

Three Quests for Human Nature: Some Philosophical Reflections

Abstract:

The notion of "human nature" has long since captured the interest and imagination of philosophers, theologians, and scientists; as such, it appears that the study of human nature is one amenable for inter-disciplinary cross-fertilisation. However, it is not obvious that there is a single coherent project being undertaken, neither between nor within disciplines. Rather, we argue that there are three main quests for human nature—the quest for *universal* human nature, the quest for human *uniqueness*, and the quest for *innate* human nature—and that different philosophical, theological, and scientific enterprises emphasize (or, indeed, neglect) different quests. Furthermore, these different intellectual enterprises may differ more fundamentally, namely in their very object of enquiry, the definition of the theoretical term "human being". For scientists, the term "human being" is often treated as being coterminous with the term "*Homo sapiens*"; that is, "human being" is a biological category, a species. This definition is now, rightly or wrongly, taken for granted by philosophers and theologians, but it is not necessarily thus. It remains an open question whether, for any given philosophical and/or theological project, the biological concept *Homo sapiens* is the most appropriate way to understand the term "human being". This paper considers these issues by scrutinizing two cases—from evolutionary psychology and theological anthropology—in each case examining the adequacy of the biological concept *Homo sapiens* for its purpose, as well as the viability of each of the three quests for human nature.

Text:

What, if anything, does it mean to be a human being? This question seems innocent enough, and indeed philosophers, theologians, and more recently, scientists have attempted to answer what appears to be a straightforward question (for an overview Pojman 2006). There are, however, at least three inter-related clusters of questions that fall under the rubric of investigations into "human nature" (see Downes & Machery

2013 for relevant articles). The first pertains to whether or not “human being” (and its synonyms) refers to a coherent kind, a category of which individual human beings like you and me are members; and if so, what manner of kind is it? Is it, for example, a natural kind or, on the other end of the spectrum, a gerrymandered category? And if “human being” does refer to a kind, in what does membership into this kind consist? Rightly or wrongly, these questions typically pertain to what human beings are as members of a biological category and, as we shall soon see, turn out to be complicated by the implications of Darwinism and biological evolution. In any case, the first cluster of questions aims to get at what human beings *are*.

The second cluster of questions, closely related to the first, pertains to the properties—essential or otherwise—that human beings instantiate. Debates on this second question can take many forms, occurring in many different domains, and can even assume different senses of “nature” and its cognates (e.g., innate, natural). So, the debate over human uniqueness is about whether or not human beings are somehow—qualitatively or quantitatively—different from non-human animals. The debate among monists, dualists, tripartite theorists, and the like is about the fundamental structure of human beings. The debate between nativists and empiricists is about the role of learning in psychological development in different domains. The debate between Rousseauians and Hobbesians is about whether human nature is good or evil. *Ad infinitum*. These are all questions about what human beings are *like*.

The third pertains to the normative implications entailed by the previous two clusters of questions; these might come in the form of moral or political injunctions. For example, there has, in recent years, been much scientific and philosophical debate over the evolutionary origins of our moral beliefs, and what this might entail for ethics and moral philosophy (e.g., Joyce 2006; Klement 2002; Boniolo & de Anna 2006). Similarly, evolutionary explanations for traditional gender roles have—rightly or wrongly—been seen by some to justify conservatism regarding gender roles (e.g., Kitcher 1985; Richards 2000).

For the most part, this paper will focus on the first two questions, about what human beings are and what human beings are like.

The “human” in “human nature”

The investigation, empirical or otherwise, of what human beings are like implies that we have some notion of what human beings are. We need, that is to say, a notion of what counts as a human being. But it is not at all obvious what this notion would be, what the referent of “human” is, and why.

Infatuated as we are with the biological sciences in light of the Darwinian turn, it is fashionable these days to equate “human being” with *Homo sapiens* (and perhaps even more specifically, *Homo sapiens sapiens*), and so human “nature” with some biological or psychological or cultural feature of this species. Now, we should be clear that this is an analytic claim, the claim that the term “human being” just means *Homo sapiens sapiens*. Importantly, it is not a claim about human beings, except in a secondary sense, so much as a claim about the term “human being”. In any case, there are several problems with this analytic claim, the chief of which is that it is not very helpful at picking out the referents of the term “human being”.

In the first place, it merely pushes the problem back a step, immediately raising the question of what counts as a member of the biological category *Homo sapiens*. This is a famously fraught question, the question of the *ideal species concept*. The problem is most salient when it is considered diachronically, in evolutionary time. There are, of course, severe challenges to picking out defining features even in a synchronic analysis, comparing among extant species: often, individuals that we want to include fail to adequately fulfill our criteria, while individuals we want to exclude succeed in doing so¹. But an interest in extant species seems unduly temporally parochial. Surely our interest in “human nature” extends beyond the humans (whatever they are) that are currently alive,

¹We could bite the bullet, of course. Perhaps some individuals we thought were not *Homo sapiens* are after all, and some individuals we thought were *Homo sapiens* aren't. For sake of argument, we will assume that this bullet is particularly unpalatable.

in 2013. But how far back in time should we go? Intuitively, a hundred years is not far enough and five million years is too far. But why might this be? It better not be because our ancestors five million years ago were very different from us (whatever “us” means) now in 2013. Why should we be the prototype of the species? And there’s the rub. Our intuitions notwithstanding, given the way evolutionary history works—via gradual changes in a population—there is just no principled way to mark the boundaries of where one species ends and another begins.² That is, given Darwinian population thinking, there were no first *Homo sapiens* (nor, in case we mistakenly think this is a problem endemic to our species, was there a first *Ba humbugi* or *Heerz lukenatcha* or *Arses insularis*, just to name a few excellent species names³).

Now, the problem is not just one of general vagueness or fuzzy boundaries. Species are not like clouds, with reasonably uncontroversial centers, but vague boundaries. Rather, species are like ever-flowing streams; what we think of as particular species are just slices of the long, uninterrupted phylogenetic history of an evolving population. There are, in phylogenetic histories, as in ever-flowing streams, no centers to be identified from the bottom up. We may, if we please, treat ourselves and our contemporaries as paradigm

²Paul Griffiths and Kim Sterelny (1999, 7) write: “There is no such thing as the ‘genetic essence’ of a species. A central aspect of modern evolutionary biology is *population thinking*. ... Each population is a collection of individuals with many genetic differences, and these differences are handed on to future generations in new combinations”. They go on to explain: “Contemporary views on species are close to a consensus in thinking that that species are identified by their histories. According to these views, Charles Darwin was a human being not by virtue of having field marks – rationality and an odd distribution of body hair – described (in Alpha Centaurese) in *A Guide to the Primates of Sol*, but in view of his membership in a population with a specific evolutionary history” (Giffiths & Sterelny 1999, 8).

³Lest the reader thinks that the present authors invented these names, they refer to a Fijian snail, a Central/South American wasp, and an Indonesian/Papua New Guinean bird respectively.

cases of *Homo sapiens*⁴, but if we do so, we should be aware that this is dictum not discovery, fiat not fact, sanction not science.

The marriage with biology, if we remain faithful to it, must result in a gerrymandered species concept: species are marked by arbitrary midpoints and fuzzy boundaries, all drawn by quasi-divine command. If, however, we are unhappy with such arbitrariness—perhaps this is the bullet through-going, scientific realist Darwinians ought to bite—and if “human being” just means *Homo sapiens*, then the quest for human nature in anything but a very weak sense of the word “nature”—more on which, later—is doomed to fail. There is not much we can say about human beings, if we do not know what they are.

Perhaps, then, we should annul this regrettable liaison with biology; perhaps we need not, ought not hold that human beings are essentially the animals *Homo sapiens*. Indeed, in Western philosophical and theological anthropology, it more typical to think of “us” as animals only accidentally (i.e., non-essentially). That is, while it is true that we are animals—by virtue of the bodies we have, the behaviors we exhibit, etc.—we are, philosophers and theologians have historically maintained, *essentially persons*, thinking things. But this is saying too little. Might there not be persons other than human persons? If so, we are still left with the problem of what distinguishes a human person from, say, a divine one or, perhaps, an extra-terrestrial one. There have been various proposals on this front, and we will briefly mention two. On the *dualist* view, we either are identical with non-physical human souls or have non-physical human souls as essential parts. In both cases, we only accidentally have biological bodies; we could exist without them, or we could have different kinds of bodies altogether (i.e., non-*Homo sapiens* ones). On this view, what makes us human persons is that we have (or are) human souls; all individuals with human souls are human persons. But perhaps dualism is false,

⁴Consider, for a moment, the way we pick out paradigm cases of extinct species. Our prototype of a *Tyrannosaurus rex* or *Homo rhodensisensis* is made up of just the fossils that we happen to find. Perhaps if we had instead discovered the great grandchild of the person to whom the Gawis cranium belonged, we would think that Gawis was a *Homo sapiens* instead. The fact that these biological categories are at the mercy of scientific accidents should tip us off that they are very far from being natural kinds, however understood.

and false beyond salvation by modification. Fortunately, the escape from biology is not the exclusive terrain of dualists. Some forms of *physicalism* also maintain that we are essentially persons, and that human personhood is not just membership into the species *Homo sapiens*.⁵

So far, we have only considered what may be called “secular” options; perhaps there are theological resources that can be brought to bear on this issue too that allows us to bypass the dualism-physicalism debate altogether. We could, for example, just assert that “human being” is whatever God says it is; the referents are fixed, that is to say, by properly divine fiat. This is, of course, arbitrary, but then God’s arbitrary decisions are just brute facts; such is the benefit of being the omnipotent creator of the Universe. Of course, we are still left with an epistemic problem—we cannot practically identify the referents of the term “human being”—but at least now we have a principled definition.

Other theological alternatives are available. We could, for example, take a Christocentric definition of “human being”, taking Jesus as the paradigm case of the category, and identifying other cases relative to him. We could otherwise take an eschatological view. Assume that all and only human beings will be saved; this is a sort of twisted universalism, though perhaps not an entire absurd one. In this case, a human being might just be whatever it is that will be saved. Again, we are faced with the epistemic problem, but at least we have a strict definition. In all these cases, we know what human beings are (even if we cannot currently actually identify all or, indeed, any of them); we may now proceed with the task of finding out what they are like.

The basic claim made in this section is that the term “human” in “human nature” is ambiguous; there are different ways to define “human” and its cognates, and different philosophical implications of each definition. If, for example, “human being” simply refers to the biological category *Homo sapiens*, then there is no principled way to pick out all and every human being. This is not a pragmatic or epistemic problem, but a

⁵For an overview of various theories about persons, see Olson 2007. For a contemporary defence of dualism, see, e.g., Swinburne 2013. One popular form of physicalism about persons is constitutionalism. See, e.g., Baker 2000.

metaphysical one: *Homo sapiens* is a perniciously fuzzy category. There is nothing wrong with fuzzy categories, of course; as we shall see, some scientific investigations into “human nature” may be able to work with even a strongly gerrymandered category, one that arbitrarily delimits the field of scientific enquiry. But this is a very modest quest for “human nature”; a fuzzy notion of “human” seems to necessitate a weak understanding of “nature”. This is not to say that a stronger understanding is impossible in light of Darwin; it is just to say that it is impossible under an identification of “human beings” as *Homo sapiens*. More interesting quests for “human nature” may well be possible—or, at least, sensible—under some other definition of “human”, as briefly considered just previously.

The “nature” in “human nature”

It is a truism, if one that bears repeating, that the word “nature” and its cognates is used in different ways, by different thinkers, in different contexts, for different purposes. We are, in this paper, using the word “nature” as a way of asking questions about what human beings are like, whether necessarily or contingently, whether exclusively or in common with others. It is, in some ways, a very broad, rather promiscuous use of the word, though we will get more specific as we go along. It does, however, exclude certain uses of the word. In the first place, and most obviously, it excludes questions about what we are; after all, we have dealt with such questions under the “human” part of “human nature”. In other words, the discussion about our essential human nature and our kind membership does not belong here. This may strike some people as odd, seeing as there is a venerable tradition of using the word “nature” in precisely this way. All we can say about this is that conceptual clarity is no respecter of tradition.

There are, as we have suggested, many different quests for human *nature*. Scientists—biologists and psychologists, for example—may be interested in anatomical and physiological or cognitive and behavioral facts about us. Not just incidental facts, but somehow special facts about us. They use words like “natural” and “innate” to refer to certain powers, capacities and liabilities, over others, which produce certain behaviors or effects that are typical for such powers. We shall take a closer look at this notion of

“nature” later. Quite separately (though not unrelatedly), philosophers of mind may be interested in our ontological makeup, whether we are made up of one kind of stuff or two (or more), whether we instantiate one kind of property or two (or more), and so forth. Christians *qua* Christians (and not, say, *qua* scientists or philosophers) may be interested in the way we are special, set apart from the rest of the created order; further, they may be interested in what soteriological, ethical, political, and other ramifications this “human uniqueness” might have. Furthermore, these different quests for “human nature” may function in different ways. Scientific accounts, for example, might treat “human nature” as a causally explanatory notion. Talk of human nature may, in this view, be useful for explaining human behavior. This is not to say that philosophical and theological approaches to human nature are non-explanatory, but if they are, they are in a slightly different way. A philosophical or theological account of human nature—say, one that includes the addition of the soul to the body—might explain (or, perhaps more accurately, *account for*) consciousness, free will, personal identity, and so forth. Indeed, certain Christian views about when the soul joins the body might explain why human beings are to be treated with a particular dignity at particular points in their development. These diverse interests seem to render the taxonomic task impossible. Nevertheless, it may be useful—that is, it may provide conceptual clarity—to distinguish among three quests for “human nature” before we proceed to evaluate their viability.

Our taxonomy goes as follows:

The quest for *universal human nature*. What, we might want to know, are the invariant dispositions of human beings? Perhaps there are anatomical or physiological or psychological or social characteristics that all human individuals and/or societies share. If so, we could meaningfully claim such characteristics as being part of human nature, of universal human nature. The search for psychological universals that motivates cross-cultural and anthropological research is a well-known example of this quest, though it can also take non-psychological forms. Many take this quest to be of great ethical and political importance, seeing commonality among human beings as the basis of human rights, for example. Claims about human universals have also led to interesting and important discussions about uniqueness and innateness, as we shall see.

The quest for *human uniqueness*. What is it, we might ask, that distinguishes human beings from other things, including other animals? Is there, perhaps, a set of properties that, not just all, but only human beings share? Biologists might be interested in this question for taxonomic purposes: having a set of uniquely human properties allows us to distinguish non-*Homo sapiens* from *Homo sapiens* (though, as we have seen, this identification of human beings with *Homo sapiens* is problematic). At the same time, extreme racists or eugenicists might also be interested in this question: having a set of uniquely human properties may enable them to accuse some subpopulations of what biologists would say were *Homo sapiens* of being nevertheless non-human. Theologians might also be interested in this question, as part of their reflections of what the Imago Dei consists in. As we have intimated, the shape of the quest for human uniqueness depends in large part on what the referent of “human being” is taken to be. The biologist and the extreme racist, for example, begin at different places; their conclusions about human uniqueness will therefore be concomitantly divergent.

The quest for *innate human nature*. The fixity of traits across cultures has typically led to questions about whether such traits are “innate”. Alas, it is far from clear what “innateness” consists in; indeed, it is far from clear that it is a cogent concept at all (see Griffiths, 2002; Mameli & Bateson, 2011; Samuels, 2007). It is at least ambiguous, and can refer to various conceptually and empirically dissociable properties. A trait may be “innate” in the etymologically conservative sense that it is present at birth, for example. This is closely related to the notion that innate traits are those that are unlearned; of course, there might be pre-natal learning, so unlearned traits are not necessarily coextensive with those present at birth. If—and this is a big if—it makes sense to apportion causality between genetic and environmental variables (cf. Northcott 2008; Sober 1988), an innate characteristic might be one that is wholly or mostly due to the former. Somewhat more conservatively, employing (one half of) C. H. Waddington’s notion of *developmental canalization*, we might say that a trait is innate just in case that it is “environmentally canalized” or “canalized with respect to the environment”; that is, a trait is innate if its development is insensitive to environmental variation. This is more

conservative that the preceding option because it does not, as Lewontin (1974) warns against, confuse analysis of variance for analysis of causation.

The three quests for human nature are, as this brief introduction makes clear, related; however, they are logically distinct all the same. For example, we do not have to believe in human universals to believe in human uniqueness. Say, for example, that only human beings display behaviors that we might call “religious” (never mind for now what that means). It is not the case that all human beings have to display such behaviors for us to be able to claim that religion is nevertheless uniquely human. Similarly, innate characteristics have to be neither uniquely human (indeed, many characteristics that might count as innate will be shared by our phylogenetic ancestors; they will be a part of our evolutionary endowment) nor universally human (some individuals might, for example have genetic deficiencies while nevertheless counting as a human being).

Some of the problems for these three quests have already been alluded to, not least the fuzziness of *Homo sapiens* as a category, the diversity of interests in play, the ambiguity of concepts like “innateness”, and so forth. In the ensuing sections, we shall take a closer look at two versions of these projects, as undertaken by Evolutionary Psychologists (with a capital E and P) and Christian theologians; in doing so, we should keep this trichotomous taxonomy in mind.

Evolutionary Psychology, Homo Sapiens and Its Nature

Evolutionary psychology, broadly speaking, is the scientific enterprise of explaining human psychological characteristics— affective, behavioral, cognition, and cultural—in evolutionary and, in particular, natural selective terms. This intellectual tradition harks back to Darwin, of course, (e.g., *The Descent of Man; The Expression of the Emotions in Man and Animals*) but its most well-known version has always been somewhat controversial, even among ardent Darwinians. Consider, for example, Jerry Coyne’s (2000) damning evaluation:

The latest deadweight dragging us (evolutionary biology) closer to phrenology is

evolutionary psychology, or the science formerly known as sociobiology. If evolutionary biology is a soft science, then evolutionary psychology is its flabby underbelly.

The target of Coyne's vituperation is not any old application of evolutionary theory to psychological phenomena, but the Evolutionary Psychology (EP) research program whose phylogenetic ancestor is E. O. Wilson's (1975) *Sociobiology: The New Synthesis* and its intellectual predecessors. Our interest in EP—sometimes dubbed The Santa Barbara Church of Evolutionary Psychology (Laland & Brown 2011)⁶—is in their claims about human nature, as expounded by such proponents as E. O. Wilson (in his classic 1979 Pulitzer Prize-winning *On Human Nature*), John Tooby and Leda Cosmides (1990, 1992), David Buss (2001), and Steven Pinker (2003).

Perhaps the clearest credo comes from Tooby and Cosmides who declare belief in “the psychic unity of humankind”, that consist of “collections of complex adaptations” (1992); indeed, it is these “psychological universals that constitute human nature” (1990). More specifically, it is not particular beliefs or behaviors that make up this “psychic unity”; rather, as Cosmides, Tooby, & Barkow (1992) explain, “there is a universal human nature, but that this universality exists primarily at the level of evolved psychological mechanisms, not of expressed cultural behaviors”. The distinction made between evolved psychological mechanisms and expressed cultural behaviors has also been set out by Tooby and Cosmides (1990, 23) as the distinction between “manifest” and “innate” psychologies, as follows:

⁶Leda Cosmides and John Tooby, founding proponents of EP are co-directors of the Center for Evolutionary Psychology at the University of California, Santa Barbara. One cannot help but think that the use of the word “church” is a reference to what some see as EP's dogmatic adaptationism in the absence of evidence, and their enthusiasm for accusing their critics of denying Darwinism, a scientific heresy if ever there was one. The centrality of UCSB may now be outdated. Certainly, some of the most prominent proponents of EP—including Steven Pinker and David Buss—are based elsewhere. Indeed, all the authors of a recent programmatic article on EP were from the University of Texas at Austin (Confer, Easton, Fleischman, Goetx, Lewis, Perilloux, & Buss 2010). It should be noted that Confer et al.'s (2010) approach to EP seems to be more nuanced than the “traditional” EP described here; the “church” is perhaps more schismatic than is often admitted.

If one believes in a universal human nature, as we do, one observes variable manifest psychologies, traits, or behaviors between individuals and across cultures, and views them as the product of a common, underlying evolved innate psychology, operating under different circumstances. [...] The mapping between the innate and the manifest operates according to principles of expression that are specified in innate psychological mechanisms or in innate developmental programs that shape psychological characteristics, these expressions can differ between individuals when different environmental inputs are operated on by the same procedures to produce different manifest outputs. This set of universal innate psychological mechanisms and developmental programs constitutes human nature.

Innateness here is contrasted with the *tabula rasa* view of the mind associated with John Locke, as Steven Pinker (2003) makes clear in *The Blank State*. Far from being a blank slate, according to EP, human beings are born with pre-programmed, as it were, with cognitive mechanisms and tacit knowledge that enable us to learn by experience. EP goes beyond this weak version of psychological nativism, however. Tooby and Cosmides (1992), for example, define innate psychological mechanisms as those that are “evolved, genetically specified”. Finally, besides being innate adaptations, according to EP, the universal psychological mechanisms that make up our human nature are also “numerous, complex, specialized, and functional” (Buss, 2001). This so-called “massive modularity” thesis or “domain-specific” or “Swiss Army knife” model of the mind follows, EP proponents argue, from the way evolution by natural selection works: discrete mechanisms evolved to solve discrete problems in our evolutionary history.

In what sense then, is EP interested in humans and their nature. First, the “human” part of the equation. It should be clear that EP’s quest for human nature is a quest for *Homo sapiens* nature; that is, EP identifies “human being” with *Homo sapiens*. Indeed, the argument for the viability of evolutionary psychology is one from the viability of evolutionary biology; in this view, evolutionary psychology is just an extension of evolutionary neurobiology, is just the study of the evolution of the brain’s “programs”

by natural selection (e.g. Tooby & Cosmides, 2005). But as we have suggested earlier, *Homo sapiens* is a problematic category in that it fails to fix referents in a non-arbitrary way. As John Dupré (2002, 155) rightly says,

there can be no necessary and sufficient condition for being an organism of a certain species, and the characteristic properties of members of a species are, first, almost always typical rather than universal in the species and, second, to be explained in various ways rather than by appeal to any simple or homogenous underlying property.

Most obviously, this entails that species-typical characteristics can and do change over time; indeed, there is no theoretical limit as to how much they can change as long as there is a historical continuity in the population.

But the problem is more pernicious than this. Being a member of the same or different historical population is a matter of degree, not of kind. We—the two co-authors of this paper—are in the same historical population in that we can (in principle, though not in practice) trace our phylogenetic histories back to a common ancestor; however, we are also in different historical populations in that our family trees are divergent—for dozens, if not hundreds of generations—up till that meeting point in the mists of evolutionary time. As it is with us, so it is across (what we are accustomed to thinking of as) different species: *Homo sapiens* are and are not in the same historical population as *Pan paniscus*, depending on which “historical population” we have in mind. There is, in this view, no way to tell species apart from other taxonomical categories, from genera to domains; all are historical populations, all are genealogical lineages. In light of these and other problems, philosophers of biology have begun to embrace a pluralism of species concepts, some more permissive than others. Dupré’s (1993) promiscuous realism, for example, accepts species concepts based on gastronomically significant properties! For some, this is too much to stomach, and so the debates wage ever on.

Fortunately, however, the proponent of EP need not pay too much heed to these debates over the ideal species concept(s) or lack thereof. The purpose of definition in

science, unlike in certain branches of metaphysics, is not necessarily to cleave nature at its joints, nice though that might be; rather, it is primarily to delimit and delineate fields of enquiry. EP is interested in a particular slice of our phylogenetic history, with contemporary members of this genealogical lineage as its focal point; their interest peters out as we extend backwards past the Pleistocene. There may be vague theoretically-interesting reasons for this—perhaps selection pressures blew every which way until some time during the Pleistocene, when species-typical traits stabilized in some way, perhaps to form Boyd's (1999) homeostatic property clusters—but there need not be, at least not at first. Indeed, a tighter definition of *Homo sapiens* than we currently have is properly the product of scientific enquiry rather than a precondition of the same.

A more interesting problem arises when we consider how *Homo sapiens* are going to evolve in the future, while remaining *Homo sapiens*. If EP closes the brackets on *Homo sapiens* just where our descendants begin to look quite different from us and our forebears during the Pleistocene, we risk collapsing the question of what human beings are and what human beings are like. The quest for human nature, however conceived, thus becomes tautological. If, on the other hand, EP draws the future boundary in some other way, they have to deal with a changing human nature; that is, human nature may not really be universal. However, once the definitional question is dealt with, the question of whether or not human nature is universal is an empirical one.

Evolutionary Psychology and the New Essentialism

So much for the “human” side of things; now, onto the “nature” in human nature. It also seems clear that EP's quest for human nature is both a quest for a universal human nature, and an innate human nature, while being generally disinterested with our second quest, the quest for human uniqueness. This stands to reason, given EP's ethological roots, and emphasis on the way in which different aspects of our human nature evolved at different points in our phylogenetic past. To summarize again, according to EP, our universal and innate human nature consists in the (massively) modular collection of psychological mechanisms that evolved by natural selection, mostly during the Pleistocene. Each of these commitments, especially to the massive modularity hypothesis and the strong adaptationist program, have been the subject of much critical

attention, (see, for example, Buller 2005, 2006; Laland & Brown 2011; Lloyd 1999; Gray, Heaney, & Fairhall 2003; Griffiths 2008; Samuels 1998).

However, as they pertain directly to our taxonomy, we shall take a closer look at EP's claims about universality (sometimes dubbed, perhaps unfairly, the "monomorphic mind") and about innateness. On the former point, it is easy to caricature EP's position as being committed to universality with respect to particular behaviors or beliefs. While proponents of EP do point at cross-culturally recurring beliefs and behaviors—folk biological beliefs, moral intuitions, and so forth—for evidential support (see, for example, Donald E. Brown's List of Human Universals in Steven Pinker's *The Blank Slate*), recall that their central claim is about psychological mechanisms, and not necessarily the propositional, behavioral, attitudinal, or affective outputs of these mechanisms. The brain is a machine that runs a collection of modular programs, much like a computer runs separate applications; it is these evolved programs, which may produce different outputs given particular inputs, that constitute our universal human nature. According to EP, then, genetic defects notwithstanding, all human beings—all members of the species *Homo sapiens*—possess the same collections of psychological programs.

EP's claims to innateness are somewhat more difficult to specify. As cited above, Tooby and Cosmides (1992) equate innateness with being "evolved, genetically specified". But these are both vague, if not utterly confused notions. To claim that a trait (or component thereof) is "evolved" is at least just to affirm Darwinism over and against creationism and its intellectual cousins, but is surely to make too little of this claim. On the other end of the scale is to interpret Tooby and Cosmides (1992) as equating innate traits with traits that were "designed" by natural selection; but this is to collapse the distinction between claims about innateness and claims about evolutionary adaptation. The latter part of Tooby and Cosmides's (1992) definition of innateness is no clearer. What might it mean to be "genetically specified"? One way of understanding this is as referring to traits for which genes are the dominant causal influence. But the apportioning of causal responsibility between genetic and environmental factors is famously problematic (e.g., Cowie 1999; Lewontin 1974; Sober 1988). Indeed, even the very notion of genetic

information (in contrast with environmental information), and certainly the privileging of genetic information have been hotly contested in the last two decades (e.g., Godfrey-Smith 2007; Griffiths 2001; Moss 2003).

Insofar as we can infer the meaning of EP's claims from their verification conditions, it does often seem that EP is *nativist* in much the same way that Chomskians are: in both cases, defenders seek out traits that develop cross-culturally in much the same way despite the variance in and paucity of post-natal environmental inputs. These visible traits are then taken as evidence for “innate” psychological processes and tacit knowledge. In this view, Chomskian hypotheses about language are just a proper subset of the panoply of EP's claims about our universal and innate human nature. Still, to liken itself to a more venerable research program is not to excuse EP from being conceptually clear about what claims about innateness actually amount to.

The charge of *ad hoc* constructing a list of human universals as constituting evidence for EP's claims about human universals have already been mentioned; an analogous charge may be leveled here, regarding innateness. Indeed, critics of Universal Grammar (UG) often—rightly or wrongly—accuse Chomskians of this *ad hoc* construction (and deconstruction) of the details of UG; to avoid such criticisms, it is incumbent upon EP to specify, in each case, what their nativist claims amount to. Likewise, critics of EP should not expect EP's claims about innateness to always mean the same thing. In some cases, EP might predict that a psychological trait is manifest at birth; in other cases, EP might predict that the developmental of a trait is insensitive to environmental variation; in still other cases, EP might predict that the development of the trait occurs without learning. The vagueness of the term “innate” and its cognates is hardly EP's fault, but if EP proponents are to use the term, the onus is on them to specify what they mean.

On this note, there has been a recent attempt to escape from the conceptual problems with the term “innate”. Somewhat unhelpfully, the term of choice here is “naturalness”. Robert McCauley (2011), the chief architect of this concept, distinguishes between *maturational naturalness* and *practiced naturalness*. Practiced naturalness characterizes activities that require conscious training and cultural scaffolding. Riding a bike, driving a car, and

writing are prime examples of practiced naturalness: when performed, they are automatic and easy, but they had to be learned through conscious effort and instruction. Maturationally natural phenomena—such as learning to speak one’s native language and acquiring a set of basic moral feelings and developing beliefs about supernatural agents—are characterized by the same ease and automaticity, but they arise without explicit instruction or conscious effort. Such phenomena, McCauley elaborates, are underpinned by maturationally natural cognitive systems; now, things are beginning to sound like EP’s claims about innate psychological mechanisms.

McCauley (2011, 37) also conveniently supplies four “typical marks” of maturationally natural cognitive systems. First, they “operate unconsciously, and their signals arrive to consciousness automatically and unreflectively”. Second, they often, but do not always, begin to manifest themselves early in life. Third, they “address problems that are elemental in human survival”, and are solutions to “the most fundamental cognitive challenges that we or any other organisms face”. Fourth, “their operations do not depend on anything that is culturally distinctive—not on instruction, or on structured preparations, or on artifacts”. McCauley’s concept of maturational naturalness thus neatly avoids the terminal disorders associated with talk of genetic specification, but faces its own problems.

The first mark, as McCauley admits any cognitive scientists worth her salt will testify, characterizes all cognitively natural systems, maturational or otherwise. The second mark is equivocal; not only is it “typical” (in contrast to “universal”), but McCauley is at pains to insist that not all maturationally natural systems mature early. The third mark seems tantamount to EP’s adaptationist claims, which—as countless others have noted—is evidentially problematic, at least relative to G. C. William’s (1966) famous dictum, “The ground rule—or perhaps doctrine would be a better term—is that adaptation is a special and onerous concept that should be used only where it is really necessary”. The fourth mark is vague at best, and at worst a sneaky attempt to circumvent talk of genetic causation by denying the causal role of “culturally distinctive” factors. The most generous interpretation is perhaps that it is not learned. The problem here is, as Mamelí and Bateson (2006) have said, that “learning itself a theoretically controversial notion”;

concomitantly, what it is to not be learned is ambiguous, and perhaps hopelessly so. Attempts to revive this notion have led to pessimistic results. Samuels (2002, 2004), for example, attempts to reconstruct a notion of “psychological primitiveness”, but really just ends up with a concept that “delimits the scope of psychological explanation” (2004, 139): psychologically primitive structures are “acquired in the minimal sense, [but] it is not at the cognitive/psychological level(s) of explanation—but at some lower (biological) level—that an account of how they are acquired is to be found” (139; emphasis in original). Fair enough. Perhaps all McCauley is claiming, in this fourth mark of maturational naturalness, is that psychologists *qua* psychologist do not know how maturationally natural systems are made; it is, however, difficult to get very excited about a plea of ignorance.

These empirical and conceptual challenges render EP an increasingly implausible option as a paradigm for thinking about the evolution of human behaviour. In the late 80s and early 90s, there seemed to be very few other options, but things have dramatically changed in the last 20 years. Indeed, the so-called Standard Social Science Model (SSSM; Pinker 2003; Tooby & Cosmides 1992), according to which domain general learning mechanisms and cultural transmission are able to bear much of the explanatory brunt without positing highly-specialized evolved mental tools has found latter day defenders who emphasize the flexibility of human learning and the role of (over-)imitation in efficient cultural transmission (e.g., Levy 2004; Levy 2011; Sterelny 2012). Perhaps more importantly still, as recent surveys of the field have demonstrated, the notion that the only alternative to EP is SSSM is simply an argument from a false dilemma (Fuentes 2009; Laland & Brown 2011). Gene-culture co-evolutionary (e.g., Richerson, Boyd & Henrich 2010), niche construction (e.g., Kendal, Tehrani, & Odling-Smee 2011), developmental systems (e.g., Gottlieb 2007), and other related approaches to evolutionary perspective on human behaviour have developed considerably in recent years, and have been fruitfully applied to tackling research problems, thus dispelling the myth that such approaches are unmanageably holistic. Far from suggesting that biology and psychology are irrelevant for understanding human behavior or denying the existent of pancultural or human universal traits, these approaches simply posit *different*—and arguably more plausible, if also more complex—ways in which natural selection,

learning, and cultural transmission interact to produce the cross-cultural similarities and differences we observe.

But what might these approaches entail for the notion of human nature? Philosophers like Jesse Prinz (2012) have recently argued that the rejection of the nature-nurture⁷ distinction (or, at least, the refusal to privilege one aspect over another) entailed by these latter approaches should lead us to abandon at least the quest for *innate* human nature as redundant and/or scientifically useless:

Every cultural trait is really a biocultural trait – every trait we acquire through learning involves an interaction between biology and the environment. Thus, we cannot simply jettison biology when studying human beings. But it is crucial that we do not study the biological basis of human behaviour in lieu of culture. Rather, we should understand our biological endowment as a set of mechanisms that allow us to change with experience. In this picture, there is no sharp contrast between nature and nurture. ... This means that we must give up on approaches to social science that try to articulate how humans act or think by nature. Nature alone determines no pattern of behaviour. Rather, the investigation of our natural constitution should be directed at explaining human plasticity. (Prinz 2012, 367-368)

As the end of the quote makes clear, the quest for *universal* human nature may also be problematic, except in a fairly minimalist sense. Turning the rhetoric of human nature on its head to make this point, Neil Levy (2011) writes that, “[Human] nature...is to be *deeply* cultural”. Putting in centrestage the potency of our domain general learning mechanisms including the efficiency of imitative learning that enables high fidelity cultural transmission, this view emphasizes the *adaptability* of human beings to radically diverse contexts rather than modular adaptations stuck in the African Pleistocene. Furthermore, an additional insight from the niche construction literature is that the particularities of these diverse contexts may themselves be shaped by human behaviour.

⁷That is, the distinction between innate and acquired characteristics and/or genetic and environmental information.

Taken together, this argues for a *cultural ecosystems* approach to the study of human cognition and behaviour that is sensitive to the contexts in which individuals and groups exist (see, for example, Wilson 2011). This clearly departs from the EP assumption of an innate and universal monomorphic mind fixed two million years ago.

Christian Pessimism Regarding Human Nature

So much for science; now, theology. Theological anthropology has gone through a series of fundamental shifts in the 20th century, and as a consequence, is rather fragmented and pluralistic at the beginning of the 21st century. In this section, we will briefly look at some recent attempts to conceptualize human nature from a Christian theistic perspective.

Traditional Christian views tend to affirm the existence of some capacities and powers that are present in some way in all and only all human beings; that is, the traditional Christian quest for human nature is the quest for a universal and unique human nature. Theological anthropology is somewhat less interested in questions of innateness, though claims to innateness are by no means foreign in theological discourse. In more recent theology, however, it has become almost taboo to affirm human uniqueness, or even the notion that there are any universal human characteristics (see, e.g., Shults 2003; van Huyssteen 2006). Reticence on the first point seems parasitic on previously mentioned Darwinian worries about human uniqueness: our continuity with the rest of the biological world is so affirmed that any whiff of qualitative (or even sufficiently large quantitative) difference is ruled out. On the second point, moral concerns arise: Christian theologians are unwilling to assert that certain human beings—those with cognitive deficits of various kinds, for example—are lacking in human nature.

The moral concern is admittedly difficult to diffuse, though a clarification may help assuage Christian theologians' consciences. To assert that some capacity is universally human is not to say that every individual human being will actualize the capacity. We might, for example, choose not to exercise and fulfill some capacities that we nevertheless possess. Otherwise, our effort to fulfill some capacities might be thwarted

in some way; we might, that is to say, we incapacitated, which is not to say that we lack the capacity in the first place.

The worry over human uniqueness among Christian theologians seems to be predicated upon the biological definition of “human being” as *Homo sapiens* as discussed above. Because we evolved from other animals species, the reasoning seems to go, differences between us and other animals must be a matter of degree, and not of kind; further, as evolution proceeds gradually, the degree to which we differ from our phylogenetic ancestors, our primate kin, and other more distant relatives is often bound to be rather small. So, not only is human being defined in biological terms, but also even the locus of human uniqueness is defined in terms of biological and/or psychological characteristics. But why should this be so? Why, in the first place, should “human being” be defined biologically? And even if Christian theologians insist on relying on the deliverances of biology departments, why should they not follow EP in arbitrarily marking the boundaries of *Homo sapiens*? Furthermore, why should the human traits that make up our human nature be biological or psychological? Why should they not be soteriological or missiological or eschatological? Indeed, the denial of uniquely human characteristics is not, properly understood, a denial of human uniqueness tout court, but a denial of uniquely human scientifically tractable traits. This is quite a different matter.

Also having noticed the singularly “untheological” shape of current discourse on the matter, Alan Torrance (2012) has recently argued strongly against theological anthropology’s unequal yoking with naturalistic assumptions about human beings. The most central anthropological resource in the Christian evidence base is, or should be, the doctrine of the Incarnation: the person and life of Jesus Christ are, at the same time, the disclosure of God’s nature and love for humanity, and the disclosure of what human nature ultimately is. This, Torrance argues, renders the Christian view orthogonal the naturalistic one. He writes, in no uncertain terms:

an epistemic base characterized by Christian theism does not allow us to define ‘human nature’ with reference to a general (psychological, biological, or physiological) analysis of the human that brackets out our relationship to God

and his creative purposes. [...] to conceive of the human being outside of its relation to God is not a neutral option. It is to allow the focus of our analysis to be humanity in a dysfunctional state—a state that distorts its creative telos. (2012, 909)

Let us unpack this a little. First, according to Torrance, the Christian view affirms that human beings are more than products of evolution, and resists the attempt to flesh out the essential nature of humans in biological terms. If basic Christian affirmations about creation and Christology are true, then essential human nature cannot be identified by biology or any other science, for that matter. The reason Torrance provides for this epistemological pessimism is that human beings are not essentially as they happen to be now. More specifically, human beings in their current state are sinful, and dysfunctional; in contrast, human being as God intends—as God is creating and redeeming and sanctifying them to be in the eschaton—is, as Christ is, perfect. Several common misunderstandings should be pre-empted here. In Christian theology, creation, redemption, and sanctification are not three separate acts with separate products, but — at best—three aspects of the same act; therefore, there is no “human being”, Christianly-conceived, to be examined without the light of the saving work of Christ (see also Lash 1992). Immediately, we recognize another stark departure from Darwinian orthodoxy: the Christian view, as Torrance expounds it, is inherently teleological, whereas the naturalistic view is emphatically not.

Now, all this is fine if we assume that basic Christian doctrines are true. But why make this assumption? Torrance offers three arguments for why Christian theologians should start unashamedly from a Christian evidence base, rather than from the natural sciences. The three arguments basically converge toward the conclusion that any attempt to construct theological anthropology from scientific evidence is doomed to failure. The first argument is basically a “uniqueness of the gaps” argument. Through the centuries, theologians or philosophers have identified a certain biological or psychological feature that is supposed to make us unique: for Kant, it was our morality that made us special; for many 20th century theologians like Rahner and Pannenberg, it was our openness towards transcendence; finally, Thomas and the Thomists after him have identified the

uniqueness with reason and language use. But the problem here is that, according to Torrance, none of these capacities are uniquely human. Rather, powers and capacities for language, reason and morality, for instance, are already present, at least in some rudimentary form, in our closest non-human relatives. So, the quest for uniqueness is futile.

The second argument is the moral concern mentioned briefly above that is often presented against capacity-based definitions and the structural image of God. The worry is not merely that some individual human beings will come out looking somewhat less than human, but it is precisely those whom the Christian tradition insists that we should value and care for—children, the elderly, the disabled, injured or otherwise dysfunctional—who are demeaned. Besides being immoral, this view is, Torrance argues, un-Christian.

Torrance's third argument is an evolutionary one: on a Darwinian view, as we have already intimated, even if there are essential natures for species, they are not permanent, and are likely to change in the future. Species and their natures, insofar as they have natures, are not atemporal or fixed. Given enough evolutionary time, there is nothing stopping non-human animals developing the kinds of capacities and powers that we now have, nor is there anything stopping future human beings from losing the capacities and powers we now possess. In sum, Torrance ends up rejecting all attempts to ground the Christian view of human nature on any biologically or psychologically recognizable uniqueness thereby rejecting most candidates for essential human nature. There is essential human nature but we are not there yet: we see glimpses of that nature in Christ, and in the life of His Body, the Church, but it will ultimately be revealed only in the eschaton. The essential human nature is only knowable in retrospect, when we finally get to the point where God shapes us into true, properly functioning images of God (i.e., images of Christ). For now, we are becoming human, rather than complete human beings. Moreover, Torrance thinks that Christians should remain agnostic regarding the existence of a universal human nature or innate human nature in our current state of development. That is, we are, qua Christians, not in the business of those quests for human nature.

Torrance's position is a theologically attractive one, not least to theologians of the apophatic persuasion. However, it is unclear what remains of theological anthropology on this eschatological view, as epistemologically austere as it is. It is also unclear that the failure of a biologically informed theological anthropology should entail the viability of an orthogonally Christian one. Furthermore, the three arguments Torrance offers should not, by now, be unfamiliar to us. Several attempts have been made to address the worries so succinctly presented by Torrance – one such attempt is due to the theologian and philosopher Mikael Stenmark (2012).

Against Torrance, Stenmark wants to affirm the existence of something like universal and essential *Homo sapiens* nature. On his view,

it seems as if human beings do have a species nature. The properties of our species nature include, at least, being animals with a bipedal walk, an erect posture, and a large brain, who are able to produce fertile offspring only with other humans, and who are toolmakers capable of rational and moral thinking, linguistic and artistic expression. ... We do possess a transhistorical core of being. (2012, 6).

Now, Torrance's first argument against such a position was the "the uniqueness of the gaps" – which is by no means Torrance's own idea, but is invariably deployed in these discussions. As much as there is to be said for it, it seems not to be decisive. Our previous failures do not entail that failure is unavoidable; if it did, the entire scientific enterprise is in dire straits, seeing as all previous scientific theories have been found wanting. Furthermore, as Donald McKay (1979) pointed out decades ago, "a matter of degree" can also be a matter of qualitative import". McKay (1974) employs two analogies, the stronger of which involves a gas burner:

[S]uppose we feed gas to a burner, and mix air with it. If we mix too much air with the gas and hold a glowing splint over the burner, it will not light. Gradually increasing the proportion of gas to air—a continuous process—we will reach a point at which, suddenly, a flame appears—a qualitatively new phenomenon.

The point is well taken: the “continuous” does not rule out the “suddenly”, qualitative differences can supervene on quantitative ones. In a way, it is obviously if trivially true that human beings are able to do things that non-human animals cannot do: we, and not they, can prove mathematical theorems, fly to the moon, and speak Klingon. These abilities may be based on similar psychological mechanisms as the inferior abilities of our non-human relatives, but they are no less different and impressive for all that. Once we overcome the problem of defining “human being”—in biological terms or otherwise—the quest for qualitative differences between us and other categories of being does not seem impossible, even given Darwinism.

Torrance’s second argument was the “exceptionalist objection”. Stenmark sees the moral worry behind Torrance’s argument but does not think that such conclusions are inevitable. This is because, first of all, Stenmark argues that the *imago Dei* cannot consist of solely relational properties but must presuppose the existence of some capacities and powers that enable humans to enter into relationships. As to the more biological aspect of the objection, Stenmark maintains that essential human features could be understood as clusters of features that are more or less exhibited by various individuals. Human species-membership would not consist of sufficient and necessary conditions but of a family resemblance of various properties. As to those individuals that Torrance and others are worried about, Stenmark invokes the idea of unfulfilled capacities or thwarted capacities that are no less universal for being unfulfilled or thwarted.

Finally, there is Torrance’s third argument that closely resembles our earlier argument against human nature from the non-fixity of species. Here Stenmark holds a similar position as EP when he claims that innate natures need not be atemporal; it is enough that they are stable across time periods that matter from the point of view of human experience. If essential human features stay the same for, say, 10000 years, but not longer, it still seems plausible to talk about human nature being stable for that period of time. However, the non-fixity of species is not limited to the fact that what human beings are *like* change over time; it entails, as we have discussed above, skepticism

regarding the ability of the category *Homo sapiens* to fix referents adequately for our purposes. EP *qua* scientific enterprise might be able to dismiss this worry because theoretical terms in science simply function to delimit and delineate fields of enquiry, but theological terms may have to do more than this if they are to have, for example, soteriological or ethical import. Even if Torrance's expressed concerns may be addressed, Stenmark still faces the problem of identifying his referents when he talks about human beings as *Homo sapiens*. Do our *australopithecine* ancestors count (and are they saved)? Do our great, great, great grandchildren count (and do we have ethical obligations to them)?

Concluding Remarks

We have seen that the quest for human nature is not one quest, but many. Furthermore, the various scientific and theological approaches to innate, universal, and/or unique human natures face significant conceptual and empirical challenges, particularly if "human being" is treated as coterminous with "*Homo sapiens*". In response, some scientists have given up the hunt for psychological traits and mechanisms that count as "innate", "universal", or "unique", instead focusing their investigations onto the commonalities between humans and non-human animals, and the contextual and developmental flexibility of our bio-cultural endowments. On the theological side, there is increasing skepticism—represented here by Alan Torrance's (2012) recent article (but see also Clough 2011; Moritz 2011, 2012)—that theological anthropology should be predicated upon naturalistic (and chiefly biological) understandings of what it means to be human. While it was not the purpose of this article to settle—definitively or otherwise—these fraught debates, we certainly see the force of the empirical and conceptual challenges described here. Rather than naïvely accepting and assimilating the conclusions of (a subset of) scientists, we advocate a more critical engagement of philosophers of mind and systematic theologians with the human sciences, at least with regard to this topic.

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