Christian List. Why Free Will Is Real. Harvard University Press 2019. 224 pp. \$25.50 USD (Hardcover ISBN 9780674979581).

In Why Free Will is Real, Christian List launches a substantive defence of the robustness of free will. He has also done an excellent job of laying out the materials clearly. In the introduction, List explains his goals as follows: 'I want to defend a picture of free will that has largely escaped people's notice, despite all the attention the subject has received. This picture construes free will as a "higher-level" phenomenon: a phenomenon that is found not at the level of fundamental physics but at the level of psychology, and specifically at the level of intentional agents: goal-directed beings like us (4).' It might seem surprising that the kind of view List is defending here has largely escaped notice, as such a view is quite common in the mind-body problem. As List himself notes, the debate between reductive and non-reductive physicalism is at stake here, and the latter holds that mental phenomena, notably intentionality and consciousness, are higher-level irreducible phenomena. The situation List points to, presumably, is that philosophers focusing on free will tend not to consider the mind-body problem in relation to free will. Therefore non-reductive physicalism can be popular in one literature but unnoticed in another literature. To put this in List's own terms, free will faces three major challenges: the denial of intentional agency, the denial of alternative possibilities, and the denial of mental causation. Many philosophers specializing in free will have been focusing on alternative possibilities, and treating intentional agency and mental causation as related but separate issues. Given this, it is then not surprising that the kind of view List favours has been largely unnoticed in the free will literature.

In addition to the introduction and conclusion, there are five chapters in the book. The introduction briefly touches on the three challenges, and states that the viewpoint being defended in called 'compatibilist libertarianism': "compatibilist" because of its compatibility with science, including physical determinism, and "libertarianism" because of its commitment to the idea that free will involves a genuine ability to choose between different actions' (9). List further highlights another aspect of his position with a different label, 'free-will emergentism' (10). These two labels are not synonymous: while the former primarily focusses on alternative possibilities, the latter primarily focusses on intentional agency and mental causation. Chapter 1 discusses the very idea of free will: What is free will? Why does free will matter? What are the differences and relations between free will and social freedom? After answering these questions, List goes on to explain further the three requirements of free will: intentional agency, alternative possibilities, and mental causation or causal control. The reader might wonder why these three requirements are brought up so many times: they are first introduced in the introduction, further explained in chapter 1, and will be even further explicated in chapter 2. Moreover, List later devotes one entire chapter for each requirement, and there are some repetitions involved. The merit of so doing, though, is that both readers and List are often on the same page when disagreements arise.

Towards the end of chapter 1, an interesting meta-philosophical issue suggests itself: since List 'will take [the three requirements] to be jointly necessary and sufficient for free will' (27), he sets himself to the traditional project of analyzing a target phenomenon with its necessary and sufficient conditions. This project can seem problematic by List's own light; consider this: '[W]e need not think of free will as an all-or-nothing matter. We may also recognize partial instances of free will... where only one or two, but not all three, requirements are satisfied, or where all three are satisfied, but only to a limited degree' (29). This is under the heading of 'free will as a matter of degree,' which aptly captures List's view in the above passage. However, one might wonder how

this can be compatible with the traditional project of analysis. It is unclear that any of the requirement is gradational: either reductive physicalism is wrong and there *is* intentional agency or not; either determinism does not apply to higher levels and there *are* alternative possibilities or not; either epiphenomenalism is wrong and there *is* causal control or not. List draws analogies from vagueness at this point (30), but it is unclear how it is supposed to work: how can a gradational notion of free will be compatible with the traditional analysis of necessary and sufficient conditions? One possibility is that what List needs are some models involving weight or function, but there is no clear hint in the text.

The next contentious issue—which plays a crucial role throughout the book but begins to be salient in chapter 3—is the difficult balance between supervenience and emergence. Already in the introduction, List mentions them respectively (4, 7); but it is no trivial task to maintain them at the same time if they are spelled out clearly. List comes close to a definition of supervenience in endnote 30 in this chapter: 'Formally, one set of properties (the "higher-level" properties) is said to "supervene" on another (the "lower-level" properties) if fixing the second set of properties necessarily fixes the first (176; italics added).' Strictly speaking, this is still an informal characterization, but it is clear enough to generate worries. Emergent properties, typically understood in the British Emergentists context, are commonly (and rightly) seen as more robust and more independent of the underlying properties (O'Connor and Wong, 'Emergent properties,' Stanford Encyclopedia of Philosophy, Summer 2020, https://plato.stanford.edu/entries/properties-emergent/). Although sometimes philosophers do emphasize the 'over and above' character of supervenience (e.g., 26), it is controversial as to how to interpret it, and it is far from consensus whether supervenience really entitles us to the 'over and above' claim (McLaughlin and Bennett, 'Supervenience,' Stanford Encyclopedia of Philosophy, 2018, https://plato.stanford.edu/entries/supervenience). As David Chalmers argues, supervenience is necessary for reduction (D. Chalmers, The Conscious Mind, Oxford University Press 1996), so the 'over and above' claim should be taken as weaker than emergence. That is the main reason emergentism has become less popular, and was in a way replaced by supervenience is the late 20th century. List, together with Marcus Pivato, offers a substantive discussion of emergence elsewhere ('Emergent chance,' Philosophical Review, 124(1), 119-152, 2015), but without explanations as to how to apply that work in the present context, readers are left wondering how that might chime well with supervenience. In defining supervenience here a notion of 'fixing' is involved, and it is unclear any relevant notion of emergence would be compatible with the idea that when fixing one set of properties it would necessarily fix another one. Similar issues can be found in chapter 4, but details cannot be dealt with here due to the space limit.

Chapter 5 is on causal control, where List responds to the problem of epiphenomenalism. The major question here concerns one potential difference between causal control and mental causation. Given List's context, what really concerns him should be mental causation, i.e., how higher-level phenomena or properties can cause other higher-level phenomena or properties and perhaps also lower-level phenomena and properties. Causal control, by contrast, is normally more about control of behaviours and understanding cases such as alien hands and anarchy hands (e.g., Biran, Giovannetti, Buxbaum, and Chatterjee, 'The alien hand syndrome: What makes the alien hand alien?' *Cognitive Neuropsychology*, 23(4), 563-582, 2006). The latter is closer to what neuroscientists call 'free will,' and that is where Libet-style experiments come in (141). However, causal control is actually closer to what philosophers normally call 'sense of agency,' so in this chapter List might deal with these two related yet different issues together. Later in the chapter, List has some interesting discussions of causation in fundamental physics, with some comments on Russell ('On the notion of

cause,' *Proceedings of the Aristotelian Society*, 13(1), 1-26, 1913). List might be right that 'traditional notions of cause and effect are not particularly well suited for *fundamental* physics' (128; original italics). One issue concerning fundamental physics that List does not discuss is whether his picture is compatible with B-theory, eternalism, and the block universe view in philosophy of time. That said, no single piece can deal with everything, and dealing with these broad issues should take community-wide efforts.

There are many more questions that can be raised concerning List's overall picture, and it is not implied that List cannot come up with a good answer to them. Some issues to consider include whether the higher agential level involves epistemic chance, how this picture would respond to van Inwagen's consequence argument (*An Essay on Free Will*, Clarendon Press 1983), and how understanding of intrinsic properties and duplication would affect the plausibility of this picture. The overall picture presented in *Why Free Will is Real* is quite promising. Above disagreements are highlighted, but they should be taken as friendly suggestions.

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