

Does physics make us free?

J.T. Ismael: How physics makes us free. New York: Oxford University Press, 2016, 288 pp, \$29.95 HB

Natalja Deng¹ · Klaas Landsman²

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The book under review is about the “apparent conflict between what physics says and what we feel instinctively about our own actions” (x). In particular, we feel that our actions are *free*, whereas classical physics, to which the author restricts herself, describes the universe as a deterministic clockwork, at least at a fundamental level. Some would argue that her restriction to classical physics in matters like this is a serious flaw, but in fact we agree with Ismael that quantum physics would hardly make a difference to her account, except perhaps as a *threat to*, rather than as an *enabler of* free will. In other words, this is a book about free will. Yes, yet another! But it defends the compatibilist position in a strikingly original and sophisticated way, and includes an unusual emphasis on the concept of the *self*. Perhaps it would be even better to call this a book about the self with applications to free will. We do wish to note that although Ismael has written her book for “the man on the Clapham omnibus with an interest in understanding what it is to be human” (xi), it seems to us that she overestimates this man. What we have here is an academic philosophy book, whose only compromise toward popular appeal is that it is very well written, in a punchy style that often makes it a page-turner.

Part I focuses on the self. It asks what we are and how we fit into the natural world. Selves are not fundamental entities but higher level or derived ones: they emerge as the brain “stabilizes separable conceptions of self and world out of patterns in sensory information” (16). This process involves, for example, the separation of information about objects and information about one’s spatial relation

✉ Klaas Landsman
landsman@math.ru.nl
Natalja Deng
nmd24@cam.ac.uk

¹ Faculty of Philosophy, University of Cambridge, Cambridge, UK

² Institute for Mathematics, Astrophysics, and Particle Physics, Radboud University Nijmegen, Nijmegen, The Netherlands

to those objects. It involves learning to make a distinction between what one does and what happens to one, as well as becoming aware of oneself as an object perceived by others. It involves gaining and refining a conception of oneself as a full autobiographical subject, a locus of value with a rich personal history. Through this process, the *world-as-I-see-it* becomes articulated into *the world-as I see it*. The concepts of oneself, on the one hand, and of the world as distinct from oneself, on the other hand, are jointly produced: “the construction of a point of view literally gives rise to the existence of a subject that occupies it ... the unity of the viewpoint is not presupposed by integration; it is the product of integration” (60).

Intriguing as this story surely is, why accept it? The default position, if there is one, is that points of view are *had*, i.e., occupied, and that they are not identical with those who *have*, i.e., occupy, them. As a result, to explain how a point of view is constructed (by whom?) is not yet to explain how the occupiers come into being. Moreover, though the author is generally sensitive to contemporary science, the book contains no discussion of cognitive neuroscience. Hence it fails to relate the picture of the self it sketches to anything in that direction, even theoretically. This must be a deliberate choice, since it is clear from her talks and other writings that Ismael is certainly familiar with experimental as well as theoretical neuroscience.

Another central idea is that we are often comparable to corporations and other “self-governing systems”, i.e., “complex systems whose global behaviour is guided by a subsystem” (39), such as the executive committee or even just the CEO. This is an interesting analogy, but it is assumed rather than argued for. Perhaps the author expects the reader to be familiar with her earlier book, *The Situated Self*. It also remains unclear which lessons to draw from it. For example, Ismael declines to take a stand on whether it has implications for the question of how consciousness arises (76). Given that her aim is to steer a middle course between Cartesian dualism and “Dennettian nolisism”, the view that there are no selves, understood as Cartesian substances, this may come as a surprise. Alas, Ismael leaves the problem of the place of consciousness in the natural world to others.

Part II takes on free will. If one sees the problem of free will as the inherent contradiction between the poles “*free*”, which seems to presuppose the ability to do otherwise and hence some kind of indeterminism, and “*will*”, which assumes agency and deliberation, and hence effective determinism, then Ismael puts herself squarely in the compatibilist camp, which endorses determinism as well as freedom, and tries to talk itself out of the (apparent?) contradiction. To her credit, she fully takes the bull by the horns, unlike philosophers who go for a free ride by focusing on one of these two poles only.

Ismael’s main point is that although *fundamental, objective, microscopic* classical physics is indeed deterministic, this is a red herring, since the physics relevant to free will is *higher level, perspectival, and macroscopic*. In particular, her claim is that the *Consequence Argument* is based on the wrong level of physics and hence makes something like a category mistake. In brief, the Consequence Argument holds that our actions are entailed by the past and by the laws of nature, neither of which are under our control, so that our actions are not under our control either. Thus, Ismael rethinks the concept of a law of nature and its (ab)use in the Consequence Argument. Following Cartwright, Pearl, and others, she resuscitates

the idea of causation in the wake of its famous dismissal by Russell. And she invokes irreversibility and the Boltzmann-Albert *Past Hypothesis* about the direction of time and the entropy of the universe. Finally, she appeals to the *Paradox of Predictability*, which disentangles “external” (i.e., Laplacian) predictability from “internal” predictability (i.e., yielding results accessible to the agent, which the paradox shows to be impossible), in order to undermine the significance of determinism for free will. All these arguments are, of course, deeply interlocked, if only by the underlying theme of emergence, which already played a major role in Ismael’s discussion of the self in Part I of the book.

Metaphorically, we are to think of world history as analogous to a play or novel like *Hamlet* or *Anna Karenina*, which unfolds as the author writes, previous parts placing few constraints on the actions of the characters. Hamlet or Anna does not *have* to do what they do because they are in a tragedy; rather, the tragedy arises because, by free will, they do what they do. There is the “internal time” of the story and the “external time” of the world that includes its author. The alleged mistake, then, is to conflate the two and hence to “imagine that it makes sense to say that the book is already, in the internal time line of the book, completed” (186). So instead, presumably we should think of the book as only completed in some physical analogue of the external time?

But no, that would be another mistake! The right view is that there is no “book”: “In truth, there is for us no Tolstoy, no Shakespeare, no author of our lives but ourselves” (186). The idea is that the laws are not “in place” before we act. [A similar compatibilist position has recently been defended by Berofsky (2012) whom Ismael unfortunately does not cite.] If true, this counters the Consequence Argument by denying that the conjunction of the past plus the laws of nature is not under our control.

So far, so good, but how should we understand the claim that the laws are not “in place” before we act? Suppose laws are patterns in past, present, and future events. Then if future events only come into existence as history unfolds, the laws do, too, or so Ismael argues. But elsewhere (230), Ismael explicitly defends the “block universe” view, on which future, present, and past, co-exist. Some would indeed argue that “unfolding” and “co-existing in a block” are compatible, but fundamental bends in the philosophy of time are left to the reader to negotiate here. Perhaps it would be too much to ask of a book about free will and the self to resolve those, too, but if we are to avoid the looming threat of metaphysical incoherence, at the end of the day they should be addressed.

Similarly, Ismael’s discussion of causation centers on a defense of interventionism which is the view that “causal information is information about the results of hypothetical ‘interventions’ on networks of variables” (237), which in turn is technically underwritten by the theory of Bayesian networks. However, so far this theory has mainly been used in fields like machine learning, forensic statistics, and the social sciences, including everyday psychology. Its relationship to physics and free will is obscure, even granting, *pace* Russell, that causation does play a role in (at least “emergent”) physics.

In conclusion, however eloquently Ismael presents her case for compatibilism, we fear that across the fence hardly any incompatibilist will change his or her mind after reading this book, predictably (!) arguing that it is Ismael who makes the category mistake of putting the wrong physics into the Consequence Argument. The jury is still out. In any case, we wholeheartedly recommend this delightful and richly rewarding book to anyone interested in free will and the self.

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