Book Review

Gregg D. Caruso and Owen Flanagan, *Neuroexistentialism: Meaning, Morals and Purpose in the Age of Neuroscience* (Oxford University Press), Pages: 392, Price: $35, ISBN-10: 0190460733 and ISBN-13: 978-0190460730

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The Death of the Soul

The naturalization of human nature proceeds apace, driven by science, in particular neuroscience as it maps the brain processes that mediate choice and behavior. Where the soul once presided, there are, it turns out, only neurons in fantastically complex structures which somehow maintain the coherent psychological and behavioral pattern – character, beliefs, desires – that constitutes each of us as a person. The feeling of being a singular self that owns these characteristics is real enough, but there's no indivisible thing to which that feeling refers. Rather, it's the result of a subset of neural goings-on tasked with reliably distinguishing the physical person from the rest of the world, all in service to effective action. For reasons under investigation by neuroscientists and philosophers, doing that job somehow produces the subjective sense of me being me, of you being you.

Besides killing off the soul, the scientific story of how each of us ends up exactly *this* person seems to explode the idea of any act of ultimate self-creation, of any departure from law-like cause and effect as the individual takes shape. If so, we can't take or assign the sort of credit or blame for character and behavior that supposes we could have turned out and acted otherwise as our lives unfolded. Add some randomness if you like, so that things might have turned out differently (although they didn't), but it isn't clear how that confers more self-responsibility (although some think it does, see below).

Something like this deflationary picture prompted dear departed Tom Wolfe to write an entertaining 1997 essay, Sorry, but your soul just died, on the anxieties about human agency generated by genetics, neuroscience, and determinism. In *Neuroexistentialism*, editors Gregg Caruso and Owen Flanagan present a nicely varied and decidedly naturalistic set of responses to the same set of worries 20 years on. In seeking some sort of post-soul equilibrium, no supernatural hypotheses or claims are made anywhere in this collection; the authors all agree that empirical science, kept honest by philosophy, should arbitrate questions of what exists, all of which is within nature. Despite this common ground, they sometimes diverge substantially on what the naturalization of agency means, or should mean, for us neurally-instantiated selves. Is there any room for ultimate self-construction, and thus for deep, ultimate responsibility? If not, what impact might this have on our interpersonal attitudes, our concepts of authenticity, control, and moral responsibility, and on criminal justice policy? Most basically, how, without recourse to the supernatural, can we come to terms with the scientific picture of who we are? (Wolfe ends his article suggesting we can't help but re-inject God.) This volume presents a wide range of enlightening interdisciplinary perspectives from scientists and philosophers on discovering ourselves to be fully natural, physical creatures.

The Third Wave

The introduction by Caruso and Flanagan motivates the collection by locating *neuro*existentialism as the third wave in the historical rise of existentialism, conceived of as responses to the threat of nihilism. The first wave was driven by the challenge to religion: if we doubt God and divine purposes, from whence meaning and morality? The Enlightenment purportedly came to the rescue in its appeal to human solidarity and reason: we can build a meaningful and moral earthly paradise, or something close enough, by nurturing our better natures. Sadly, this hasn't quite panned out, hence the second existentialist wave, exemplified by Sartre and Camus, who produced a strongly individualist response to the horrors of 20th century war: there is no salvation either in heaven or on Earth; the only honest stance is to face the fact of our radical freedom in an absurd universe. But, according to neuroscience and other sciences bearing on human behavior, we are not radically free, so the Sartrean prescription doesn't work either. Neuroexistentialism, the third wave, can thus be characterized as a response to the ever more explicit realization that physicalism and determinism hold in the human person, however complex our mental and social lives might be. (Again, feel free to add some indeterminism and see where it gets you morally or practically.) What, then, are we to make of our situation and ourselves as the mechanisms of mind and behavior are laid bare? How do we cope with the death of the soul?

Morality Naturalized

For one thing, science can explain why we are moral animals, moral to such an extent that no amount of science will end up debunking our hard-wired intuitions about ethics. Chapters by philosophers Patricia Churchland and Maureen Sei delve into the neuroscience of altruism, cooperation and affection, driving home the point that our virtuous inclinations, since biologically installed, don't need the top-down endorsement of a higher power to have hold on us. We can be and often are good without God, and without any non-physical homunculus calling the shots. The very worry about moral foundations is testament to the reality of our moral natures, so learning they are modulated by such humble (or is it noble?) chemicals as oxytocin and vasopressin isn't likely to render us morally incapacitated. Relatedly, philosophers Paul Henne and Walter Sinnott-Armstrong consider the possibly corrosive effects of neuroscience on morality, and reassure us that even though the literature suggests we are sometimes mistaken in our moral judgments, there's no good reason to think we are always deceived in making them. Their paper is a model of careful philosophical argumentation in light of the experimental science of belief-formation. Neuroscientist Edmund Rolls considers the genetically transmitted neuro-behavioral roots of our moral sense, and again finds a robust biological basis for both our intuitive ethics and our talent for constructing systems of rights and responsibilities. So even though evolution didn't have culture in mind, we needn't be more than evolved creatures to suppose that our socially-mediated moral practices, albeit improvable, at least have *prima facie* validity given the sorts of creatures we are. That said, in his essay philosopher Jesse Prinz points out that although our values often seem indisputable and timeless, they are in fact contingent products of culture and biology. We don't choose them from a radically free Sartrean standpoint, so we necessarily operate in terms of some pre-existing values when undertaking the project of moral improvement. But which ones should guide us? Prinz recommends we use science to test whether the factual claims used to buttress suspect moral claims are true (e.g., that racism and sexism are warranted), and if they aren't, we'll have at least narrowed down the options when seeking common ground.

Can Libertarian Free Will be Naturalized?

Morality, then, survives the neuroexistentialist challenge, even if political and tribal disputes about how values should be prioritized won't ever go away (see for example Jonathan Haidt's work on how liberals and conservatives differ in their moral foundations). A more vulnerable target, however, receives the lion's share of attention in this book: the (purportedly) freely-willing, rational, autonomous and authentic self, the responsible originator of action that traditionally has been understood to stand at least a little apart or above the natural world – a little god, so to speak. All but one of the contributors (neuroscientist Peter Tse) would agree that we don't have libertarian or contra-causal free will – the freedom that would make us a more responsible originator than were our choices and actions fully determined by the circumstances in play in actual situations. That is, they'd say *in*determinism, should it exist at the micro or macro level (and it might), wouldn't help make us more free or

responsible. So for all practical purposes they present themselves as naturalist determinists. How well do choice and agency fare under determinism?

Not that badly it turns out, but some readers may have to re-calibrate or re-think their criteria for what counts as an authentic choice if we don't evade determinism. For those who won't or can't let go of the libertarian chooser, Peter Tse offers a neuro-biological hypothesis supporting the idea that we are, in fact, not completely embedded in a cause-and-effect world. Naturalism, he says, still allows us to contribute something to a choice that is neither fully determined by antecedent conditions, nor merely random; we really and truly could have done otherwise in an actual situation (even though we didn't) in a way that's ultimately up to us, not chance. But despite his patient exegesis, how quantum indeterminacy defeats determinism without attenuating agency, and how indeterminacy actually *adds* to an agent's responsibility for behavior, remain obscure to me (and I suspect most naturalists, since few have signed on to his libertarianism). Until we have a clear account of the mechanisms of contra-causal choice (a contradiction in terms?) and solid evidence that the brain actually instantiates such mechanisms, it seems to me unwise to claim we likely are libertarian agents. As a matter of epistemic probity and moral prudence we should stick with what seems a good deal more probable: that even if it sometimes breaks causal chains, indeterminism can't add to our power, control or responsibility.

Authenticity at Risk

If it doesn't, then in developing naturalized conceptions of agency we must, as do the rest of the contributors, work within determinism and without the ultimate sort of responsibility that libertarians want. Philosopher Neil Levy shows just how wrong Sartre was in his claim of radical freedom, and in the process raises the specter of radical skepticism concerning the true, authentic self that freely and consciously chooses its values: "…cognitive science threatens to dissolve the self and thereby the very agent who was supposed to do the choosing." (114) Since we are not unitary, but rather a multiplicity of neurally- instantiated mental modules cobbled together by evolution, we don't have anything approaching transparent conscious access to all the influences that ultimately shape us and our choices. However, Levy suggests that the explicit realization that we are *not* self-omniscient is exactly what's needed to make a good stab at a realistic authenticity. Still, we might miss: "We must recognize that we can never be confident that our most important choices were not influenced decisively by facts we cannot endorse or that the reasons we entertain are the reasons for which we act." Never completely confident perhaps, but nevertheless capable of checking how our behavior might reflect the nefarious influence of an unconscious module.

A somewhat more reassuring version of existentialist authenticity is offered by philosophers Shaun Gallagher, Ben Morgan and Naomi Rokotnitz. Like Levy, they mount a strong critique of Sartrean radical autonomy, but replace it with a relational, interpersonal understanding of how selves grow and thrive. They apply the "4E" theory of consciousness and cognition – that we are embodied (not just a brain), embedded in a physical and social environment, enactive (environmentally responsive when engaged in cognition, not manipulators of internal mental representations) and extended (our embodied minds interpenetrate with the world) – in support of the claim that we are essentially relational creatures. If so, then we are most authentically ourselves in accepting our "primary intersubjectivity" in communion with others. Whether or not one buys the 4E theory (neural representation seems pretty indispensable in thinking about brain-based cognition), they're correct that we don't face the problems of meaning and value commitments alone, which arguably makes them a good deal more tractable. I find that the problem of meaning often disappears during a good dinner party.

Conservative or Revisionist?

One way to categorize these essays is along a conservative-revisionist dimension: how much changes, or should change, in our agency-related beliefs, attitudes and policies under pressure from what philosopher Eddy Nahmias calls "neuronaturalism"? Is a revolution in order, or not, given the realization that "…all the mental processes involved in making your choice [are]…a complex set of neural processes which causally interact in accord with the laws of nature"? (252) Nahmias – a compatibilist about free will (free will is declared compatible with determinism, or at least with our not being libertarian agents) – is somewhat on the conservative side of the spectrum. Although he enjoins us to accept neuronaturalism, he doesn't think it requires giving up "most of our cherished beliefs

about ourselves." (253) This is because he foresees, based on research he and others have conducted on beliefs about free will, that folks will be comfortable with the idea that explanations of choices in terms of beliefs, desires and intentions are compatible with non-dualism, the thesis that we don't have souls as well as bodies (basically, brains-r-us). He says "…we should predict that people are not committed to a dualist understanding of free will that conflicts with neuronaturalism." (258) Bets, anyone? More research is needed, but isn't one cherished belief widely held in our rather religious culture the dualist notion of "soul control": that we are more than material creatures, and that therefore we could have done otherwise in a situation, even given all the causes in play? Whatever the case, Nahmias does a great anti-reductionist job in explaining how psychological explanations have their own autonomous explanatory role, even if mental processes are completely physical in their realization. And he makes the crucial point that even under determinism agents can be considered causal sources of action (what I've come to call agent determinism). He also has interesting things to say about moral desert which I'll cover below.

Another sanguine, conservative-tending compatibilist is Michael Gazzaniga, one of the deans of (split) brain research. He makes no bones about determinism, but like Nahmias resists the sort of neuro-reductionism that seems to some to undermine the causal role of conscious decision-making in behavior. He quotes approvingly neuroscientist Roger Sperry from way back in 1966:

> …when it comes to brains, remember always that the simpler, electric, atomic, molecular and cellular forces and laws, though still present and operating, have all been superseded in brain dynamics by the configurational forces of higher-level mechanisms. At the top, in the human brain, these include the powers of perception, cognition, memory, reason, judgment, and the like, the operational, causal effects of forces which are equally or more potent in brain dynamics than are the out-classed inner chemical forces…
>
> If we cannot avoid determinism, accept and work with it. There may be worse "fates" than causal determinism. Maybe, after all, it is better to be properly imbedded in the causal flow of cosmic forces, as an integral part thereof, than to be on the loose and out of contact, free-floating, as it were, with behavioral possibilities that have no antecedent cause and hence no reason or any reliability for future plans or predictions. (225)

In light of all this (total music to my ears), Gazzinaga locates personal responsibility not in brains but in our social practices of *holding* each other responsible as reasons-responsive creatures. This seems reasonable enough. But if we accept that "human behavior is the product of a determined system that is guided by experience," might that have implications for our responsibility *practices*? Gazzaniga doesn't address this question, so by omission ends up on the conservative side, at least compared to some others here.

Philosopher Walter Glannon's contribution also takes aim at neuro-reductionism (more broadly, reductive materialism), but despite his non-dualist protestations it ends up verging on mind-brain dualism. To wit: "The phenomenology of what it is like to visualize one's own brain activity and modulate it…cannot be explained entirely in materialist terms… the mind can induce changes in the brain and have a causal role in…control." (156) And, in describing mental acts of self-control (as in resisting the behavioral tics of Tourette's syndrome) he says these have "a phenomenological aspect that cannot be captured by appeal to brain processes alone. Although their effects may be limited, through these acts of will, some people can expand the space of agency beyond what normal or abnormal neurobiology has given them." (158) That human agency ever transcends neurobiology seems doubtful, and the claim that it could potentially leaves room for libertarian free will and its moral hazards (see below). Glannon doesn't discuss the practical implications of his view, which could lead one to suspect he sees no reason to rock the boat of our current responsibility practices.

Determinism and Desert

The conservative-revisionist debate really gets going in the essays focused on moral responsibility and criminal justice policy. Are offenders morally responsible in what's come to be called the "basic desert" sense, and therefore deserving of retributive punishment, punishment that need not be justified by producing any good consequences (e.g., moral reform, deterrence, public safety)? The revisionists (of various strengths) include philosophers Caruso, Derk Pereboom, Valerie

Hardcastle, and Farah Focquaert, psychologist Andrea Glenn, and criminologist Adrian Raine. They take the position, more or less, as put by Focquaert, Glenn, and Raine, that "The kind of free will that would justify moral responsibility in the basic desert sense is scientifically questionable and justifying desert-based moral responsibility on the mere possibility of such free will is normatively questionable." (240) The question then arises: "Can retribution be morally justified if we live in a world in which all human behavior is the result of the complex interplay among genes, the environment, and (potentially) some added randomness?" (240) The revisionist answer is no, it can't. Determinism undermines desert by showing that offenders couldn't have turned out or done otherwise given all the causes in play, and any randomness can't add to responsibility. This conclusion entails a substantial rethinking of our criminal justice practices, which at least in the U.S. hinge a great deal on the notion that offenders deserve retribution of the sort which justifies making their lives miserable (or sometimes killing them), whatever else the aims of punishment might be.

The revisionists – skeptics about basic desert, if not about all brands of free will and moral responsibility – endorse a variety of proposals for criminal justice reform to make it a forward-looking, consequentialist system which abandons the infliction of suffering for its own, deserved sake. Even if we're not libertarian agents, we are, most of us, reason-responsive and thus to some extent reformable, deterrable, and capable of offering crime victims remorse and restitution (the aims of restorative justice). Incarceration and other sanctions (fines, GPS monitoring, community service) can therefore be justified if they serve these ends, but should not inflict suffering and harm beyond what's consequentially necessary, what Caruso and Pereboom call the "principle of least infringement" (206). In some cases very little, if any, suffering might be required. This might frustrate our retaliatory inclinations (thanks to evolution we all have them to some extent) which want harm-doers to be paid back in kind. The revisionist prescription for reform thus faces some tough opposition in our own psychology, opposition that can be softened by dwelling on determinism. Valerie Hardcastle does exactly that in her essay, concluding that a sea change in criminal justice might be in the offing under pressure from neuroscience:

> If we know our brains cause our behavior, and our brains are the way they are because of their underlying genetics and previous life experiences, it becomes difficult to maintain that punishment as retribution for behavior is a just or even a coherent notion. (326)

The revisionists also recommend that the criminal justice system focus on crime prevention as much or more than on punishment. We should take a public health approach to addressing criminogenic risk factors, applying behavioral and developmental neuroscience to assist in creating nurturing, not punishing, environments. Understanding and accepting that individuals are fully a function of formative conditions, not self-caused, should help motivate such a shift in priorities.

Dissenting to much of this is the redoubtable law scholar Stephen Morse, who although a good-enough-for-government-work determinist, stoutly resists any suggestion that neuroscience or determinism should lead us to abandon retribution (and has been doing so for years – see here). Although he provides no citations for the claim, he contends that it isn't retribution, but rather consequentialist deterrence and incapacitation that are primarily responsible for the punitive overreach of our criminal justice system (347). He takes Caruso and Pereboom's chapter extensively to task for offering what he calls a "pale simulacrum" of human agency (346) in which nothing is really up to the person. If so, then what, he asks, could ground our liberty, rights, dignity and autonomy? (348) If we aren't really reasons-responsive (as he says Caruso and Pereboom claim), then "we are simply creatures to be manipulated in the right ways to do the right thing rather than being genuinely autonomous agents." (347)

Whether retributivism or consequentialism is primarily responsible for our overly punitive criminal justice system is an important question up for research and debate. But what's not in question in my mind is that Morse seriously misrepresents Caruso and Pereboom's characterization of agency. A fair reading of their chapter shows that their view of the person is anything but shallow, and that they hold reasons-responsiveness in high regard. Morse also misrepresents their proposals for reform as unheedful of potential consequentialist excess; instead, I found that they specifically address concerns about manipulation and threats to liberty and civil rights. Lastly, Morse could be pressed on the question of retributive desert: what

precisely is it about our being reasons-responsive and autonomous that entails we deserve, as he believes we do, to suffer for our wrong-doings? On Morse's account the primary aim of the law is to be action-guiding (335), a forward-looking proposition, so it isn't obvious how punishment that *ignores* consequences – the essence of desert-based retribution – fits in. Looking carefully at his chapter, I could find no clear defense of basic desert, only rhetorical gestures in its general direction.

Eddy Nahmias, on the other hand, offers a limited, consequentialist defense of desert in the context of moral re-education:

> While this view does not advocate wrong-doers suffering *for the sake of* suffering, as some define retributive punishment, it does advocate that criminals deserve to suffer to the extent that such suffering is a constitute [sic] feature of these communicative goals of punishing them – for instance, suffering may be a necessary feature (not just a side effect) of the process of coming to understand the harm one has done and feeling and demonstrating appropriate remorse for it. (original emphasis, 265-6)

This raises questions about the role of suffering in moral re-education: to what extent is criminal punishment as currently applied productive or counter-productive when instilling social norms? What sorts of punishments, for which sorts of subjects, and in what sorts of facilities? And does the redefinition of desert in consequentialist terms (something also suggested by philosopher Daniel Dennett in his defense of punishment – see Caruso on that) simply provide cover for acting on our retributive inclinations? Ditching talk of desert altogether seems to me the safer, better course if we want to keep those inclinations in check. Nahmias himself favors dialing back on retribution, which he says is incited by the American infatuation with unrealistic, unlimited (that is, libertarian) free will, to which much of this book serves as an antidote.

Conclusion

Rounding out the collection are two very different essays, one by physicist Sean ("Big Picture") Carroll on the cosmic context of existentialism, the other a real-world case study in the experimental philosophy ("xphi") of agency by philosopher Thomas Nadelhoffer and psychologist Jennifer Wright. The latter contribution gives us a tour of the methodological pitfalls of researching the potential impact of neuroscience on beliefs about free will, beliefs which it turns out are rather robust and not easily manipulated, at least not by exposing subjects to anti-free will and anti-dualism literature. The lesson Nadelhoffer and Wright draw from this (besides the need for more and better designed research, of course) is that worries about a rapid rise in neuro-anxiety might be overblown: people will continue to believe in soul control whatever science throws at them. Perhaps, but failure to undermine belief in free will in experimental settings may not be the best predictor of how that belief might change in response to cultural trends, including the rise of smart machines and advances in the neurobiology of behavior. We shall see.

Carroll's piece (chapter 16 of 18) could have gone first in the book because it sets the grand philo-scientific stage on which the drama of human action takes place. Surveying classical mechanics, quantum physics, the arrow of time, and the nature of emergent phenomena, Carroll finds no contradiction between the existence of meaning and purpose on the human scale and the fact that "modern science has thoroughly undermined any hopes for a higher purpose or meaning inherent in the universe itself." (305) Still, appreciating that the human project of finding meaning exists within a fantastically larger, purposeless context might provoke some invigorating existentialist astonishment, should that be to your taste.

Although I've tried to touch on the major themes broached by each of the contributors, the above is just a small sampling of the scientific and philosophical content you'll find in this book. In addressing third wave existentialist concerns, many hot topics in the study of mind and action come up, so readers will end up philo-scientifically *au courant*. They'll also find good naturalistic philosophical practice: concepts and arguments are constrained by having some sort of empirical relevance and plausibility. Lastly, despite (or perhaps because of) the disagreements that arise, this collection illustrates the range of thoughtful, sane responses available to us as we confront the naturalization of the self and behavior. Neuro-anxiety need not overwhelm us. Indeed, with help from Caruso, Flanagan & Co. we might even achieve some measure of neuro-equanimity.