

## Book Review

### The Nature and Nurture of Morality

A review of *What Makes Us Moral? Crossing the Boundaries of Biology* by Neil Levy, Oneworld publications, 2004.

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*What makes us moral?* asks Neil Levy, a philosopher from the University of Melbourne, in a book sporting this title. In particular, Levy examines the roles played by nature and nurture in the origin of moral dispositions. Levy's answer to the question addressed in the book is foreshadowed in the subtitle—“*crossing the boundaries of biology*”—and stated clearly in the conclusion: “Evolution gave us the preconditions of morality, but it is only as a result of the cultural elaboration of this raw material that we come to be moral beings... We are animals, and we cannot ever free ourselves of our biological heritage. We have no need: it enables all the flexible, rational, and caring behavior that we could want, and allows us to seek to become ever more moral beings” (p. 205). Overall, we recommend this book. Levy is a gifted writer and a clear thinker. He has taken the trouble to study evolutionary theory, and gets it right most of the time. He offers clear analyses of the issues he discusses. He avoids logical fallacies and other conceptual traps found in other writing about evolution and morality, such as viewing humans as either naturally good or naturally bad, assuming that evolutionary theory is genetically deterministic, and attributing to evolutionary theorists the position that the environment does not play an important role in the determination of behavior. He deals with many interesting issues and provides a good history of the development of evolutionary thinking about moral dispositions. He offers a fair overview of criticisms of evolutionary theory, and a reasonable resolution of the controversies in the area. This book is not, however, without problems.

### An Overview of the Book

Levy's book contains five chapters. In the first chapter, Levy briefly summarises debates about the moral implications of Darwinism and political movements that have invoked it in support of their doctrines. He traces the history of Social Darwinism and eugenics, ending with a consideration of the implications of a new form of eugenics made possible by our ability to modify the genes that animals

inherit. Levy points out that Social Darwinism was based on a misinterpretation of evolutionary theory—in particular a misconception of fitness—and that evolutionary theorists have been as forceful as others in condemning Social Darwinism and eugenics. Levy considers the often-stated criticism that Social Darwinists committed the naturalistic fallacy by equating “good” and “highly evolved,” and concludes that although the naturalistic fallacy is not actually a logical fallacy, it is a mistake to assume that evolution entails progress. Levy makes the important point that because fitness refers to the fit between organisms and their environments, it is possible to alter organisms’ fitness by changing their environments. In addition, organisms, especially humans, may reshape their environments.

In the second chapter, Levy considers whether moral dispositions could evolve by way of various forms of natural selection and whether, as some evolutionary theorists have argued, all products of evolution are inherently selfish. Most of the material in this chapter contains common fare about the evolution of altruism (“suicidal” bees; warning calls; stotting gazelles; vampire bats; cleaner fish; Prisoner’s Dilemmas). Levy concludes that moral dispositions can evolve, and, more importantly, so also can the capacity to make moral judgments and behave in accordance with them: “Evolution provided us with a concept we can turn back against evolution. From the mindless and the mindlessly selfish rose beings capable of rationality and morality” (p. 88).

In the third chapter, entitled “The Stone Age mind” (a characterization that some evolutionary psychologists now reject), Levy briefly traces the history of evolutionary psychology. He accepts the general claim of evolutionary psychologists that the human mind contains evolved structures and he rejects “either-or” positions (either the mind is a blank slate or all our preferences and abilities are innate). He constructs the question in terms of degree: To what extent are our minds composed of mental modules that determine how we behave; how open and closed are these modules to modification by environmental input and nurture? Levy illustrates the claims of evolutionary psychologists by reviewing Cosmides and Tooby’s work on cheater detection, Buss’s work on mate selection, Daly and Wilson’s work on infanticide, Thornhill and Palmer’s work on rape, and Baron-Cohen’s work on sex differences in the brain.

In the fourth chapter, “A clean slate,” Levy offers a critique of the positions advanced by the evolutionary psychologists whose ideas he summarized in the previous chapter and asks the question “Does evolutionary psychology ignore the implications of the theories it promotes?” Levy clears up a misconception directed at evolutionary psychology by some of its opponents: that it advances a strong form of genetic determinism (the organism’s phenotype is *caused* by its genotype). Levy correctly attributes to evolutionary psychology the position that an organism’s phenotype “is the product of interaction between a given genotype and its environment” (p. 128). However, argues Levy, evolutionary psychologists ignore the political implications of their tenets and underestimate the role played by social and cultural factors in the determination of social behaviours. Levy accuses evolutionary

psychologists of advancing straw man characterizations of the SSSM (Standard Social Science Model) by interpreting it to mean that children are born as blank slates. He goes on to advance a set of arguments in support of the general contention that if you strip the straw from the SSSM, you will find that it is better equipped than the explanations offered by evolutionary psychologists to account for empirical findings pertaining to human sexuality and sex differences in cognitive abilities. Levy ends this chapter by demonstrating how the SSSM can account for universal norms “without invoking evolutionary considerations” (p. 162).

In the final chapter, Levy looks at some “genetic fallacies” of human nature, focusing on the heritability of intelligence and other abilities. Levy clarifies several common confusions about “genetic determinism” and estimates of heritability. For example, he points out that estimates of heritability are estimates of the extent to which genetic and environmental factors account for variations in traits, or individual differences, in particular environments. Heritability pertains to the extent to which *differences* between people co-vary with differences in the genes they have inherited and the environments in which they were raised or reside. Heritability estimates say nothing about the role genes play in the *development* of the traits whose differences are being assessed. All traits are caused by interactions between genes and environmental factors; it makes no more sense to say that one factor contributes more than the other than it does to say that a recipe contributes more to the constitution of a cake than the ingredients and the heat of the oven do.

### **Straw Man Temptations**

Most writers who have addressed the issues in Levy’s book fall into two camps: those who support evolutionary accounts of human behaviour and those who support social learning and cultural accounts. There is a pervasive tendency for members of both camps to misrepresent the positions adopted by the other camp, creating “either-or” dichotomies, calling one another names (often ending in “ism”), building straw men, then knocking them down (see Krebs, 2003). This tendency is so pervasive, we believe it might not be much of a stretch to view as a natural temptation akin to one of the Seven Deadly Sins—perhaps an offshoot of Pride. We confess to having fallen prey to it repeatedly over the years and recognize our susceptibility to it in this review. It is a dangerous bent that constitutes a serious obstacle to the growth of knowledge. To Levy’s credit, he recognizes the dangers of this tactic:

Though many people continue to be skeptical of the evolutionary sciences, this skepticism is usually the product of nothing more than superstition and obscurantism. In its general outlines, the theory of evolution is massively well confirmed... We must accept that we are a kind of ape. We must accept that we have evolved dispositions, emotions, bents and propensities, that our evolutionary history has shaped us, making us into a kind of animal with a characteristic set of

behaviors. (viii-ix)

This book is born almost as much out of frustration with the defenders of the importance of culture and the social to human nature as with the proponents of the cruder nativistic views. Just as nativists go wrong in denying the importance of history and culture, so the culturalists place themselves in an untenable position by asserting that human beings, at least insofar as they are rational and moral, are insulated from the forces of biology. Neither of these extreme views is true. Moreover, we need to move beyond the crude caricature and invective that has largely taken the place of reasoned argument on this ground. ...It is only if we give their [evolutionary psychologists'] arguments fair consideration, assess their hypotheses and advance rival, ideally testable, hypotheses for the phenomena they seek to explain, that we earn the right to be heard (xii-xiii).

### **Succumbing to Temptation**

The question then is: does Levy earn the right to be heard? Levy tips his theoretical orientation in the above quotation: "It is only if *we* give *their* arguments fair consideration...that *we* deserve the right to be heard [emphasis added]." And he shows his hand at several junctures in the book. As examples, "evolutionary psychologists miss the essential fact about human nature: that it is designed to be completed by human culture" (xiv); "at least in areas surrounding gender relations, something like the SSSM remains the *best* explanation [emphasis added] (p. 164).

Levy gets off to a bad start in the preface of his book. He invokes such terms as "Darwinian fundamentalists" with no references to the theorists this label encompasses (citing only the critic, Gould, who introduced it). He cites from the popular press sensationalized simplifications of the function of genes. And he makes such polarized statements as, "Do the sciences of genetics and evolution really imply that morality is bunk and free will is illusory?"...[Genetic determinists believe that] "We drink, we feel fear (or fail to), we put on weight, we are happy or sad in just the same way as we have red hair or brown eyes" (ix).

One of the shortcomings of the book stems from Levy's tendency to bunch theorists who share an interest in genetic or evolutionary determinants of behavior in the same group and to ignore the differences between them. As an example, Levy writes as though behavioral geneticists and evolutionary psychologists share the same theoretical orientation. Evolutionary psychologists do not focus on heritability estimates pertaining to the source of individual differences; they focus on evolved (i.e., inherited) species-specific dispositions that are activated in appropriate contexts. Levy does a disservice to both behavioral genetics and evolutionary psychology by blending their theoretical orientations. Evolutionary psychologists have little in common with writers such as Herrnstein and Murray, theoretically or politically.

(Ironically perhaps, Herrnstein was not trained in either evolutionary psychology or genetics; he was a Skinnerian learning theorist!)

Failing to distinguish among different theoretical orientations gives rise to misleading conclusions. As an example, blending behavioral genetics and evolutionary psychology leads Levy to attribute to evolutionary psychologists a commitment “to the hypothesis that human psychological traits are inherited and (at least in many versions of it) that they are therefore, practically speaking, unalterable” (p. 194). It might be fair to say that evolutionary psychologists are committed to the hypothesis that the traits they study are inherited, or at least that the traits have evolved, but evolutionary psychologists would not mean by this that the traits are highly heritable or that they are not affected by environmental variables. No evolutionary psychologist would argue that inherited traits are unalterable. Levy goes on to write that “heritability is always relevant to environment, so ... we cannot extrapolate estimates of it to further environments.” Although this is correct in the way Levy means it, it is irrelevant to the claim that traits are inherited, as Levy acknowledges. Evolutionary psychologists are well aware of the role that environmental factors may play in the activation of behaviours, not only in facultative ways, but in a host of other ways as well (see Crawford and Anderson, 1989; Krebs, 2003).

The challenge for all scholars motivated to explain human behaviour is to account for the ways in which genetic and environmental factors interact. Let’s make a rule: no more either-or, nature *versus* nurture, positions; everyone must attend to interactions. Levy recounts conflicts between those on the “nature” and those on the “nurture” side of theories of human behaviour, attributing to those on the nature side the position that it is difficult to alter traits in desirable ways, except maybe by employing draconian methods, and attributing to those on the nurture side the position that “we can alter society in ways we choose, and in doing so we inevitably alter ourselves.” But really, wouldn’t everyone agree that both these statements are valid in appropriate conditions? Doesn’t everyone know that it is difficult to alter some traits and easy to alter others? Doesn’t everyone know that we can alter societies, but not in any way we choose? Let’s resist the temptation to polarize positions and instead get on with the business of mapping the ways in which the genes we inherit interact with the environments we experience to determine human behaviour.

To be fair to Levy, he is much more vigilant than most critics of evolutionary psychology in avoiding nature *versus* nurture and genes *versus* environment misconceptions. Although Levy occasionally sidles up to the straw men advanced by others, he usually probes into the real issues and ferrets them out. He clearly earns the right to be heard.

### **Levy’s Conclusion**

Levy ends up concluding that although we inherit moral (and immoral)

dispositions, the plasticity of our minds, the ways in which they grow, and our capacity to learn and to create culture enable us to build upon and transcend these dispositions—thus “crossing the boundaries of biology”:

We are able to transform our minds by transforming the worlds with which we interact; our minds create the tools that create our minds (p. 203).

The ways in which we change ourselves and our environment, change ourselves *by* changing our environment, illustrate the extent to which our evolutionary past does not predict our future lives. We are evolved beings, moral animals, but we exhibit a degree of behavioural flexibility unknown elsewhere in the animal kingdom. Our biology constrains us, but these constraints are relatively few and broad. We can build our future, not *in spite of* our nature, but because of it: evolution has gifted us with the ability to create ever new, and ever changing, social worlds, to control our destinies and fight injustice. We are short-sighted, greedy, aggressive and xenophobic, but we are *also* rational and just, generous and hospitable. Which of our many, at once natural and social, conflicting dispositions shall have the last or most significant say is not laid down in our biology (xv).

Thus, Levy views morality as a product of the interaction between evolved dispositions and environmental/cultural factors. As we have indicated, we agree with Levy about this; indeed, we cannot understand how anyone could disagree. However, we question the validity of the conclusion that biological constraints are “few,” wondering even what it means. Everything we do and think is constrained by our biology; nothing is possible without it. What is needed in this field are more sophisticated models of the ways in which biological and social factors interact. We would have welcomed in this book more attention to the models advanced by such theorists as Boyd and Richerson, and we would have welcomed more elaboration of the model Levy derived, especially as applied to the evolution of moral norms.

### **Selfishness and Morality**

Levy accurately explicates current thinking on the tension between evolution and morality. How could a process that selects selfish genes produce unselfish organisms, and how could selfish organisms qualify as moral? However, uncharacteristically, Levy does not examine carefully the concepts in question. Levy defines morality as, “a system of *prescriptions* that are held to be *unconditionally* binding upon all rational agents” (p. 41), that are “intrinsicly *motivating*” (p. 43), that are “devoted, largely if not wholly, to concern for the welfare of other people” (p. 44), and that “systematize norms of justice and fairness.” Morality “must prescribe

equal treatment for everyone, unless there are relevant differences between them” (p. 44). It follows from this definition that “[morality] stands opposed to selfishness” (p. 44). But it does not follow that, as Levy claims, “We fall short of our concept of morality in so far as we act to benefit ourselves, directly or indirectly” (p. 44). One may uphold a norm of fairness by insisting that one receives his or her fair share.

Levy correctly asserts that “evolution is the result of a process that systematically favours selfishness” (p. 44). However, evolutionary theorists define selfishness in significantly different ways from people who make moral attributions. Evolutionary theorists define selfish behaviours as behaviours that enhance an organism’s fitness, or enable it to propagate its genes. Call this type of selfishness “genetic selfishness.” Ordinary people (and philosophers) define selfishness as pursuing one’s own interests (especially profit and pleasure) excessively, at the expense of others. Call this type of selfishness psychological selfishness. When people assume that unselfishness is necessary for morality, they are referring to psychological unselfishness. There is no necessary connection between psychological and genetic (or biological) forms of selfishness; psychologically selfish behaviours that people consider immoral, such as gluttony, greed, cheating, and rape, need not be genetically selfish. Those who seek to maximize their profit and pleasure at the expense of others may well fail to propagate their genes. On the other side of this coin, those who are willing to sacrifice their interests for the sake of others (such as their offspring) may well propagate more of their genes than those who are not. It follows that even if all organisms were genetically selfish (which is not necessarily the case, especially in current environments), this would not render them psychologically selfish or immoral.

### **Evolution and Ethics**

Levy criticizes the claim that because evolutionary psychology is concerned with facts—how people are by nature—it has no implications for how things ought to be. On our reading, Levy misses the point here and misrepresents the views of most evolutionary psychologists. The point made by scholars who argue that science cannot bridge the gap between is and ought is not that science does not have any implications for social policy, but rather that ultimate moral principles cannot be *derived* from scientific theories or facts. You cannot *derive* the moral principle that people should be treated equally from facts about whether they are equal, though you could suggest ways of making them more equal (if this is what your morality prescribed). Levy cites as an example of the connection between evolutionary theory and morality the hypothesis that sex differences in social power stem from sexual selection. Citing evolutionary psychologists, Levy correctly notes that the validity of this hypothesis does not imply that “particular women should be excluded from the professions,” but goes on to argue that, nonetheless, “a great deal of moral significance does follow.” (p. 136). In support of this assertion, he states that, “evolutionary psychologists typically insist...a marked bias is not itself unjust but is

to be expected from the differing motivations of men and women to succeed in the public sphere.” Pinker notwithstanding, if evolutionary psychologists did “typically” insist that a marked bias is not unjust (which they do not), they would not be speaking as evolutionary psychologists who derived this ought statement from their theory or research; they would be speaking as (perhaps poor) philosophers of ethics. There is nothing in evolutionary psychology equipped to lead one to the conclusion that biases are just or unjust, though there is lots in the science to help us understand why cognition is biased and why people develop conceptions of justice. In addition, evolutionary psychologists and other people could use evolutionary theory to derive recommendations about how to counteract biases, redress injustices, and set social policy. Indeed books have been devoted to these endeavors (see Crawford and Salmon, 2004).

In his discussion of evolutionary ethics, Levy states that, “if rape is an adaptation, that goal [of transforming society so women have as few restrictions on their movements and actions as men] is likely forever out of reach” (p. 137). The logic of this deduction escapes us. As Levy recognizes, Thornhill has argued that rape is a facultative adaptation evoked by particular environmental conditions. Even if Thornhill were right (Other evolutionary psychologists, including Thornhill’s co-author, disagree with Thornhill.), it would not lead to the implication that Levy derives. If you want to reduce rape, then either alter the mental mechanisms that give rise to it or remove the stimuli that activate the mechanisms. If you disagree with Thornhill that women should assume responsibility for removing the stimuli, then suggest other means of achieving the result. But whatever you do, do not ignore theories that could help you understand the determinants and functions of rape, even if they lead to the expectation that it will be difficult to extinguish, and do not assume that because a theorist concludes that dispositions to rape have evolved, he or she does not believe they can and should be controlled.

## **Conclusion**

We recommend this book highly to audiences unfamiliar with the issues surrounding evolutionary theory and morality, especially audiences who feel critical of evolutionary approaches to human behaviour. By and large, Levy does an excellent job of dissecting the issues, tearing down straw men, and arguing his points. He gets us on the right track, arguing about real issues, rather than hollow issues or issues stuffed with straw. Levy does better than most scholars in evaluating competing points of view in an objective manner. However, he is only human (by nature!), and at several junctures his (cultural) biases show through. In the end, Levy portrays humans in an optimistic way, capable of achieving almost anything by working with and overcoming evolved dispositions. Would that it were, but we fear it is not.



**References**

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