

psychological interventions, the demon guides *X* to go through the steps of a proof of *Q*. Imagine that as a consequence of these interventions, *X* gains a proof of *Q* and comes to accept *Q*. Now, *X*'s act of accepting *Q* is not epistemically free in Sher's sense. But should we say that *X*'s acceptance of *Q* fails to be rational? Should we reject *X*'s claim to know *Q* on the grounds that the lack of epistemic freedom undermines the knowledge claim? The answer to both questions is plainly 'no'. *X*'s claim, *Q*, is true, and *X* possesses a perfect justification for affirming *Q*. So, we should grant that *X*'s act of accepting *Q* is perfectly rational. We should grant also that *X* knows *Q*, that the lack of epistemic freedom does not undermine his knowledge claim.

The example can be generalized. We can imagine that the demon's influence extends to *X*'s other cognitive acts, including acts in which *X* comes to accept empirical claims. We can imagine, furthermore, that the demon's influence extends to all members of *X*'s community. The demon deprives community members of epistemic freedom. Still, the absence of epistemic freedom, individual as well as communal, would not necessarily undermine knowledge. Despite the demon's interventions, *X* and other community members may well possess knowledge of various mathematical and empirical matters. For their beliefs may well be true and they may possess completely compelling justifications for their beliefs.

## 7. Conclusion

I am sceptical, then, of the universality Sher claims for the friction and freedom requirements. There can be no denying, however, that Sher is right that friction and freedom play a vital role in human cognition. In my judgement, she is right also in her contention against deflationists and quietists that the idea of truth-as-correspondence can help us understand our cognitive situation – at least with respect to some if not all subject matters.

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# Taking the Long View on Science, Metaphysics and Philosophy of Science

HOLLY ANDERSEN

## 1. Introduction

*Metaphysics and the Philosophy of Science*<sup>1</sup> collects contributions that mostly came out of a ground-breaking 2011 conference organized by the editors, with a few extra

1 *Metaphysics and the Philosophy of Science: New Essays*. Edited by Matthew H. Slater and Zanja Yudell. Oxford University Press, 2017. x + 258 pp.

additions. Since that 2011 conference, discussions have exploded about what the relationships are, or should be, or should not be, or could even be, or have historically been, between all three of metaphysics (analytic metaphysics in particular though not exclusively), philosophy of science and science itself. As such, it is easy to lose sight of just how revolutionary that conference was, and how much careful scholarship and worthwhile ideas there are in this volume.

Despite the lag time of 6 years between conference and the publication of this collection, and despite the massive eruption of discussions on this topic, this book contains a great deal of new material notable for its original and careful scholarship. The volume is still stage-setting for the debate in how much it can contribute to these new and ongoing discussions – impressive, given how many chapters predated such discussions. While there is still much to disagree with in this volume, there is also much that is impressively relevant to the leading edge of current discussions and which has useful insight for moving those discussions forward. The contributions here need to be taken into account in any discussion on metaphysics of science.

## 2. *Situating the volume*

While it has become much less shocking to talk about metaphysics in the subfield of philosophy of science, I'd like to highlight a somewhat sociological point that has shaped the trajectory of developments in philosophy of science especially but perhaps also in metaphysics. It was rather shocking at the time that the conference announcement went out that such a thing was being planned; at the conference itself, I was struck by how many people were eager to have these conversations, and how much all of us had thought ourselves rather alone in our interest in this subject. There was such a logical empiricist hangover in many parts of philosophy of science in particular that one could, as a graduate student or freshly minted professor, run into genuine shaming and ostracization for bringing up metaphysics. It was often considered at best a sign of dubious philosophical taste, at worst an indication of how poorly one understood one's own field.

In an atmosphere of antagonism, the organizers of the conference broke hard new ground by bringing together top people in both fields and managed to generate a philosophical discussion that was fruitful rather than bombastic. The sessions themselves were electric in terms of atmosphere: genuinely new conversations were had between people whose self-identified main fields differed, but who discovered only then how much their material had in common. There were also a decent number of tense moments when differences in approach to common topics led to *frissons* of suppressed reactions in the audience; but instead of launching into the already familiar diatribes, participants worked to listen with care and charity. This book now comes out in an entirely different atmosphere.

Against this messy, complicated background, Yudell's editorial introduction is a sterling example of its kind. This introduction would serve well as assigned reading in metaphysics and philosophy courses that address this topic. He situates recent metaphysics in light of an arc in the 20th century that emerges post-Quine to a new landscape of possibility. He also explicitly ties together the different contributions in the volume in light of this, expanding the range of possibilities considered by the reader for how metaphysics of science can be more than merely scientific. Philosophy of the life sciences, including ecology, appears on a more equal footing with philosophy

of physics. He also helpfully distinguishes between discussions *engaging* in metaphysics and philosophy of science, versus discussion *about* metaphysics and philosophy of science, or, meta-metaphysics and philosophy of science.

He distinguishes (at least) two difficulties in having fruitful and meaningful discussions in this arena. One is the difficulty of bringing two distinct perspectives to bear on topics common to two relevantly different philosophical subfields. The same topics (laws, causation, parts and wholes, explanation) may appear as central foci of recognizably distinct discussions in metaphysics and philosophy of science. Marked differences in approach characterize the kinds of analyses as well as the resulting views on these topics within philosophy of science versus metaphysics.

The second difficulty is at the root of the first, namely, as that from which these differences in perspective stem in the first place. Metaphysics and philosophy of science are, while not totally distinct, clearly identifiable as separate subfields precisely because they address different questions about these same topics, take different sets of literature as framing the problems and stand in different relationships to science itself. This last point, about standing in distinct relationships to science, is no small thing: to a large extent, philosophy of science defines itself by the relationships it bears to science. As such, each of metaphysics and philosophy of science may have very different relationships to the sciences, both to the methodologies of science and to the knowledge generated by the sciences, but without this being a failure *per se* on the part of metaphysics.

### 3. *Integrated history and philosophy of science*

A theme that emerges that is worth drawing out more explicitly is the way in which integrated history and philosophy of science can contribute so substantively to these discussions, both in terms of engaging in them and in terms of talking about how they ought to be engaged in.

Brading's chapter deserves particular attention in this vein. It is an example of fantastically integrated history and philosophy of science. She makes some very subtle interpretive points, in response to earlier work by Schliesser (2013). But her goal is not Newton exegesis *per se*. Excavating the crucial role these sets of distinctions play in Newton's system of physics demonstrates how actively he was already contributing 'to philosophy of time through the conceptual distinctions that he makes and the methodology that he employs' (Brading 2017: 29).

She offers an interpretation of a multi-fold set of distinctions made by Newton: between absolute and relative, true and apparent, and mathematical and common, each of which can be applied to time, space and motion. She convincingly argues that Newton relied on these as a way of rendering his metaphysics, of time especially, empirically accessible to enquiry in a way that has implications for contemporary metaphysics of time.

Brading's chapter reminds us that metaphysics used to be an integral part of doing science. The apparent divide between metaphysics and philosophy (and, thus, disagreements about whether and to what extent each subfield should draw on or replicate the results or methods of the sciences) is a fairly recent innovation, in terms of post-Lewisian metaphysics, as well as a classic problem (think of Kant's response to Newton, or Carnap's or James's heated arguments against the metaphysics of their day). If we accept current divisions, this divide dates to perhaps the most recent several decades, but by removing this somewhat arbitrary division of post-Lewis or even post-Quine, we see that there is a much more continuous discussion about topics such as the nature

of time within works such as Newton who is a legitimate predecessor all of contemporary metaphysics, philosophy of science and even much of science.

In the same vein of using integrated history and philosophy of science to shift the discussion on current topics, the chapter by Ken Waters (2017) offers a conclusion situated in contemporary philosophical discussions, by way of a rich discussion of genetics from Haldane and Wright continuously through contemporary scientific practices. He makes the case that there is no general structure to the world that crosses or is universal to all scales. Structure in biology may be genuine even though it does not replicate or reduce to structure in particle physics. His point is well taken about resisting the urge to generalize any structure one may find good justification for in a given arena of investigation. This structure may be genuine, but circumscribed. He skilfully carries the historical arc about genetics up to contemporary work in genetics. His formulation of the positive view of scientific metaphysics is, similar to Brading, also in the vein of old fashioned natural philosophy as continuous with the contemporary discussion. ‘The basic strategy underlying scientific metaphysics, I suggest, is based on the idea that the world provides constraints on scientific inquiry, and that philosophers can inform metaphysics by investigating these constraints’ (85). He defends biology as sufficiently developed to support metaphysical inferences from sceptics who might urge a retreat to physics alone. In doing so, he makes the very apt point that biology as much as any other science can help clarify conceptual structures at use in the sciences, as a target of metaphysical enquiry.

#### 4. *The difficulties in spanning subfields*

One shortcoming of this volume is a comparative paucity of contributions from philosophers who primarily identify as working in metaphysics. At the conference (compared to the volume contributors), there was a larger percentage of speakers and participants who were working within the analytic metaphysics tradition. This is not a deep concern and may simply be due to the difficulties in putting together such a volume following such a conference.

Having more chapters representing metaphysics would helpfully contrast with chapters like that of Saatsi and Ladyman, for instance. While there are some interesting points in each of these, they are largely about criticizing metaphysics, but do so by taking large swathes of metaphysics as a kind of monolith and criticizing the whole. This runs a real risk of caricaturing rather than genuinely engaging with the position(s) in question.

Ladyman’s chapter, for instance, offers another description of a naturalized metaphysics, restating the view offered in his co-authored book. His criticisms against metaphysics fall prey to an error easy for philosophers of science to fall into, of underestimating the subtlety and sophistication of good work in metaphysics by pointing to a few works, and then pronouncing on the entire field based on those. He notes at one point that he chose rather randomly the metaphysics to which naturalized metaphysics is a response (151). This starts from the presupposition that anything is as good as anything else in metaphysics in terms of representing an entire subfield, and that the usual scholarly diligence required to do justice to an area outside of one’s main expertise just doesn’t apply when that area is metaphysics. It is counterproductive to philosophical engagement to decide that one knows by barely looking that there is nothing genuinely worthwhile in the work of one’s peers in a

different subfield, a dangerous kind of a priori assertion that implies that metaphysics is all of a kind in terms of quality of the work and metaphysicians are all a bit too dim to recognize these failings that are somehow obvious to philosophers of science. It also precludes opportunities to really learn something from good work in another field.

In a different vein, the chapter by Woodward is much more conscientious in laying out plausible versions of commitments that some hypothetical contemporary analytic metaphysician might make. Woodward, known for his scepticism of metaphysics, develops a refreshingly frank articulation of the non-metaphysical character of his own project, carefully rejecting claims that he either ought to be more concerned about the metaphysical underpinnings of his view or that his view requires it. His chapter is structured as a discussion between himself and a metaphysician interlocutor, into whose mouth he puts a fair summary of many actual challenges that have been made to his interventionist causal semantics. The fictional metaphysician also offers (and involves citations to) a more representative cross section of views in contemporary metaphysics.

### 5. Conclusion

Two substantive points emerge from this reading of this slim but jam-packed volume, and point towards future directions in which the discussion can go.

The first is about the usefulness of the scholarly methodology of integrated history and philosophy of science in these discussions spanning metaphysics and philosophy of science in particular. Much of the apparent fracture between metaphysics and philosophy of science with respect to science, both in terms of approach to common topics and in philosophers' construals of how these different subfields should relate, can be mended or simply dissolved in the light of a longer trajectory of discussion. In this regard, the approach of integrated history and philosophy of science is somewhat uniquely well-positioned to illuminate how our contemporary disagreements mirror those of early modern natural philosophy as well as pragmatists and logical empiricists. Drawing on insights from those discussions can refine and accelerate our own.

The second is a challenge of sorts to scientists and philosophers of science in particular, to ensure that we do justice to the subtlety of the best work in metaphysics, and really grapple with how metaphysics proceeds in terms of analysis of its subject matter, before critically engaging with it. A more charitable engagement with contemporary metaphysics can be very fruitful for philosophy of science: we often end up reinventing a particular, specialized version of the wheel of which metaphysics has already honed a more general version. Mining other subfields for insights to bring back to our own – not just sciences, but fields like metaphysics and epistemology as well – is a good heuristic for adding philosophical depth to philosophy of science.<sup>2</sup>

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## Reference

Schliesser, E. 2013. Newton's philosophy of time. In *A Companion to the Philosophy of Time*, eds. H. Dyke and A. Bardon. London: John Wiley and Sons, pp. 87–101.

# Only Imagine

EMILY CADDICK BOURNE

Kathleen Stock's engaging and careful book demonstrates that 'extreme intentionalism' – the view that a fiction's content is determined by what its author actually intended – has for too long been held back by a set of familiar objections.<sup>1</sup> It is often thought to have implausible consequences involving disregarding conventional meaning, permitting undetectable fictional content, denying that authorial intentions can be unsuccessful, or giving too much importance to extraneous indications of intention and too little to the work itself. All these objections, Stock argues, are overplayed, all are answerable, and several ultimately favour extreme intentionalism over its rivals. Stock's defence of extreme intentionalism grounds a view of imaginative resistance (Ch. 4), an account of the fiction/non-fiction distinction and of what an individual fiction is (Ch. 5), and a characterization of propositional imagining and of the nature of supposition (Ch. 6).

Stock is clear that her theory is to be measured by its explanatory value, and that it is to stand in a reflective, bilateral relationship to folk concepts of fiction and imagination: responsive to everyday judgements and intuitions, but prepared to modify them in ways motivated by its philosophical arguments. Though touching briefly on images, particularly illustrations (19; 150–52), Stock concentrates on written fictions. From its overall objectives to its fruitful discussions of real examples, Stock's approach seeks to get it right about what is involved in reading fiction competently and satisfyingly.

Chapter 1 argues that an author makes *p* part of the content of a fiction by making an utterance with a 'reflexive intention' that the reader F-imagines that *p*. Stock characterizes F-imagining (understood as the type of imagining involved in fiction) as propositional imagining which is potentially conjunctive – that is, the reader who imagines that *p* is disposed to conjoin it with other things they are to imagine in reading that same fiction, taking them to occur 'with respect to the same scenario' (28). The type of intention Stock has in mind is drawn from Grice. Stock formulates the Gricean recognition condition as: '[reader] *R*'s recognition of this intention should function as part of *R*'s reason to F-imagine that *p*' (15). (Beware of the isolated slip in the set-up on page 19, where 'a reason for *T* to  $\emptyset$ ' should be something like 'a reason for *T* to have the intended response to *S*'s  $\emptyset$ -ing'.)

Stock proposes an interesting schematic reason why certain typical objections to Grice's account of communication in general do not carry over to a Gricean account

1 *Only Imagine: Fiction, Interpretation and Imagination*. By Kathleen Stock. Oxford University Press, 2017. x + 222 pp.