

The New Science of Morality: A Bibliographic Review

Jan Slaby

In 1975, sociobiologist Edward O. Wilson proclaimed that the “time has come for ethics to be removed temporarily from the hands of philosophers and biologized.”¹ A minority position back then, Wilson’s advice is heeded more and more these days. Judging from a wave of publications in the last ten or so years, morality and ethics have migrated from the philosopher’s armchair to the lab bench of neuroscientists, the playbook of experimental psychologists, and the field sites of primatologists. Likewise, while many scholars in the humanities sniffed disapprovingly at Wilson—an ant ecologist grown grandiose in their eyes—today humanists enthusiastically jump on the science bandwagon, eagerly offering their services for synthesizing the new science of morality, drawing out implications, and spreading the word to the larger public.

While the trend towards a science of morality is interesting in its own right, there is more to it than just an historical repetition of biological naturalism revolving around a universal and hard-wired human nature. We witness a change in style and direction between the 1970s’ biologist social reformers—mostly hard-nosed reductionists in the manner of their nineteenth-century forerunners Herbert Spencer and Thomas Huxley—and today’s new wave bio-humanists. These days, biology is no longer equated with a mean struggle for survival or inclusive fitness, and views of human nature are less bleak, as we hear less of individualist striving and more about emotion, cooperation, communication, social intelligence, empathy, and interpersonal resonance. Steep indeed is the rise to prominence of the “social brain”—the biological signature of a whole new conception of human nature: benevolent, pro-social, multiply connected.

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In the apt words of anthropologist Allan Young, we are witnessing a shift from *Human Nature 1.0* to *Human Nature 2.0*. What is going on here?

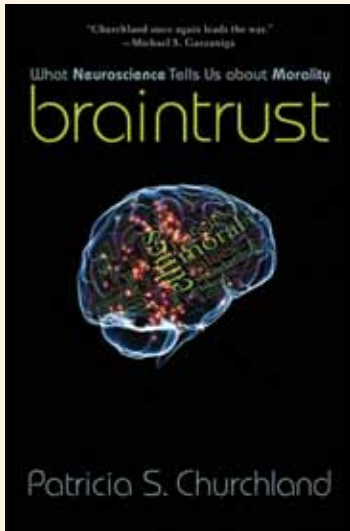
I start off by looking at work in the philosophical branch of the recent push towards empirical morality. Second, I review books in the areas of moral psychology, moral neuroscience, and primatology. Third, I give an overview of the growing number of critical voices responding to the current trend. The science of morality invites different lines of—at times quite harsh—critique. In a related development, a number of scholars have begun to chart the historical and societal context and various enabling factors of the science of morality movement.

Crossing the Is/Ought Boundary

A massive roadblock long seemed to lie in the way of a naturalistic, science-informed moral theory. The crucial argument is courtesy of David Hume, who famously disallowed conclusions about what ought to be done from premises stating what is the case—nothing normative follows from what is merely descriptive. If correct, this so-called naturalistic fallacy objection dooms attempts to ground moral claims on scientific facts. William D. Casebeer's *Natural Ethical Facts* is among the first in a wave of recent attempts to dismantle Hume's argument. According to the author, some *facts* of nature, potentially revealed by science, qualify as inherently *ethical*—they are facts that are simultaneously descriptive and normative so that, for these facts, “is” might imply “ought” after all. Casebeer draws on pragmatist ideas in order to disallow assumptions that Hume and his followers work with. Crucially, he presents an account, informed by evolutionary biology and cognitive science, of the kind of facts that putatively conjoin the descriptive and the normative: facts about biological proper functions. The upshot is that evolutionary theory—the best game in town when it comes to explaining human nature—offers us exactly the kind of facts that can play the role that naturalist ethicists need them to play. Evolution is the magic unifier of norms (survival, reproduction) with facts, as it is the principle according to which life on this planet *de facto* unfolds.

Jesse Prinz offers a different way of dealing with the naturalistic fallacy objection. Prinz is a frontline representative of a new style in philosophy—a style that richly exploits results and insights from empirical disciplines and sees philosophy in general to be continuous with the natural sciences. In *The Emotional Construction of Morals*, Prinz agrees with Hume that there is an important sense in which we cannot derive an “ought” from an “is.” But he also fundamentally agrees with Hume that moral properties have to be construed as originating from our passions. The right gloss on the is/ought divide, according to Prinz, is that we cannot construe an ought out of *dispassionate* descriptive facts. However, we can—and should—construe the normative ought out of facts pertaining to our sentiments. That we ought to do something is equivalent to our having a *prescriptive sentiment* in its favor.

Consider the way we are motivated by our indignation at parents severely punishing their toddler child—our indignation is partly constitutive of the disvalue (injustice): it reveals the current instance of that disvalue to us in the given situation, and at the



same time it motivates us to do something about it. Details aside, we have a way to get from is to ought, as long as the facts that make up the “is” are facts about human sentiments. Moral properties are the powers of objects to cause specific emotions in us; moral facts are in this way comparable to facts about colors (propensities of surfaces to cause certain visual experiences in us). Accordingly, Prinz holds that “moral judgments are self-justifying because the emotions we experience when we grasp those judgments are also responsible for making the judgments true: moral facts are consequences of our emotional reactions” (88).

One key further aspect of Prinz’s view is its strong rejection of an innate morality. In notable opposition to many scientific advocates of a nat-

uralized morality, Prinz follows Nietzsche in claiming that “morality is artificial all the way down” (246). This is because the sentiments that help constitute moral values, as well as the rules that are at work in inculcating them, vary considerably across cultures and times. A pluralist and relativist dimension thus comes in view, and the importance of cultural mediation of moral practices is highlighted.

While Prinz breathes some fresh air into naturalist philosophy, Patricia Churchland’s *Braintrust* lets us travel back to the strong biases and sterile science writing of the 1980s. While Prinz focuses mostly on an intricate philosophical defense of a new-style sentimentalism, Churchland’s major claim is that morality is rooted in social attachment mechanisms, notably in those that mediate maternal behavior (notice the never-reflected-on gendered bias). Churchland prides herself, along with her husband Paul, for practicing “philosophy” through close-knit interpretation of empirical work, particularly from the neurosciences (*Neurophilosophy*). After briefly re-appropriating Hume’s concerns about the is/ought divide by pointing to the naturalist conviction that Hume himself worked with, Churchland sets out to anchor values in facts about the homeostatic regulation of organisms in the service of survival and reproduction and to anchor morality in facts specifically about mechanisms of social attachment. As in most of the recent invocations of human nature, evolution on the one hand and brain organization on the other are the two fundamental explanatory resources—two magic solvents that leave nothing human untouched. Survival and reproduction figure as the ultimate natural values, proximately mediated by homeostatic processes in the organism, notably in the brain.

According to Churchland, the key step towards morality-enabling mechanisms is an expansion and reorganization of the neural structures that mediate maternal attachment. Especially the neurochemistry of attachment and bonding—with the new superstar substance oxytocin leading the way—brings structures in view from which, with much expansion and refinement, morality eventually originates. The mother animal

harbors the seat of morality, as a recent commentator tellingly puts it.² Thanks in part to oxytocin and other hormones, the female mammalian brain is “maternalized”—a process serving as the starting point from which more inclusive social attachment processes develop. As the ambit of homeostatic affectivity expands, mechanisms that are now summed up as belonging to the “social brain” are said to emerge—for example the capacity to affectively resonate with another person or to reliably recognize another’s intentions. With structures such as mirror neurons, higher mammals are effectively wired for social connection.

Problems abound here; the route from the rat mother’s cuddling her young to human morality remains shockingly sketchy. On the positive side, one might credit Churchland for her detailed charting of what is known about attachment mechanisms in mammals and how these processes might be reformatted in the direction of a more complex human sociality.

- Casebeer, William D. *Natural Ethical Facts: Evolution, Connectionism and Moral Cognition*. Cambridge, MA: MIT Press, 2003.
- Churchland, Patricia S. *Braintrust: What Neuroscience Tells Us about Morality*. Princeton: Princeton University Press, 2011.
- Prinz, Jesse J. *The Emotional Construction of Morals*. New York: Oxford University Press, 2007.

“Just the Facts”: Tales from the Moral Animal

It is hard to keep one’s cool reading through some of what our “most eminent scientists” write about morality. For example, in *The Ethical Brain*, Michael S. Gazzaniga declares that: “arguments that have raged for centuries about the nature of moral decisions and their sameness or difference are now quickly and distinctly resolved with modern brain imaging” (167). However, brain imaging techniques and experimental designs capable of getting at something as complex and multiply confounded as moral judgment are light years away from showing anything remotely conclusive about how moral decisions come about.³ Even restricting oneself to the technicalities of brain imaging such as fMRT suffices to reveal the tentative and provisory nature of the results so far achieved in the field of functional brain imaging. Gazzaniga’s *The Ethical Brain* is not written for an expert audience, but one wonders whether books like these deserve the label “science writing” at all.

In *Moral Minds*, Marc Hauser, a superstar evolutionary biologist who had to give up his Harvard professorship amidst allegations of scientific misconduct,⁴ argues that morality is based on a Chomsky-style innate module—that all humans share a universal moral instinct, a kind of innate moral grammar, which generates moral judgments in a quick, unconscious, and automatic way. Basic moral principles such as a sense of justice are thus innate and universal throughout humanity—shaped by evolution. While some of the ingredients of this idea are interesting—such as Hauser’s attempt to construct a universal grammar for actions analogous to Chomsky’s universal grammar

for language—the book suffers from a lack of empirical support. At no point does the author venture to reflect on the difficulty of empirically confirming a universal claim, let alone one at this level of complexity. What he does instead is present a confusing array of considerations—spanning barely related empirical studies from various fields alongside anecdotes and personal stories—that shift back and forth between distinct levels of analysis such as metaethics (how do we justify moral principles?) and material moral theory (under what conditions is abortion justified?).

For readers drawn towards the nativist (innate) and universalist side of the naturalized ethics spectrum, Jonathan Haidt is a better guide. Haidt is a leading researcher in moral psychology, and his *Social Intuitionist Model* (SIM) brings together several of the key ingredients that characterize the recent trend: Moral judgments originate from fast-acting bodily processes that for the most part circumvent conscious thought. Rationalism loses out—it is not by rational deliberation that we arrive at our moral judgments, instead “moral emotions and intuitions drive moral reasoning, just as surely as a dog wags its tail.”⁵ Drawing on experimental studies and on much converging work from the neurosciences and related fields, Haidt assumes deep evolutionary origins for our basic moral instincts and argues for their universality. Noteworthy is the breadth of scope of the assumed moral modules: Haidt postulates four additional basic moral concerns besides fairness/reciprocity: harm/care, ingroup loyalty, authority/respect, and purity/sanctity. This makes his approach more versatile and capable of bringing a larger number of phenomena under its scope.

Haidt has applied his model specifically to account for differences in moral orientation between liberal and conservative voters in the U.S. Many current theorists focus exclusively on the putative evolutionary roots of “nice Western liberal” values such as benevolence, empathy, and willingness to cooperate. Haidt makes the tableau more credible by adding some more conservative virtues to the mix (ingroup loyalty, deference to authority, etc.). On the flip side, and very much like Hauser, Haidt does not reflect on how hard it is to ground strong nativist claims persuasively on empirical evidence.

“Greed is out, empathy is in” is the programmatic opening line of Frans de Waal’s much noticed *The Age of Empathy*. In broad strokes, the acclaimed primatologist declares the beginning of a new era. With the first election of Barack Obama in 2008, the sights are set on ending for good the greedy individualism of the Reagan/Thatcher days and the economic madness that culminated in the global financial crisis. But the truly good news is courtesy of biology. Our society’s new benevolent, cooperative, empathetic style is backed by human nature. To say it with Lady Gaga: *we are born this way*.

With this happy tune, de Waal epitomizes a recent trend. Bleak views of human nature, long a staple in science-inspired attempts to interpret the *condition humaine*, give way to remarkably rosy pictures.⁶ De Waal’s strategy can be described as a modern continuation of Darwin. Other than his coarse-grained popularizer Thomas Huxley, Darwin himself was a firm believer in quite deeply rooted moral instincts in humans, growing out of capacities to care for those in one’s group and cooperate throughout the higher ranks of the animal kingdom. Accordingly, a key line of de Waal’s work is to search for altruistic, cooperative, and reconciliatory behavior in primates.

The other key strand is the so-called Russian Doll model of empathy. Fully fledged cognitive empathy in humans—usually conceptualized as forms of perspective taking—builds upon a number of allegedly “hard-wired” precursor mechanisms such as bodily resonance, emotional state matching, and pro-social behaviors such as soothing. Biologically basic forms of empathy are found in several species, notably in the great apes. The upshot: morality-enabling mechanisms are significantly more than just a thin veneer over an otherwise selfish and brutish core—they are a deep endowment of human nature. De Waal concludes: “I derive great optimism from empathy’s evolutionary antiquity. It makes it a robust trait that will develop in virtually every human being so that society can count on it and try to foster and grow it. It is a human universal” (*The Age of Empathy*, 2009). With de Waal and like-minded researchers, biology is aspiring to become a great hope of humankind, shunning its long-held role as the conveyor of bad news about human nature. While the positive spirit of de Waal’s writing might pull readers in, his account suffers massively from its enormous generality. Empathy is defined in such a broad way as to render it indeed ubiquitous, but some of the more specific connotations of the term are thereby lost. Likewise, while he acknowledges the high prevalence of aggression and violence among primates and the high number of so-called “psychopaths” (that is, individuals with a range of antisocial traits, crucially including a lack of empathy) in human societies, de Waal offers little argument for why he so firmly believes that the positive side of empathy and cooperation will win the day.



In general, looking at the proposals reviewed, what strikes one is how little factual grounding lies behind many of the strong value judgments authors routinely make. These writers seem to think their readers share a deeply naturalist, naively scientific worldview. Actual argument, descriptive detail, conceptual distinctions, and serious engagement with objections are not worth their pains. Mirror neurons, oxytocin, and some striking feats of cooperation observed in primates serve as sticking points for what in the end is little more than feel-good tales for those already convinced.

- Gazzaniga, Michael S. *The Ethical Brain: The Science of Our Moral Dilemmas*. New York: Harper-Perennial, 2006.
- Haidt, Jonathan. *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. New York: Pantheon, 2012.
- Hauser, Marc D. *Moral Minds. How Nature Designed Our Universal Sense of Right and Wrong*. London: Abacus, 2006.
- de Waal, Frans. *Primates and Philosophers: How Morality Evolved*. Princeton: Princeton University Press, 2006.

- ———. *The Age of Empathy: Nature's Lessons for a Kinder Society*. New York: Harmony, 2009.

Backlash: Genealogy, Contextualization, and Critique

Fortunately, a good number of thoughtful rejoinders have emerged in recent years; likewise, we see work that analyses, contextualizes, and historicizes the current trend.

Raymond Tallis might be the most outspoken among those offering critiques, especially with his recent *Aping Mankind*. With powerful labels such as “Darwinitis” and “Neuromania,” Tallis sums up the wave of exaggerated evolutionary just-so-stories and simplistic tales of neural localization.⁷ However, there is a lot that Tallis does not get. For example, when he calls his opponents the “enemies of hope”—advocates of a grim, beastly view of human nature—he seriously underappreciates the recent shift to the “social brain” and to stories of a benevolent, cooperative core of humanity. These are not enemies of hope, rather exactly the opposite: champions of a “biology of hope.” Likewise, Tallis’ focus on philosophical problems—such as the conceptual issues surrounding the attempted reduction of consciousness to neural activity—distracts him from the many structural, methodological, social, and political issues behind the current trend.

One thing that is called-for, but so far largely missing is a detailed reconstruction and comparative analysis of the empirical studies that inform the biological foundation of morality narratives. There is no book-length treatment of this kind so far, although some recent journal articles move in this direction.⁸ An impressive blueprint for such an in-depth encounter is Rebecca Jordan-Young’s *Brainstorm: The Flaws in the Science of Sex Differences*—a book engaging in minute detail with neuroscientific work on brain organization that points towards allegedly hard-wired sex differences. This theme is surely not irrelevant to our topic, especially in view of Churchland’s gendered concept of a chemically “maternalized” brain. I mention this book because much of what it discusses is equally an issue in the neuroscience of morality: the well-known brain-overclaim syndrome, and the mobilization of neuroscience in the service of dubious political agendas.

In recent years, a number of contextualizing and historicizing works have appeared. Sociologist Nicholas Rose has convincingly charted the emergence of a new style of thought in the West since roughly the 1960s: the neuromolecular gaze—packaged with a new framing of subjectivity as “neurochemical selfhood.” More recently, historian of science Fernando Vidal and philosopher Francisco Ortega—both unrelenting neuro-critics—have brought together authors reflecting more broadly on the expansion of neuroscientific thinking in various disciplines and domains of culture, from the classroom to the art gallery.

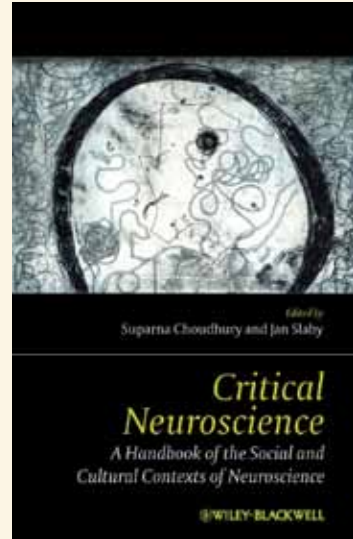
Closer to our theme, a recent volume by Frank Vander Valk contrasts the prospects and perils of a neuroscience-informed political theory, spanning work that engages with the new science of morality and with the various projects trying to derive normative conclusions from empirical insights. The volume squares off advocates of the

recent trend with its critics, making for a lively exchange of competing views. Both the editor's introduction and the genealogical opening essay by Maurizio Meloni offer insightful broad-scale overviews.

A more thoroughly critical agenda is pursued by some of the associates, myself included, of the Critical Neuroscience network (<<http://www.critical-neuroscience.org>>), whose initial work is assembled in *Critical Neuroscience: A Handbook of the Social and Cultural Contexts of Neuroscience*. Besides a general perspective on how to engage the neuro-trend, several authors take issue with concrete work from the science of morality. For example, philosopher Martin Hartmann analyzes recent attempts to derive normative conclusions from factual claims in the spirit of Frankfurt School critical theory. The blind spot of these maneuvers, Hartmann contends, is the tacit investment of what is construed as “natural” with values derived from contemporary culture. Building on an influential analysis of Catherine Malabou (*What Shall We Do with Our Brain?*), Hartmann holds that a normative canon from today's network capitalism—ideas such as flexibility, networking, self-organization, communication, connectedness, and the like—has been read into contemporary construals of neural functioning. In turn, the brain comes to serve as a perfect anchor for neo-liberal values. A contingent set of time-bound organizational principles is put forth as natural, as if they were “demanded by the brain.”

In a more tongue-in-cheek manner, anthropologist Allan Young uses his chapter to chart these developments as a shift from *Human Nature 1.0* to *Human Nature 2.0*. The emerging social brain with its emotional, communicative, and cooperative competencies, designed according to the superhuman wisdom of natural selection, displaces the selfish, mechanical, self-contained Cartesian “ego” brain of former times. Mirror neurons function as a neural Wi-Fi that links us up to form various social networks. Sympathetic connectedness reigns the day. Young notes how thoroughly *Human Nature 2.0* is placed in a positive light—unwelcome phenomena such as surprisingly high empathy scores in psychopaths are eagerly explained away.

- Choudhury, Suparna, and Jan Slaby. *Critical Neuroscience: A Handbook of the Social and Cultural Contexts of Neuroscience*. Chichester: Wiley-Blackwell, 2012.
- Jordan-Young, Rebecca M. *Brainstorm: The Flaws in the Science of Sex Differences*. Cambridge, MA: Harvard University Press, 2010.
- Malabou, Catherine. *What Should We Do with Our Brain?* New York: Fordham University Press, 2008.
- Ortega, Francisco, and Fernando Vidal. *Neurocultures: Glimpses into an Expanding Universe*. Frankfurt: Peter Lang, 2011.



- Rose, Nicholas. *The Politics of Life Itself: Biomedicine, Politics, and Subjectivity in the 21st Century*. Princeton: Princeton University Press, 2007.
- Tallis, Raymond. *Aping Mankind. Neuromania, Darwinitis and the Misrepresentation of Humanity*. Durham: Acumen, 2011.
- Vander Valk, Frank. *Essays on Neuroscience and Political Theory: Thinking the Body Politic*. New York: Routledge, 2012.

It is hard not to be puzzled about how a conception of human nature that was unthinkable only two decades ago—think of the Reagan/Thatcher years—has risen to prominence so swiftly. How does this mesh with all those claims about the universality and innateness of our allegedly deep-seated moral capacities? The social brain seems to be of rather recent origin, co-evolving with smartphones and Facebook. Reflections on what counts as “natural” at a given point in history are so far absent from the science of morality, which thus not only strikes one as naïve but also as acutely ideological. This conception of human nature lends itself too easily to a justification of the social status quo, and a rather boring one at that.

Endnotes

- ¹ Edward O. Wilson, *Sociobiology: The New Synthesis* (Cambridge, MA: Harvard University Press, 1975) 562.
- ² See Rebekka Hufendiek, “Das Muttertier am Ursprung der Moral,” *Zeitschrift für philosophische Forschung* 66 (2012): 270–91. I have learned much from reading this review and discussing the matter with the author.
- ³ See Colin Klein, “The Dual Track Theory of Moral Decision-Making: A Critique of the Neuroimaging Evidence,” *Neuroethics* 4 (2010): 143–62; and Colin Klein, “Images Are Not the Evidence of Neuroimaging,” *British Journal for the Philosophy of Science* 61 (2010): 265–78.
- ⁴ Department of Health and Human Services, *Findings of Research Misconduct* (10 September 2012): <<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-12-149.html>>.
- ⁵ Jonathan Haidt, “The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment,” *Psychological Review* 108 (2001): 830.
- ⁶ The most telling document of the trend might be Jeremy Rifkin’s broad-scale narrative *The Empathic Civilization* (London: Penguin, 2009), a popular manifesto ripe with uncritical over-interpretation of the alleged “scientific findings” discussed in this review.
- ⁷ See Howard L. Kaye’s review of Tallis’s book in this issue of *The Hedgehog Review*.
- ⁸ See Gabriel Abend, “What the Science of Morality Doesn’t Say about Morality,” *Philosophy of the Social Sciences* (2012): OnlineFirst, doi: 10.1177/0048393112440597; Gabriel Abend, “Thick Concepts and the Moral Brain,” *Archives of European Sociology* 52.1 (2011): 143–72.