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Commentary on John Dupré's *Human Nature and the Limits of Science*

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Holding a mirror up to Dupré

Suppose we discovered that all the women in the Slobbovian culture exhibit a strong preference for blue-handled knives and red-handled forks. They would rather starve than eat with utensils of the wrong color. We'd be rightly puzzled, and eager to find an explanation. 'Well," these women tell us, "blue-handled knives are snazzier, you know. And just look at them: these red-handled forks are, well, just plain beautiful!" This should not satisfy us. *Why* do they say this? Their answers may make sense to them, and even to us, once we've managed to insert ourselves to some degree into their culture, but that is not the end of it. We want to know why there is a culture with such apparently arbitrary and unmotivated preferences. To us outsiders, the need for an answer stands out, even if the Slobbovians themselves think their answers are self-evident and quite satisfying. Similarly, we may think it is just obvious that laughter (as opposed to, say, scratching one's ear or belching) is the appropriate response to humor. Why are some female shapes sexy and others not? Isn't it obvious? Just look at them! But that is not the end of it. The universalities, regularities and trends in our responses to the world do indeed guarantee, trivially, that they are part of "human nature," but that still leaves the question of why. *Something* must pay for these extravagant features. What? To answer, we need to adopt an evolutionary point of view, which encourages us to look at all aspects of human nature from the sort of alien, Martian perspective that science thrives on.[1] This perspective, self-con-

1. This evolutionary perspective is not restricted to genes, of course; cultural change also requires, in the end, an evolutionary perspective. The imagined Slobbovians' preferences are no doubt culture-borne, not genetic, but we need to ask what it is about [some] cultures that supports such *apparently* unmotivated regularities. Compare the case of the puzzle about bright—and apparently ecologically arbitrary—color in many bird species. Runaway sexual selection provided the key to resolve the "paradox" and we should ask what features of cultures would support a similar fixation of preference among the Slobbovians.

sciously objective and bristling with hooks for attachment to the rest of science, is anathema to John Dupré. It reeks of "reductionism" and "scientism" and "economism" (about which more later). He wants to preserve and even privilege the traditional "explanations" of such features of human nature, not just as part of the story (which they surely are) but as a part that excuses us from hunting for deeper, unifying explanations of the same features. Wittgenstein famously said that explanation has to stop somewhere, and Dupré seems to want it to stop just before these curiously invasive evolutionary questions get posed.

> The fundamental error with the programmes that I have criticized in this book is the belief, explicit or implicit, that there is some fundamental perspective that will enable us to understand why people do what they do. It hardly needs insisting upon that it is important that humans evolved and have common ancestors with the other creatures we find around us. And nothing could be more important to us than the organization of society and of the labour of individuals in society in such as way as to provide us with a good deal of what we need and want; no doubt economics has something to tell us about such questions. These are important fragments of the picture that we, the uniquely self-reflective animals, have spent the last few millennia trying to put together. But they are fragments, and trying to make one or even a few such fragments stand for the whole presents us with a deformed image of ourselves. (p. 183)

Aside from the lip service paid in this passage, Dupré gives us no examples of evolutionary explanations that are "important fragments" of which he actually approves. If evolutionary thinking has any role at all to play in the understanding of human nature, it is left unexamined and unheralded in this book. *Human Nature and the Limits of Science* is an unrelenting attack on evolutionary psychologists and other thinkers, such as myself, who have defended taking an evolutionary perspective on human nature and human culture. The multiple commentaries of this journal invites a division of labor; I will concentrate on Dupré's reactions (and curious non-reactions) to my work and leave others the task of commenting on the rest of his criticisms and proposals. I found few if any serious arguments in this book. Instead I found a veritable museum of rhetorical ploys, so the first part of my commentary will be a catalogue of these specimens. In each case I will provide one or two examples.

I

1. *Refutation by ill-defined epithet.* Consider the following unenlightening footnote: "In parallel with my use of the term 'scientism' for the view that everything can and should be understood in terms of science (generally quite narrowly conceived), I use the term 'economism' to refer to the application of economic thought beyond its original home in the theory of the production and distribution of commodities."(p. 50n) One might suppose, given this minimalist account of economism, that Darwin's importation of Malthusian

ideas into biology would be a prime example of this fallacy. Shame on Darwin? Hardly. I am inspired by Dupré's example to offer a parallel definition of my own: *feministism*, the application of feminist thought beyond its original home. Dupré commits many sins of feministism. Ah, but are they sins? That's what needs to be established, not presupposed. Note that his definition of scientism is also ill-defined. It yields a fallacy so extreme that probably nobody has ever espoused it. Does anybody think that *everything* can and should be understood in terms of science? A more measured definition would draw attention to the fact that the brandisher of such an epithet is obliged to establish, on a case-by-case basis, that the particular application is a mis-application, not a valuable extension, of scientific thinking, or economic thinking, or feminist thinking. Lacking such a demonstration, the use of such terms is mere name-calling. All we can tell from this book is that scientism is any extension of scientific thought that Dupré doesn't like. He speaks of the "complaint that reductionist scientism fails to take proper account of the cultural determinants of human behaviour" (p. 37) and says it has "real philosophical purchase," but he shirks the task of demonstrating this. He does not say what the proper limits of scientific thinking are, and the only common feature I can detect in the examples he gives of scientism is that they are instances of scientific thinking. Some of them are examples of bad scientific thinking, but then what is wrong with them is that they are bad science, not science where science doesn't belong.

2. *Caricature (three species)*

2a. *Simple:* "Dennett treats [the Library of Mendel, in Dennett, 1995] as if it were a representation of every possible organism. But it is nothing of the kind..."(p. 28) Well, the Library of Mendel does represent every possible organism, in the sense that every possible organism has a genome, which is uniquely represented therein. That is undeniable. But Dupré is falsely suggesting that I claim that there is a one-to-one mapping of genomes to organisms; he mentions the possible fates of identical twins, with different phenotypes but a shared genome, as if this were news to me or a serious objection to my view. It is not. After introducing the concept of the Library of Mendel, and defining it as the set of all possible genomes, I provide a section entitled "The Complex Relation between Genome and Organism," in which I go to some lengths to explain such matters. I have just reviewed every mention of the Library of Mendel in my book and find that none of them presupposes or implies a one-to-one mapping between possible organisms and possible genomes.

2b. *The Gould Two-Step*, a device I described in print some years ago, which was then named by Robert Trivers (personal correspondence), in honor of its inventor:

> In the first stage, you create the strawperson, and "refute" it (everybody knows that trick). Second (this is the stroke of genius), you yourself draw attention to the evidence that you have taken the first step—the evidence that your opponents don't in fact hold the view you have attributed to them—but interpret these citations as their grudging concessions to your attack! (Dennett, 1993, p. 43)

In Dupré's variation, you caricature the target, and then note as "uncharacteristic" the evidence that exposes your caricature. Thus: "In fact, Dawkins, sensitive to the variety of human mating practices, remarks uncharacteristically that these suggest 'that man's way of life is largely determined by culture rather than genes.'" (pp. 47-8) and "Buss seems happy, in this case, to provide an uncharacteristic cultural explanation of these anomalies." (p. 53) In other words, Dawkins and Buss, not being idiots, hold nuanced views that acknowledge the very points Dupré is making. Now is their acknowledgment mere lip service? Do they do justice to his points? Tackling their actual views, with all their caveats duly considered—that's the real work that still needs to be done.

2c. *Pin the simple tail on the donkey*. When subtle versions of a view are unobjectionable, concentrate on simplistic views and hammer them. For instance: "We can now see how massively simplistic is the assumption that genes build brains." (p. 29). But of course. It is his simplification, however. Dupré notes that three essays appeared in *Behavioral and Brain Sciences* about ten years ago, one showing that men are attracted to younger women and women are attracted to older men, one concerning rape as a sexual strategy, and one documenting the fact that women prefer men of high status. "Putting the three theses together presents a very simple politics of class and gender..." (p. 53). So it does, but may one not suspect that the authors of these three essays are as aware as he is of the complexities? They didn't put the three theses together; he did. In another instance, Dupré disparages "a kind of reductionism" (p. 72), but is it a good kind or a bad kind? There are both kinds, I have argued, and although he purports to criticize my distinction between good and greedy reductionism (p. 74), I could not discover there any objections in need of a reply. Indeed, I found more caricature and plenty of disparagement ('an intellectual disorder'), so I conclude that he mightily dislikes my views and hasn't yet figured out a way to discredit them. Under the circumstances, he does not get to dismiss something as a kind of reductionism any more than I get to rebut his view by calling it a kind of feminism. Some kinds of feminism are excellent.

3. *Rebuttal by eyebrow raising.* When evolutionary psychology or sociobiology casts doubt on some received truth of (some kinds of) feminism, Dupré simply raises his eyebrows in wonder. Is he challenging these findings? He doesn't say. For instance, he describes some findings of Buss as "more surprising" and "somewhat more peculiar," (p. 52) but does not deign to offer any evidence to show that Buss is wrong. "The presupposition that one could make judgments of this sort on the basis of a line-drawing already incorporates a view of sexual attraction on which it is perhaps politer not to dwell." (p. 55) Here he is sneering at Buss's research on men's preferences for hip-to-waist ratio. He is apparently unaware of the research on supernormal stimuli in many species, to cite the most obvious caveat. In another passage critical of the suggestion that a capacity to rape might have once been an adaptation for our ancestors, he says "it is not obvious how much insight into the occurrence of rape in a particular contemporary society all this provides." (p. 25) Well of course it is not obvious. That is why it is interesting. That is why it requires careful consideration, not just shudders of disbelief and clucking. Curiously enough, the distinction between rebutting and clucking seems not to have been grasped by feministicists such as Dupré. (Cf. "This is a transformation that Darwin brought about...and it is a transformation which, curiously enough, thinkers such as Dennett seem not to have grasped." (p. 79).)

A variation on eyebrow raising is the super-efficient "said to" move (e.g., p. 65) in which this study or that is "said to" have shown something or other that Dupré clearly doubts. He speaks, for instance, of "Derek Freeman's claim [*sic*] to have refuted the classic [*sic*] ethnography of Samoa by Margaret Mead" (p. 45) and this nicely nails his colors to mast: he sides with the anthropologists who continue to defend Mead's reputation while conceding that her findings were all wrong. Fair enough. Freeman went overboard with *ad hominem* attacks on the great lady, but one would never guess from Dupré's allusion that Freeman's refutation stands. As propaganda, this is effective for rallying the troops, but it doesn't even begin to be serious criticism. Yet another variation on this strategy is rebuttal by allusion. For instance, sociobiological claims about sexual behavior are said to have been "effectively dismantled" by Fausto-Sterling, who subjects them, we are told, to "trenchant criticism." I, for one, have not encountered any such refutations in the pages of Fausto-Sterling, but I suppose we each have our favorite authorities.

He counters claims by evolutionary psychologists about women's preferences for older men with such complacencies as "It is reported that typical members of contemporary Western societies watch several hours a day of television, and this points to an obvious way in which such clichés might affect people's assumptions about the normal and the natural." (p. 57).

Might. I suppose they might. Why doesn't he do the research and find out? In this instance as in others, he is oblivious to the double standard he adopts: cultural hypotheses like these are deemed worthy rebuttals—even without any data-gathering at all—to evolutionary alternatives. The fact that he is oblivious to this is itself one of the most interesting features of the book.

At another point (p. 64) he slyly suggests that evolutionary psychologists have not noticed the tautology that every mating involves both a male and a female, so there are exactly as many male copulations as female. This is supposed to cast doubt on various evolutionary theses about typical male promiscuity. "Given that there is an approximately equal number of heterosexual males and females, the average number of matings per male and female will also be the same." But what is his point? It could still be the case that, in general, females are not promiscuous maters and males are—by a wide margin.[2] I suspect that Dupré has himself overlooked the distinction between the mean and the median.

4. *Insinuation followed by "I do not deny"*. This occurs again and again. First you insinuate something awful, and then you largely retract it, leaving only the bad smell behind.

This is sometimes enhanced by an unkept promise to demonstrate "deep deficiencies" (p. 13) at some later point in the book. (See also, e.g., "a largely bankrupt approach," p.17.) A particularly egregious case in the opening chapter is his outraged critique of psychopharmacological treatment of Attention Deficit Disorder, followed near the end of the book with the disclaimer: "I do not suggest (nor consider myself qualified to suggest) that such responses are always or generally inappropriate." (p. 185). But that is just what he suggested and meant to suggest. I do not deny that Dupré has moments of lucidity and argument. I also do not deny that Dupré occasionally makes a sound criticism of an ill-considered claim by an evolutionary psychologist.

5. *Hooting at the crap*. Sturgeon's Law—promulgated by the science fiction author, Ted Sturgeon—says that 90% of everything is crap.[3] There are always

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2 Suppose 100 males and 100 females are paired, and there are a total of 500 matings. Each male mates with his mate, and has 4 extra-pair copulations. So all the males are four-fold promiscuous. Ninety-five of the females—the Penelopes—mate only with their mates, for a total of 95 copulations. The other 405 female copulations are handled by the five Sluts. Mean number of promiscuous female pairings: 4; median number: 0.

3 It seems that Sturgeon was slightly more decorous in his original formulation in a speech at the World Science Fiction Convention in Philadelphia, September, 1953:

> When people talk about the mystery novel, they mention *The Maltese Falcon* and *The Big Sleep*. When they talk about the western, they say there's *The Way West* and *Shane*. But when they talk about science fiction, they call it 'that Buck Rogers stuff,' and they say 'ninety percent of science fiction is

plenty of bad examples to hoot at; serious criticism begins with taking the best exemplars of a school and showing what is wrong with them. Dupré, however, tends to deplore the bad stuff and then mention the good stuff without really criticizing it, tarring it with guilt by association. In a particularly devious sidestep, he offers a note of apparently judicious appreciation while marginalizing (without argument) one of the central theoretical ideas of sociobiology: the disparity of investment between male and female: "it is fair to say that it is a story that has provided some insight into the variety of mating behaviour observed in nature." (p. 46). Indeed.

I am presumably an embarrassment to Dupré since I too criticize some of the oversimplifications of Tooby and Cosmides and others, and I am not alone. Evolutionary psychology, inconveniently for Dupré, is actually a robust and many-faceted school, containing some superb science, some mediocre science, and some bad science—just like every field. By the way, I don't mean by this acknowledgment to concede that Dupré's critique of the Thornhills' work on rape (pp. 89-92) is justified. The level of invective he employs in this vicious section might be appropriate if the charges made were supported by either sound argument or carefully gathered empirical evidence, but since neither are in sight, the effect is self-discrediting. For instance, he convicts the Thornhills of defending a thesis that could be used in bad arguments to support socially malign conditions: "I leave the reader to decide whether the man thus stereotyped may also have predictable racial characteristics." (p. 88) In other words, don't ever say anything that a stupid racist might be able to (mis-)use. And, to mirror a sentence of his own (p. 91), in the interests of politeness it will be best not to pursue explicitly the extent to which the political consequences of feministicism provide motivations for its practitioners to pursue it. Those feminists—and they may well be only a small minority—who continue to applaud politically correct hatchet jobs like this contribute mightily to the bad reputation that feminism has in many quarters.

If part I of my essay strikes the reader as an unhelpful, unanswerable, uncalled-for attack, I can only acknowledge that my model for all the details is Dupré's book. That is my point. This is no way to conduct serious philosophical disagreement. So much for deploring his rhetoric, then. What about substantive disagreements? Once again, I will concentrate on his disagreements with me, leaving the defense of his other targets to others, and firmly setting aside any insinuation that his treatment of others is as confused as his treatment of me.

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crud.' Well, they're right. Ninety percent of science fiction is crud. But then ninety percent of everything is crud, and it's the ten percent that isn't crud that is important. and the ten percent of science fiction that isn't crud is as good as or better than anything being written anywhere.

II

Dupré clearly finds my positions repugnant, but I find him again and again making claims that I myself have emphasized.. I will take part of the blame for not making my own positions clearer over the years, but it seems likely to me that his distaste for positions such as mine leaves him somewhat blind to their actual resources and powers. For instance he asserts early on that "there is not a shred of evidence for the completeness of physics" (p. 9), but it is far from clear what he means by this. The only elucidation I could find did not help: "Many, perhaps all, objects are subject to forces other than gravitation, and therefore do not behave in accordance with the law of gravitation." (p. 12). Since presumably "other than" means "in addition to" not "instead of," I am unable to see how this helps him. I don't know any scientists (*scientistists*?) who deny the existence of many levels of law and explanation. My own insistence over the years that the regularities observable from the design stance and intentional stance are unavailable from the perspective of the physical stance would seem to be a fairly robust denial of the evil reductionism Dupré imagines, but if it counts as agreeing with him about the 'incompleteness' of physics, I wonder what his problem with my position is. He avers that "meaning, that which gives a symbol the capacity to represent, is a normative concept." (p. 35), a point I have been at some pains to make, over and over, for more than thirty years. In championing culture over genes, he credits Sober, 1994, with the point, stressed by me since 1974, that rapidly changing environments are inimical to hard-wired behavioral responses (p. 38n). When he mounts an attack on my view about the relation of brains to minds, he does so by reminding us that 'humans, at least, have complex languages." (p. 33) As the notorious maintainer of the meme-based view of minds, the idea that with complex language, a whole new virtual architecture of consciousness is created, this presumably comes as no news to me.

But this is all just preamble to his closing chapter on freedom of the will, in which he tries to show that the "one-sided, reductive pictures of ourselves ...leave no room for human autonomy or freedom" (p. 183). This is, as he notes, "one of the most traditional objections" to materialistic or mechanistic views such as mine, so it is not as if we haven't given it considerable attention. I have felt the need to devote two books to the topic (1984, 2003), and while my more recent book postdates his own, he offers no discussion of my attempts in the earlier book to solve the very problems he brandishes in his closing chapter. (I will be curious to see what he makes of my more recent book, since it includes extended arguments against some of the claims advanced in his closing chapter, though I had not seen it at the time I wrote mine.) He acknowledges that compatibilist orthodoxy "holds that everything we have any right to want from freedom of the will can be had in a determi-

nistic world," (p. 158) but then he proceeds to develop his own position in blithe disregard of the compatibilist arguments that either obviate or resolve his own perplexities. Discussing the waving of his arm, he notes the importance of "Facts such as that my friend was leaving and that I thought it polite to wave to him and wanted to be polite," (p. 160) the facts discernible from the intentional stance, as I would say. He wonders if the compatibilist can possibly make sense of how these facts play a role alongside "microphysical antecedent conditions," and casting his eye swiftly over "putatively non-reductive physicalist doctrines," he opines that "there will be no determinable principles on the basis of which a physical causal process will give rise to the causal processes at the mental level, and the co-occurrence of processes at these levels will be something of a mystery." (p. 161). Only if you refuse to consider over thirty years of writing about just how the intentional stance, the design stance and the physical stance co-exist. Are the intentional stance facts causally inert? No, he decides at length. "I see no reason why these higher-level wholes should not have causal properties just as real as those of the lower-level wholes out of which they are constructed." (pp. 162-3). Neither do I. The indispensability of the intentional stance both for prediction and explanation has been my message all along, and the fact that the explanations are *causal* (and so much the worse for doctrines of causation such as Kim's that cannot countenance this) is the main message of my thought experiment, "Two Black Boxes," in Dennett, 1995.

He later tells us that "humans are fundamentally different from machines in that they have no controls. Self-control, in the sense of the absence of external controls, is of course nothing but the autonomy, or free will, that it was the goal of this chapter to illuminate." (p. 175) What about robots which have been given internal (self-)control systems (see, e.g., Dennett, 1984, ch3)? Dupré rejects the idea in a sentence: "Against this model, and as I have argued in more detail in earlier chapters, I propose that we should recognize that we are not designed at all, and consequently there is nothing we were designed to do in any situation." (p. 175). Oh. As simple as that. This might help explain his earlier attacks on evolutionary psychology and adaptationism; they excuse him from having to consider seriously the compatibilist perspective that has the resources to address autonomy and freedom as design features with an evolutionary history and rationale. With no such "reductionistic" alternatives to combat, the way is cleared for his claims about microdeterminism and "causal incompleteness." I confess that am unable to find a coherent interpretation of these ideas, despite a review of Dupré 1993, in which they are expounded in more detail. I confess I also found unpersuasive his proposal that we resurrect Chisholm's doctrine of agent causation, especially since it was not accompanied by any consideration of the wealth of objections which that bit of panicky metaphysics has gathered over the years.

What I mainly got from Dupré's book is an example of the dark side of the principle of charity: if your hostility to a world view prevents you from taking it seriously, you will be blind to your own blindness. And as my closing confessions in the previous paragraph should make clear, I do not view myself as immune to this disorder. I have tried, and failed, to make sense of a position that is presented as an antidote of sorts to my own world view. I shall bear in mind the possibility that I should simply have tried harder. But every cloud has a silver lining, and I can find some reassurance in his book: by inadvertently reinventing some of my arguments in favor of the ineliminability of the intentional stance, and self-control as the key to autonomy, his diatribes against simplistic versions of materialism show that there is at least one brand of "reductionist scientism"—mine—that feminists should take seriously.

Two final points:

"It may be, as Richard Dawkins speculates, that the eye developed over aeons of time from a patch of light-sensitive cells somewhere on the surface of the body." (p. 78). Does Dupré have an alternative to this 'speculation'? What he has not grasped in this instance is that reverse engineering is precisely what *cuts through* the imponderable and unknowable divagations of history. Reverse engineers don't have to know where or when some engineer figured out the function; and they certainly don't need to figure out who did it. That's the beauty of reverse engineering. It permits one to finesse the unknowable historical details. Dupré shows signs of not understanding this; he seems to think his remarks on historical unknowability cast doubt on the method of reverse engineering, when on the contrary, this very inaccessibility of the details of the history is what makes reverse engineering such a valuable perspective to adopt. This helps us see that Gould's frequent hymns to contingency really were mis-aimed at adaptationism. Dupré says: "These two importantly historical processes [human evolution and human development] are involved in the production of individual humans, and the contingency of these historical processes lies at the heart of the inadequacy of the kind of reductive science that evolutionary psychology exemplifies." (p. 80). This is just about backwards.

"We share common ancestors with all or most of the other organisms on the planet...." (p. 19). Does Dupré know something I don't know, or is this just reflex philosophical hypercaution? I daresay all or most plane triangles have interior angles summing to two right angles.

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