagan began with a culturally specific, idealized image of a beautiful human body. But she then added to the ideal form of Greek statuary the stereotypical features of various ‘races’ in a mix-and-match approach:

I did try to make them interracial. So if the man had curly hair the woman had straight hair. There was a slant to the woman’s eyes—it was fun because it was the kind of thing where you want to show as much interracial features as you could and kind of make them representative of all of us. (Macauley 2010: 109)

Carl Sagan’s recollections suggested that these intentions were not quite seen through in the final versions. There was an initial effort to ‘have the man and woman panracial’, including such things as an ‘Afro’ haircut for the man and an ‘Asian’ appearance for the woman. Unfortunately:

[...] because the woman’s hair is drawn only in outline, it appears to many viewers as blond, thereby destroying the possibility of a significant contribution from an Asian gene pool. Also, somewhere in the transcription from the original sketch drawing to the final engraving the Afro was transmuted into a very non-African Mediterranean-curly haircut. (Sagan 1973: 26)

Sagan nonetheless felt confident that ‘the man and woman on the plaque are, to a significant degree, representative of the sexes and races of mankind’ (Sagan 1973: 26–7).

Since humans from around the world are a diverse lot, there is also a risk that we inadvertently take that which is, in fact, typical only of a subsection of the human population that we happen to be familiar with, and claim that it is a part of human

nature in the sense that it holds good for the species as a whole. Anthropologists have long been concerned about basing claims about psychological universals on the responses of students from Western universities. These worries have received plenty of attention since a publication by Henrich et al. (2010) pointing out the misleading effects of psychologists' reliance on what they call WEIRD (Western, Educated, Industrialized, Rich, Democratic) research subjects. Henrich and colleagues give good empirical reasons to worry that what psychologists might find typical of economic reasoning, moral intuitions, even perceptual capacities in this subset of persons is not typical of people in general.

Henrich et al. have indeed done an important service in alerting cognitive scientists to these forms of diversity, but it is worth pointing out that similar worries have been raised within the community of social anthropologists for decades. Philippe Descola, for example, remarked as early as 2005 (the work was not translated into English until 2013) that supposed cognitive universals have often been inferred 'on the basis of experiments conducted almost exclusively in Western industrialized societies' (2013: 102). And way back in 1901, the anthropologist W. H. R. Rivers produced evidence suggesting that susceptibility to visual illusions depended on whether you were from Cambridge (as his students were) or the islands of the Torres Straits on the other side of the world (Rivers 1901). These worries do not threaten the very idea of human nature, but they do remind us of the hurdles that need to be cleared before we can confidently make claims about what is typical of humanity in general.

What Lies Ahead

The disputes about human nature briefly addressed in the preceding pages play out across the contributions to this volume. The first four chapters all offer defences of the notion of human nature, but each does so in a markedly different way. Later chapters either express outright scepticism about the value of the idea of human nature, or they offer explanations for why that notion has been—and continues to be—contested.

Machery

Edouard Machery's opening chapter defends his important 'nomological' account of human nature against recent criticisms. In its original (2008) formulation, that account proposed that 'Human nature is the set of properties that humans tend to possess as a result of the evolution of their species'. Machery, consistent with much earlier suggestions from the likes of David Hume, proposes that for a trait to be a part of human nature it needn't be literally universal—that is, present in every human—but it must be at least typical of humans. Machery adds that not just any trait that happens to be widely held among members of *Homo sapiens* at some moment in time is a part of human nature. If a trait owes its commonality to what Machery classifies as a non-evolutionary process—he considers the example of songs that go 'viral' to the extent

that they become known by more or less everyone on the planet—then it is not part of human nature.

Machery's original account invited two broad kinds of attack. First, what is the rationale for insisting that only more or less universal traits can be part of human nature? This seems especially pressing in the context of evolutionary sciences, where the very same processes—natural selection, mutation, migration, genetic drift—are invoked to explain why traits are present at low, middling, and high levels in populations, and why there can be stable mixtures of alternative traits. From an evolutionary perspective—or, at the very least, from the perspective of population genetics—it seems that there is nothing of theoretical significance about near-universality.

Machery's answer to this problem is to point out that the rationale for linking human nature to that which is typical may derive from considerations that lie outside the theoretical preoccupations of evolutionary biology. Even if there is no special *evolutionary* significance to be found in traits that are present at close to 100 per cent, compared with traits that are maintained by selection at much lower frequencies, evolutionary theory does not deny that some traits are, as a matter of fact, very widely shared among all humans. If we look away from evolutionary work, it seems that disciplines like physiology and medicine have good reason to focus their attentions on typical minds and bodies.

Machery's comments here are bolstered by our earlier discussion of *Gray's Anatomy*, and Cosmides and Tooby's conviction that in describing human nature we offer a *Gray's Anatomy* of the mind. Medical practitioners need to understand how human bodies work if they are to intervene in them effectively. Since the cognitive capacities of medical students (as well as the investigative capacities of anatomists and physiologists) are finite, it makes sense to prioritize anatomical and physiological education that focuses on those traits that one can reasonably expect to be present in any patient the practitioner might encounter. Such education is then augmented with further descriptions of broad subdivisions of our species, when *Gray's Anatomy* moves on to describe that which is anatomically typical for males and females.

More recent editions of *Gray's* have been further swollen by notes on common anatomical variations, and students are sometimes referred to the online version of *Gray's* for fuller details of these complicating matters. On this view, a description of human nature, understood as a version of *Gray's Anatomy* that deals with cognition, would constitute a comparatively easy-to-learn toolkit enabling reasonably successful interaction with any human one might happen to be presented with. As with the original *Gray's Anatomy*, that project leaves room for additional documentation that would capture the full detail of human cognitive variability.

Machery also responds to the second main question prompted by his 2008 proposal: how are we to say which processes are 'evolutionary'? Several theorists—represented in this collection by Peter Richerson, Kevin Laland, Gillian Brown, Cecilia Heyes, Kim Sterelny, and others—have argued that learning from others has been an important

process in enabling us to adapt to our surroundings. They therefore wish to think of cultural processes as properly 'evolutionary'.

Machery responds with a mixture of pluralism and pragmatism. He suggests that there is indeed a perfectly reasonable sense in which we can count social learning as an 'evolutionary' process. However, he maintains that there are good reasons for understanding human nature in a narrower way. We should restrict our understanding of evolutionary processes in this context to those that act on genetic variation, and thereby exclude cultural processes, precisely because this maintains a less baggy, more focused account of what human nature is. Machery's thought is that it would undermine the practical value of the concept of human nature if—because we had become convinced that social learning was itself an evolutionary process—we were forced to conclude that when it becomes typical of humans to recognize the face of David Beckham, this ability becomes part of human nature.

Ramsey

Grant Ramsey offers a defence of his own 'trait cluster' account of human nature, and in so doing he argues for advantages of his own position over Machery's. Ramsey thinks of Machery as offering a 'trait bin' account. The name of this game is to provide a criterion that allows us to sort human traits into those that belong to human nature and those that belong elsewhere. The 'elsewhere' may be culture, or nurture, or pathology, or some alternative 'bin'. Ramsey suggests that this starting point is mistaken. We should not attempt to construct a divisive notion of human nature that rules some traits in and others out. Instead, we should understand 'human nature' as a name for the patterns that can be seen in potential developmental trajectories across human lives.

For every developing individual, there are some life courses that are comparatively likely, others comparatively unlikely, and others impossible. So each individual has a 'nature', in the sense of a pattern of outcomes open to that person. Schooling is likely to be under way by the age of 8 for most individuals, greying of the hair usually comes after one's 20s, and death comes before the age of 110. Evidently the patterns of possibility differ with respect to all such outcomes depending on where in the world one is born, and what one's social and genetic endowment might be. But if we add up the patterns that constitute individual natures, then we arrive, says Ramsey, at human nature. Human nature, for Ramsey, simply is that general set of patterns across all individual human potential life courses. Moreover—as the example of schooling indicates—Ramsey has no intention to sort human nature from human culture. The patterns that make up human nature can be discerned in traits of all kinds.

Stotz and Griffiths

Karola Stotz and Paul Griffiths offer a third account of human nature that, as they note, has significant commonalities with Ramsey's. Like Ramsey—and unlike Machery—they

are not in the business of offering an account of human nature that is meant to be opposed to human culture. And, like Ramsey's, their account of human nature focuses on human variability and human plasticity.

For Stotz and Griffiths, the key to formulating a defensible account of human nature is to look to developmental processes. Since these processes can involve learning and cultural tradition, and since these processes are inherently variable with respect both to their constituent sub-processes and to their overall phenotypic outcomes, the account of human nature they yield neither stands in contrast to human culture nor emphasizes that which is common to all humans. Even so, Stotz and Griffiths argue that this counts as a full-blooded account of what human nature is, not least because in equating human nature with underlying human developmental processes, we arrive at an explanatory conception of human nature. Human nature, for Stotz and Griffiths, is that which explains more superficial elements of human behaviour. Moreover, their account preserves the thought that human nature is that which the human sciences—and here they include everything from social anthropology and economics to psychology and physiology—aim to delineate.

Heyes

Cecilia Heyes offers the collection's fourth and final positive proposal for how to understand human nature, which she calls 'evolutionary causal essentialism'. In common with Machery, Heyes proposes a 'trait bin' account: her aim is to give a criterion that counts some traits as elements of human nature, while ruling others out. And, like Machery, Heyes argues that for a trait to be part of human nature, (i) it must be more or less universal within our species, and (ii) the trait must owe its presence to an evolutionary process. In contrast to Machery, Heyes shares with Stotz and Griffiths the requirement that human nature must be explanatory of more superficial behaviour. She therefore equates human nature not with any old trait that happens to be widespread within *Homo sapiens*, but instead with the 'set of mechanisms that underlie the manifestation of species-typical cognitive and behavioural regularities'. In this respect (and here she is influenced by earlier work by Richard Samuels (2012)), her account is more restrictive than Machery's.

In another important respect Heyes's account is more liberal than Machery's, because she embraces a broader view of what evolutionary processes are. She counts among 'evolutionary' processes those that are mediated by cultural and epigenetic inheritance. This means that while Heyes's account does indeed propose two 'bins' into which we can sort traits, we will not find one labelled 'nature' and the other 'culture'. Her view is that some of the traits that are part of human nature are present because of cultural inheritance and cultural evolution.

On Heyes's view, traits that fall into the 'non-human nature' bin include those merely behavioural traits that are not 'deep' enough to constitute explanatory mechanisms, those that are not widespread enough to be typical of the species, and those that do not have the right kind of history to count as products of evolution. Heyes builds to this

conclusion via a critical appraisal of Gergely and Csibra's influential theory of 'natural pedagogy', according to which human infants are equipped with a distinctive set of adaptations that make them receptive to teaching (e.g. Csibra and Gergely 2011). Heyes's view is that the mechanisms that underlie our abilities to learn via teaching are themselves the products of cultural inheritance; moreover, the very fact that such distinctive, important, and pervasive human abilities owe their presence to a form of cultural evolution helps bolster her case for thinking that human nature should be defined by reference to a liberal collection of evolutionary processes.

Dupré

John Dupré's contribution is the first in the collection to express a more sceptical stance on human nature. His chapter briefly summarizes his process-oriented view of life itself, before applying that perspective to the specific question of human nature. An organism, says Dupré, is not best understood as a static object; rather, it is best understood as a process, or a collection of processes. An organism is something that changes over its life-course, and the processes of change that it undergoes are themselves the upshots of numerous constituent sub-processes. Like Ramsey, and Stotz and Griffiths, Dupré also stresses the plasticity of all of these processes. He suggests that by virtue of being sequences of events rather than persisting things, these life processes are liable to reach multiple alternative end-points via multiple intermediary stages.

Dupré worries that thinking in terms of a shared human nature encourages a tendency to focus on a single adult developmental stage as representing the 'nature' of our species. His own processual image of organisms instead downplays the idea of any single developmental stage as constitutive of what a human is, while also drawing attention to the flexibility of human developmental pathways. Dupré's overall stance is thus balanced between a positive proposal to understand human nature in terms of flexible developmental processes and a more sceptical position that rejects talk of human nature altogether.

Sterelny

Kim Sterelny's chapter offers a pragmatic rationale for scepticism of human nature. He agrees with some of the defenders of human nature that there may well be a reasonably rich set of traits that a large majority of humans share, and which are distinctive of the human species. (His suggested candidates include various abilities related to language use, moralizing, theoretical reasoning, and empathizing.) Even so, asks Sterelny, what would such a conception of human nature be good for? What valuable role would it play?

Sterelny gives several reasons for thinking that there may be no useful role for human nature. An account that focuses on commonalities held across all humans is of little value from an evolutionary perspective, because evolutionary thinking teaches us to focus as much on variation as on homogeneity. An account that focuses on what we owe to genetic evolution is challenged by the coevolution in our own lineage of genetic and cultural forms of inheritance. Sterelny's concerns extend as far as the constraining

role sometimes accorded to human nature. The idea he targets is that if we know something about realistic limits of individual human cognitive, social, and behavioural capacities—if, that is, we know about human nature—then we will understand what sorts of general political systems and social arrangements are feasible, what sorts of specific social policies are likely to succeed in their aims, and so forth.

In response, Sterelny cautions that the notion of human nature can obscure the reciprocal manner in which alternative social arrangements can constrain the development of individual psychologies just as much as individual psychologies constrain social arrangements. He also argues that the question of which forms of political and social organization are feasible or harmonious is often explained not by generic facts about the typical psychology of individuals, but by facts about how societies instantiate mixtures of different psychological profiles. So if we want to understand what forms of social organization are achievable without miraculous intervention, we will not be assisted by assuming that human nature corresponds to that which is psychologically more-or-less universal.

Laland and Brown

Like Sterelny, Kevin Laland and Gillian Brown are human-nature sceptics. And like Sterelny, their scepticism is pragmatic: they see no useful role for the human nature concept to play, and plenty of misleading ones. Their view is that human nature is a social construct, and in two senses. The first is comparatively obvious: the *concept* of human nature is, of course, a human invention, as are all concepts. But they also argue that human nature itself—if we mean by that the pattern of robust tendencies shown again and again across the individual members of our species—is quite literally constructed by social relations. They draw on a variety of processes stressed by those who seek ‘extensions’ to the largely gene-centric image of evolution associated with the Modern Synthesis—processes like niche construction, non-genetic inheritance, gene–culture coevolution, and so forth—to argue that there is no biological sense in trying to separate that which we owe to ‘nature’ from that which we owe to ‘culture’ or the environment. Since, in their view, the past activities of earlier generations of organisms always play some role in structuring the developmental environments of plants and animals, it simply makes no sense to think of some traits as free from forms of social influence.

We have already seen in the remarks at the beginning of this introductory essay that this role of demarcation is not the only one we might assign to human nature. But Laland and Brown worry that even if we try to reserve the term for other roles, it is nonetheless liable to be badly misunderstood. Their final judgement is that ‘human nature’ is a term we would be better off without.

Richerson

Peter Richerson's essay also has a pragmatic focus, and he again finishes with a largely sceptical view of human nature. He aligns himself with Laland and Brown's conviction

that the Modern Synthesis in evolution needs to be extended to include a more varied set of adaptive processes than natural selection acting on genetic variation. But he approaches our topic in a more historical manner, by looking at the ways in which a series of the most prominent evolutionary thinkers from Darwin to contemporary researchers have made use of the notion of human nature.

Richerson is not a blanket sceptic: he has no qualms about the basic, comparative use of 'human nature'—akin to the Humean notion outlined earlier in this introduction—that enables us to make general claims about what members of *Homo sapiens* are typically like, and the ways in which they may be similar to, and different from, the typical members of other species. Instead, Richerson draws on his own extensive body of research in cultural evolution to stress not only that various forms of social learning constitute transformative, creative, and adaptive processes currently acting on humans, but that these same learning processes have affected our ancestors over long swathes of evolutionary history. Richerson suggests not merely that human nature is a moving target—something that has been subject to change over time at the hands of cultural forces—but that human nature has always been constituted by mutually interacting cultural and genetic factors. His scepticism of the human-nature concept derives from what he sees as a series of misguided efforts—not present in the work of Darwin, but increasingly prevalent through Modern Synthesis versions of evolutionary theory—to distinguish between a pre-cultural human nature and a culturally overlaid 'superorganic' realm.

Toren

Christina Toren's manifesto for a thoroughly historical perspective on change and stasis in human individuals and groups has much in common both with the processual stance on human nature advocated by John Dupré and with the constructivist account offered by Laland and Brown. Toren, like many of the contributors, aims to do away with the notion that we can think of some traits as products of nature, rather than of culture. Toren argues—much like Laland and Brown—that developmental processes invariably proceed as they do by virtue of the structured array of developmental resources bequeathed by the interactions of earlier generations. For Toren, too, the developmental niche is a social product.

There are, however, significant differences between Toren's account and that of some of our other human-nature sceptics. If it makes no sense to single out human nature in contrast with human culture, then equally it makes no sense to point to human culture as something to be contrasted with human nature (see Lewens 2017). Rather than drawing on the importance of distinctively *cultural* evolutionary processes to undermine the idea of human nature, Toren consequently seeks a framework for understanding human evolution at all scales that uses neither the notion of 'nature' nor the notion of 'culture'. It is at this point that her affinities with John Dupré become clear: Toren argues that we should understand evolution as nothing more than the sum of microhistorical ontogenetic processes, in which the nature/culture divide disappears altogether.

While most of our contributors—with their diverse proposals for how, if at all, we should understand human nature—*exemplify* disagreement, the final contribution from Maria Kronfeldner fittingly closes this collection by trying to *explain* this disagreement. Instead of offering a single account of what human nature is, Kronfeldner instead argues that the term has a number of quite different epistemic roles. She argues that since 'human nature' has so often been used to make assertions regarding that which is important regarding our own species, it is hardly surprising that the notion is continually subject to disagreement. Moreover, 'human nature' has often been used in a related way to imply that some individuals who lack that nature are less than fully human. Again, disagreement over what human nature is should hardly be surprising, given Kronfeldner's suggestion that the term itself is used to exclude or marginalize. Kronfeldner does not claim that modern scientific researchers continue to use 'human nature' in these exclusionary ways, but this does not undermine her conviction that we should expect disagreement to continue regarding what human nature is.

The earlier chapters in this volume point repeatedly to the question of what pragmatic role 'human nature' is supposed to play. Kronfeldner seizes on this to argue that since there are numerous different and defensible functions that scientists may wish to assign to the term, we should expect disagreement in how the term is used to persist. To give just a few examples, scientists may be aiming at a characterization of recent humans, of *Homo sapiens* in its entirety, or of broader segments of the hominin lineage. They may aim at describing robust psychological tendencies of typical individuals, or perhaps at describing social networks and the ways in which diverse individuals are required to sustain those networks. Depending on whether scientists are interested in features of social life that characterize very recent history or longer swathes of time, they may reckon different social and psychological features 'important'. If Kronfeldner is right, then disagreement about human nature will persist, even after readers have fully digested the contents of this book.

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