

## What Is Natural About Human Nature?

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One important response to the question in my title is that, of course, everything about human nature is natural. Humans are part of nature and whatever they do is thereby natural. ‘Natural’ here is thought of in contrast to outside or above nature. God, immortal souls, angels, and so on, are the kinds of things I have in mind as lying outside of nature. And if, like myself, you are a naturalist in the very minimal sense of denying that there is anything outside of a nature (I prefer to call myself an anti-supernaturalist than a naturalist), then everything is natural. A fortiori so is human nature, whatever it may turn out to be.

This is perhaps a trivial sense of human nature, but it makes a non-trivial point. One of the deep problems in discussion of human nature is that this sense, in which only a supernaturalist could deny that human nature is part of nature, part of the natural world, is never far from the discussion. What is really at stake in discussions over human nature is now more often a quite different sense of ‘nature’, but this first sense is often available as a rhetorical device to convict one side in the more serious debate of anti-scientific, obscurantist or mystical views.

The more important sense of my question, of course, has to do with a contrast not with what is outside nature, but with what is cultural, or artificial; with what is produced by the distinctive capacities of human society. An immediate point about this contrast is that it suggests a kind of self-construction of *human* nature: human

nature in the trivial, indisputable, sense is, to some extent anyhow, something that humans create. This may or may not be correct; but the occasional suggestion that it is anti-scientific, mystical, etc., is entirely unfounded, based on no more than an elementary confusion of the two senses of 'natural' to which I have just alluded.

So much for now for the different things that may most generally be contrasted with the natural. What can we say more positively about human nature? An interest in the nature of a kind of thing is an interest in what, by virtue of being a thing of that kind, we can expect its properties or behaviour to be. Thus it is part of the nature of a human to have four limbs, two eyes, a heart, a liver, etc. These characteristics are not, however, of any special interest in the human case; it is not with regard to such physiological characteristics that humans are often thought to have a nature of a different kind from other biological organisms. Hence human nature is generally understood as referring to how humans behave. And we may even say that it is exactly with the question whether human behaviour should be understood in essentially the same way as that of any other organism that the controversial issues about human nature are involved. And here also, the accusation that to understand human behaviour differently from the behaviour of other organisms is to be anti-scientific, mystical, or dualistic reflects the confusion of the two senses of 'nature' mentioned a moment ago. Whether human behaviour or, that is, human nature, is different in kind from that of other animals is a matter of fact, not of logic.

There is another, perhaps less generally recognised, preliminary point that is essential to approaching this topic properly. It is common, when talking about the essence of a kind of thing, to imagine something timelessly characterised by a set of distinctive,

perhaps essential, properties. A traditional paradigm of a natural kind is gold—and it is perhaps no accident that gold is known for its permanence, its resistance to chemical change. But chemical substances generally have been thought of as existing in stable potentially eternal states, and as ceasing to exist when changed into some other substance by chemical processes. Biological substances are not like this. When Aristotle said that Man was a Rational Animal he was no doubt thinking of man as an adult human (and of course an adult male human, though that is a topic for a different paper). A human baby is not by any standard a rational animal, and nor even is a four-year old human. Rationality is perhaps an outcome of human development, and perhaps it is even a normatively desirable outcome, a *telos* of human development. The vital point is that a human is a process, a series of stages with different characteristic properties. The nature of a human baby is different from the nature of a teenaged boy. If there is something that counts as human nature, it can only be a sequence of more specific behaviours characteristic of particular stages in the human life cycle. Indeed, the human just is a sequence of such stages.

It is imaginable that the sequence of stages in the human life-cycle could have been a fully determinate matter, determined perhaps by the causal properties of the human genome. If this were the case, then the biological and environmental conditions necessary for human development would be merely enabling or triggering causes; only one life-cycle would be possible given the causal powers of the human genome. But we know that nothing like this is true for plants, non-human animals, or even bacteria. It is most certainly not true for humans. Different environmental conditions will produce different development and different sequences of life-stages. The general point is reflected in the concept of ‘norm of reaction’, promoted most forcibly

by Richard Lewontin (1974), which specifies the developmental response of an organism with a specified genotype to a range of environments, though it is likely that this concept is still too narrow to be very useful for the human case. At any rate, the point forces rethinking, if not rejection, of the whole issue of the nature of an organism, and certainly the nature of a human.

For some organisms it is possible to specify fairly precisely what is their normal environment, and hence fairly precisely what is their normal developmental trajectory. The extent to which this is so is not simply related to common intuitive conceptions of the simplicity or complexity of the organism. The koala bear, for instance, generally considered a higher animal, spends its life eating and sleeping in Eucalyptus trees, and that's about all it does or can do. That is its developmental environment. Many bacteria, on the other hand, are highly responsive to their environments and can engage in quite different chemical activities according to the context, especially of other interacting micro-organisms, in which they find themselves. In fact there is a natural tendency, of which the koala is a representative example, for complexity of organisation to generate ever more specialised and specific environmental requirements. However some complex multicellular animals (and plants) have evolved the capacity to respond with great flexibility to their environments, in part by developing differently according to the environment in which they are found, and in part by responding intelligently or adaptively to the immediately present environment. The first of these elements of flexibility is what is measured by norm of reaction. Humans have developed both these elements of flexibility to an exceptionally high degree, which is why the concept of norm of reaction is inadequate by itself to describe the relation of humans to their various environments.

So does this flexibility make the concept of human nature useless? Claims that it does have tended to elicit the reaction that the human is being treated as a tabula rasa (Pinker 2002), whereas in fact there are surely some constraints on the possible development and behaviour of the human organism. It would probably be difficult or impossible to bring up humans to adopt the kind of sociality found in the social insects, for instance. More relevantly, it seems that humans do not flourish as slaves, something that would be difficult to understand if they were entirely developmentally plastic. There is an important political as well as factual point in claiming that such social arrangements run counter to human nature and we should not abandon it without very careful consideration.

Let me now return to a point I mentioned earlier, that humans construct the environments in which human nature develops. Again, this should not be seen as unique to humans. The elaboration of the concept of niche construction has been one of the most significant developments in recent evolutionary biology (Odling-Smee et al.2003). Whereas evolutionary changes were for many years modelled in terms of a population adapting itself to a fixed external environment, it has become increasingly clear that in the most typical case the state of the environment is equally an effect of the activity of the organisms that inhabit and exploit it. Beavers, to take a familiar example, do not merely adapt themselves to living around lake-forming dams; they build the dams that form the lakes. More subtle, and a case that was of great interest to Charles Darwin (1882), are the activities of earthworms that create the soil conditions that best favour their own thriving and, happily, that of many other plants and animals that share their environment.

Here, however, we reach the point at which, without venturing into the worlds of immaterial souls or vital forces, humans nonetheless depart in a fundamental way from the rest of biological nature with which we are familiar; or, perhaps, it is where a difference of degree becomes a difference of kind. The extent to which humans construct the environment in which they develop and to which they are more or less successfully adapted greatly exceeds in several dimensions anything found in any other species. And this, to refer finally to the official topic of the symposium at which this paper was first presented, is where nature confronts technology. Three features most clearly distinguish the human technology that constructs the human environment (and for that matter the environment of every other organism on the planet) from other examples of niche construction in the biological world. These are diversity, intentionality and finally sheer complexity.

Once more it need not be insisted that any of these are totally novel phenomena in the human realm. Remarkable cultural diversity has recently been observed among the most intelligent social mammals, such as chimpanzees (Vogel 1999) or social whales. A discussion of intentionality would take us far beyond the philosophical reach of the present talk, so I will say only that I have no wish to quarrel with the widespread, if by no means universal, intuition that the activities of animals through which they modify their environments in ways that serve their own flourishing are properly described in many cases as intentional. And complexity is of its nature a matter of degree. Nonetheless taken together we have something that fundamentally distinguishes humans from the rest of the biological order.

To illustrate my present point, and explore its implications for human nature, let me focus for a moment on a very familiar but very recent bit of human technology, the mobile phone. Obviously this is an artefact intended for a particular purpose (originally, at least, communication with conspecifics at a distance; no doubt the possible uses are currently expanding). One should hesitate a moment before immediately assuming that it is clearly more complex or more focused on an adaptive end than anything non-human. A possible counterexample might be the termite mound, which is a remarkably clever structure for provision of space for and protection of core activities, thermo-regulation and probably much else. A minimal crucial difference, however, is that the phone is designed rather than evolved. Its development was able to take place in a few years rather than many millions of years. And its use is changing at a comparable rate as new functions are added: people younger than me use mobile phones for taking and transmitting pictures, capturing and playing music, and so on. Though purely biological evolution may be a lot faster than some twentieth century theorists supposed, this kind of rapid creation and horizontal transmission of new functions is surely beyond its reach.

But do these rapid changes in technology have any serious impact on human development? My feeling is that we are only tempted to ask this question if we are in the grip of a theoretical conviction that the answer must, contrary to appearances, be No. On the face of it it would be extraordinary if children growing up in constant interaction with cars, planes, televisions, phones, computers, and so on, all of which were rare or non-existent no more than a hundred years ago, were largely unchanged by this fact. Consider again the mobile phone. Again, I observe as one who did not grow up with this convenience. It seems clear to me that the nature of human

sociality has been significantly transformed. I observe that there is a large group of people whose mobile phones are seldom out of their hands and who are typically engaged in some kind of communication using it every few minutes. My experience of social space is largely of people in my spatial vicinity. Of course I am familiar with phone calls, letters, and recently emails, that continue social connections when these are spatially interrupted, but most of the time I am either on my own or engaged with those (physically) around me. My impression is that this is no longer at all the case for serious mobile phone users. Their circles of friends and acquaintances move around with them, though not in physical space, and are engaged with them in apparently almost continuous interaction. Interestingly, the interacting groups are, presumably, simultaneously distinct and overlapping.

The cultural disjuncture between the mobile phone and the pre-mobile phone generations is most obvious in the distaste caused to the latter by the phone use of the former in certain confined spaces, of which trains probably induce the strongest conflict. Pre-mobiles (let me call them) are often outraged by the loud and sometimes intimate conversations to which they are unwillingly exposed by the mobiles. People in whose company they are travelling should not, they feel, be engaged in loud conversations with people with whom they (the outraged) are not even acquainted. What they fail to understand, however, is that from the perspective of the mobiles they are almost literally not travelling in their company. *Their* companions are the usual friends and family who travel everywhere with them, connected by their mobile phones. Though they are, it is true, spatially contiguous with the other people in the train compartment, this is a far less salient form of association for the mobiles than for

the pre-mobiles, and the annoyance of the latter seems, to the former, unmotivated and disproportionate.

It is time to take stock of where we have been in the argument so far. Organisms in general, and humans in particular, to varying extents construct the environments to which the sequence of forms into which they develop are adapted. Or perhaps better, the life cycles of organisms in the process of continuing their own and reproducing further such life cycles, also construct an environment to which those life cycles are suited. This is a common biological property that humans have taken to a much greater degree than other organisms. Just as the nose is not unique to the elephant, but that animal has taken it further, so it is with humans and the construction of environments.

It would be an exaggeration at best, and one closely parallel to the point of view I shall criticise in a moment, to suggest that technology was generally a Darwinian enabling device. As theorists even of cultural evolution have long argued, cultural processes such as the development of technology have their own momentum substantially independent of the forces of natural selection acting on their implementers. There is no reason to think that mobile phones increase the reproductive success of their users, or mobile phone using societies outreproduce less telecommunicative competitors. But this in no way contradicts my earlier point, that mobile phones may very well channel the development of their users in novel directions towards novel forms of behaviour and different experiences of the world. This, then, is an example of how changes in human development can come about through processes quite distinct from the natural selection theorised by traditional

evolutionists. Not a surprise to many, perhaps, but contradicting some influential views of contemporary sociobiologists and evolutionary psychologists.

We should also review the question whether such technological enhancements really count as part of human nature. Not every quirk of human behaviour is part of human nature, certainly. The detail may be open to debate, but not the principle. Mobile phones maybe on the boundary of human nature for some parts of the human species, but wearing clothes and living in houses have surely crossed that boundary. These are as much a part of human nature now as building dams is part of the nature of beavers or webs the nature of spiders. In these latter non-human cases there is variation in the extent to which the behaviours in question are “genetic”, which is to say, roughly, produced largely independently of any directly relevant environmental variables<sup>1</sup>, or learned, which is to say requiring quite specific and variable external inputs to be exhibited. In the human case, there is no such debate. Whatever behaviours there may be ‘genes for’, using mobile phones is not among them; and nor, almost certainly, is wearing clothes. There is no reason why behaviours acquired to some degree through environmental input by all or most of the members of a species should not become part of that species nature, and human technology is an extraordinarily powerful generator of new behaviours. Technology, I propose, is a process by which human nature undergoes rapid evolution of a kind that has little or nothing to do with DNA. Not the only such process—culture much more generally is

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<sup>1</sup> I should emphasise here the word ‘variable’. All phenotypic traits require inputs from the environment for their development. Many of these require inputs that the environment reliably provides and these are often thought of as genetically caused. These statements are exceedingly rough and would require much more work to explain with any rigour. For a thorough critique of the innate/acquired distinction, towards which I am roughly gesturing, see Griffiths (2002). If the distinction is unsustainable, however, this should strengthen rather than damage my argument.

such a process—but perhaps nonetheless one that has accelerated the rate of change of human nature to a new level.

But there is a more serious problem in including these kinds of changes within the concept of human nature. This is that human nature is liable to become massively fragmented. The mobiles and non-mobiles just discussed appear to have different natures. Humans in the West will have different natures from humans in rural New Guinea. Perhaps humans in Britain will have different natures from humans in France or Germany. There are compelling concerns about this, both theoretical and practical. Theoretically, a central point of the concept of a nature is to distinguishing the nature of a thing of a certain kind from whatever else might happen to be true of a particular instance of the kind. But as the nature starts to fragment in the way I have just described, this distinction also seems to evaporate in ways that threaten to undermine any point in identifying the nature in the first place. Practically, the idea of human nature is often put to vital political use by insisting on its unity. Many of the worst outrages in the history of human conflict and oppression have been justified by claims that oppressed or enemy groups had a fundamentally different nature. One should be cautious in staking out a philosophical position that lends support to such arguments.

I shall not, however, attempt to address the practical issue in any detail here. It does seem to me, as a matter of fact, that rigid and deterministic views of human nature have been used more often to oppress than to emancipate. Those who which to oppress or discriminate against other groups of humans are anyhow not, I fear, likely to be moved one way or the other by philosophical or scientific arguments. Denying the cultural diversity of humans seems too self-evidently implausible to have any

point, and that diversity will no doubt provide a sufficient rationalisation for the advocate of oppression and discrimination. The argument that progressive change is a waste of time because the human essence is immutable seems to me one more seriously worth addressing, and its exposition of the weakness of such positions will at least provide one possible practical benefit of the interpretation of human nature that I advocate here.

The response to the theoretical point must, once again, be to take seriously the question whether we would not do better to abandon the concept of a human nature altogether. I have no strong commitment on this. However, I think it can be made clear enough what is at stake. One good way of approaching the issue is through the recognition that whereas we often think of life in terms of a hierarchy of objects—molecules, cells, organisms, etc.—we know very well that what we are really dealing with is a hierarchy of processes. A species, what defines the kind to which an organism belongs, is an evolving entity. The species of which an organism is a member at a particular time, is a time slice through a changing process the elements of which were quite different in the past from how they are now, and which will be quite different again in the future. The organisms which are these species members are themselves temporal parts of sequences of developmental stages that also stretch into a past in which the elements of the sequence were very different. If they are very lucky, they too may stretch into a similarly different future.

Now, it is clear enough what is meant for elements of a hierarchy of stable *things* to have a nature: in the ancient tradition of specifying the essence of a kind of thing, the nature determines what a thing is. There is of course much more to be said here about

different conceptions of essence, and a fundamental divide between real and nominal essences, and so on. But independent of all this, an essence is something without which a thing would not be the kind of thing it is and, on most accounts, would no longer exist. No such essence, or nature, seems appropriately attributed to an organism, once this is recognised as a *process*. If, for example, it were part of the nature of a human to be rational, then humanness would keep appearing and disappearing in the sequence of life cycles that constitute human life. Foetuses are not rational, and many humans lose rationality as they reach advanced age. It would be absurd to suggest that humanness comes and goes in this way. The example may seem an extreme one, but I hypothesise that similar problems will arise with any attempt to offer a substantive and interesting characterisation of human nature. Even if interesting characterisations of human nature can persist throughout the human developmental cycle, it seems implausible that they can survive all possible evolutionary changes that we would view as consistent with the survival of the human species.

It seems that I have concluded that human nature cannot exist after all. I prefer to say that it can exist only if we reconsider what a nature is. But since the problems that arise apply quite generally across the biological world, there is much to be said for such a reconsideration. And in fact the way to do this to take account of life cycles is fairly obvious. One need only say that part of human nature is to be rational-when-adult or helpless and milk-drinking when new-born, and so on, to avoid the problem. In fact a similar relativisation is also already required to take care of the issue of sex: it is part of human nature, for example, to be facially hairy when male and past puberty, or lactating when female with infant children. No doubt the obviousness of

this kind of modification has distracted attention from any general worries about the treatment of a process as an object.

However evolution presents more difficult problems. (Here, by the way, I use “evolution” in a way that is entirely noncommittal on questions about process or rate.)

One difference between the cases is that whereas the intuition is quite clear that a human is a human throughout the life-cycle, it is far from clear that the human species is a species of humans throughout its history. In fact it is widely agreed that most of our ancestors were certainly not human. So when did the first humans appear? Some biologists do have an answer to this, specifically the cladistic school of taxonomy that sees species beginning and ending with events of lineage division. Unfortunately, on this view it is likely that the first humans were indistinguishable from the first chimpanzees, and creatures that we would definitely classify as apes rather than humans. The general problem is that any attempt to specify precisely what constitutes human nature will generate some quite arbitrary historical moment at which a particular lineage became the human lineage. Even worse, it will appear that at some transitional stage some organisms in the lineage will be human and others will not.

Could we solve the problem just as we solved the problem about life-cycles, by defining human nature only at a time? It seems, in fact, given the problems just explained, that this is the only possibility. Features of organisms that are not subject to evolutionary change only achieve this stability by being so deeply engrained in the functioning of the lineage that they are certain to be shared by the members of other lineages. It is no doubt harmless to say that it is part of human nature to possess a

backbone, but it is not very illuminating. It is perhaps much more important, because occasionally it seems to be forgotten, that we are social animals, but even this does not distinguish us from any, or almost any, of our primate relatives. As we start to specify the form this sociality takes, we move to facets of human life and behaviour that not only are subject to evolutionary change, but are evidently mutable over historical time, and even variable among different local populations. To take an area of behaviour that is generally agreed by evolutionists to be of enormous selective importance, such differences are empirically evident in patterns of sexual behaviour. There are very large differences among living and historical human populations in features such as degree of promiscuity, extent of polygyny or, occasionally, polyandry, prevalence and social status or function of homosexuality, and so on. If features of these kinds are the kinds of things that we would want to attribute to human nature, this variability will provide a fatal obstacle.

There are, of course, many other features of many that might be considered as central to human nature, and I cannot aim to discuss all of them. However, for now I shall tentatively suggest that we should indeed give up the concept of human nature in the traditional sense of telling us what is essential, fundamental, most important, etc., about humans (and indeed we should give up comparable concepts for other organisms). Rather we should develop a rich, empirical natural history of the human. And we should notice that there are major gains as well as losses from this acceptance. While human natural history tells us how humans (typically) develop in contemporary circumstances, seeing this as mutable creates the possibility of changing those circumstances and, hence, the typical human development. This is not, as critics of the blank slate like to suggest, to present such change as trivially easy

to achieve, merely as possible. It is not trivial because the conditions of human development are an almost unimaginably complex mixture of internal and external factors, and one that is sufficiently integrated and robust that it does quite regularly produce a viable developmental outcome. Not every arbitrary alteration of this developmental matrix will be effective, nor will it always have the effect intended. Nevertheless, the possibilities of such alteration are something about which a rich body of empirical evidence has been accumulated, and we certainly do not need to accept the conservative pessimism of believers either in immutable human nature or wholly inscrutable human developmental processes.

The realisation of the role of technology in human evolution provides a new and fascinating twist to our understanding of these possibilities. As I have indicated, I think that human technology has fundamentally altered human evolution. Consider, for instance, a function which is an essential part of the characterisation of any animal, its mobility. Prior to technology humans were fairly slow animals. But bicycles, cars, skateboards, jet aircraft, trains, the construction of roads, and so on have entirely transformed this capacity so that, in the right circumstances humans have far greater mobility than any other animal. They also have extremely diverse mobility. Some people in poor countries have little more mobility than their pre-technological ancestors. But most have some more, and some have much more.

While no one doubts the increase in capacity, many I suspect will find it strange to call this evolution. But why? Presumably because technology is seen somehow as not part of nature, and nature is the realm in which evolution operates. Once again we should recall that we have no such qualms with other creatures. Beavers evolved their

dam-building tendencies, and with it acquired all kinds of capacities that enabled a particular way of life. Termites would be sorry creatures without their mounds, or bees without their hives. But somehow we are strongly tempted to think quite differently about human technology. I want to say that this is just a relic of dualism: human culture and technology is a perfectly natural phenomenon that evolved like any other aspect of the biological. This is not to say that it is not unique in many ways, and ways that we should also be comfortable with exploring.

There is a school of thought that will be particularly hostile to the suggestions I have been making, and with which many here will no doubt be familiar. I refer to evolutionary psychology<sup>2</sup>. Evolutionary psychologists argue that humans are adapted by evolution to the world of the Pleistocene, or late Stone Age. This atavistic theory is necessitated by the argument that evolution, held to work by the selection of genes that build adaptive structures, is much too slow for humans to have adapted to the rapid changes that have taken place in recent human history. The termites, by contrast, evolved their mounds at the proper speed, coevolved with them, in fact, and are as much at home in them as fish in water. The curse of the human is to have created an alien environment for ourselves, one in which we can never be at home unless, perhaps, we make lonely pilgrimages to the African savannah.

This is a strange view. We are presently by far the most successful large animal on the planet (we've killed most of the others) and it is curious to hold that this is despite our profound maladaptation. But it is anyhow an indefensible view. There is much wrong with evolutionary psychology, and I and others have catalogued its

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<sup>2</sup> See Barkow et al., 1992. My critical evaluation of this school of thought is elaborated in Dupré 2001.

epistemological sins in the past. Here, however, it is enough to point to its failure to recognise the coevolution of organism and niche. The picture assumed by evolutionary psychology is of evolution from the inside (genetic selection) matching the organism to a fixed and determinate outside (the 'environment'). Genetic selection is seen as a very slow process, in which one adaptively advantageous mutation at a time must take a number of generations to spread through the population. If the environment changes too fast for this process to catch up, even if it is the organism itself that causes the changes, the organism becomes maladapted. But evolution is a more efficient process than this picture suggests. Organisms change their environments in ways that are adaptive, and in part they do this by developing, using both internal and external resources, in ways that leave them adapted to the environments they in part construct. Humans only do this more spectacularly than other organisms and with the growth of technology they probably do it much faster<sup>3</sup>. Evolutionary psychologists like to say that culture is no more than one more Darwinian enabling device. I'm inclined to agree, but also to add that it enables a rather different kind of Darwinism.

So where does all this leave human nature? The safe response is to insist that there is no such thing. It is not that humans have no natures at any time, as the much parodied blank slate view is taken to suggest. But since human nature is generally understood as something fixed, common to all humans past, present and to come, this misapprehension can best be avoided by denying that there is any such thing. I prefer, however, to take up the challenge of construing the search for human nature as the search for the best characterisation available of what humans are like. Humans, we

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<sup>3</sup> Faster, at any rate, than other multicellular organisms with long generation times. The techniques by which microbes construct and adapt to their environments are rather different, and are fascinating and important. But they must await another occasion.

have seen, are Protean and malleable. Not only individually, but as a species, they can quickly come to adapt themselves to rapidly changing circumstances. That humans can thrive in rainforest and deserts, tropics and tundra, is itself enough to indicate the versatility of the species. This is hardly unique, however. Rats and seagulls, for instance, are almost as good at adjusting to the range of terrestrial climates and geographies. But humans are unique in their capacity to create environments that not only permit them to survive, but permit them to thrive. And thriving here does not merely mean staying alive and producing offspring, but includes providing opportunities, often, for doing things that they do for enjoyment. No doubt, again, it is also the curse of the human species that as well as a unique capacity for satisfying desires they have a unique capacity for creating them: human desire is, perhaps literally, insatiable (Gagnier 200). But whether it is a blessing or a curse, it is a respect in which human existence is quite unlike that of other organisms.

I don't want to say whether the ability to create the environment of their adaptation is more or less fundamental in characterising human uniqueness than the other traditional attributes, such as language, rationality, culture, technology, and suchlike. Of course these are all related. Culture is perhaps just a name for the environment that humans construct for themselves, and technology a name for some of its most empowering aspects; language is certainly one of the necessary conditions for this construction, facilitating among other things the division of labour that makes possible complex social projects; and whatever rationality is, it is intended to name part of the intellectual capacity that makes all of this possible.

However, the focus on construction of, and rapid adaptation to, environments does have one particular virtue. It illuminates both the continuity of the distinctively human with the non-human—there is nothing unique about the construction of one's environment—and also the difference, since no other creature has comparable resources or abilities for changing the circumstances in which it develops and lives. Moreover, as I have also emphasised here, the capacity of humans to change the circumstances of their development has come to be a dominant force in human evolution, allowing evolution to occur at a rate unknown in other animals and even, to some degree, under the control of the evolving population. Though the human experiment may prove to be a brief one it is, at present, an astonishingly successful one. The evolutionary psychologists' contention that we are the maladapted possessors of an atavistic psychology, quite generally unsuited for the world we have created, is a ridiculous one. For all these reasons, I am inclined to see this feature of the human species as, if anything is, its defining characteristic, as human nature. We are, one might say, the Technological Animal.

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