

## REVITALIZING KUHN'S PHILOSOPHIES OF SCIENCE

James Marcum, *Thomas Kuhn's Revolutions: A Historical and an Evolutionary Philosophy of Science* (London: Bloomsbury Academics, 2015), ISBN 9781472530493, 304 pp.

Laura GEORGESCU\*

In 2005, James Marcum published *Thomas Kuhn's Revolution: An Historical Philosophy of Science*. That earlier book aimed to show that Kuhn was a “a major contributor to the historiographic revolution in the mid-twentieth century,” a revolution that influenced “the very understanding of science itself.”<sup>1</sup> In *Thomas Kuhn's Revolutions: A historical and an Evolutionary Philosophy of Science*, Marcum expands on the 2005 material and argues that, complementary to the historical revolution, Kuhn also brought about another revolution in philosophy of science, the “evolutionary turn” (p. vii). Although the evolutionary turn is alluded to in the very first edition of the *Structure of Scientific Revolutions* (hereafter, SSR) it really only forms itself fully in Kuhn's later works; as Marcum (and others in recent scholarship) point out, providing an account and defence of evolutionary philosophy of science (hereafter, EPS) is the main aim of Kuhn's unpublished manuscript, *Words and Worlds*, which comprised much of the material Kuhn presented in the Perspective lectures, Thalheimer lectures, and Shearman lectures (p. 24). The inclusion of such material, along with other unpublished Kuhn lectures, is sufficient by itself to make the book a worthwhile read.

In order to argue that Kuhn shifted from a historical philosophy of science to EPS, and to show what the latter entailed, Marcum proposes an approach that is “developmental and dynamic [. . .] much like Kuhn analysed texts in the history of science and how he envisioned science and its knowledge unfolding developmentally or revolutionary—and later evolutionarily” (p. 1) Marcum then begins by rehearsing almost *ad litteram* virtually all of the material used in the 2005 volume, especially in the first two parts of the later book, while expanding on it by focusing more closely on the content of Kuhn's conference talks, papers and the criticism his ideas received from philosophers of science in particular. The goal of this move is to show that important elements of what will ultimately form EPS are already present in Kuhn's historical philosophy of science, even if the full blown articulation of such elements still awaited his later work. As the book is organised chronologically, in part three, which comprises chapters 5 and 6, Marcum delves into how Kuhn came to substantiate his EPS model.

Although Marcum does not explicitly say as much, I take it that at least one of the goals of his project is to correct historians of philosophy of science who either challenge the novelty of the Kuhnian project by qualifying it either as a mere continuation of the received view of science, or challenge its relevance for post-positivist philosophies of science (although many have offered criticisms along these

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\* Department of Philosophy and Moral Science, Faculty of Arts and Philosophy, Ghent University, Blandijnberg 2, 9000 Gent, Belgium. E-mail: [laura.georgescu@ugent.be](mailto:laura.georgescu@ugent.be)

lines, Marcum takes particular issue with Fuller's claims (pp. 233–6). In contrast to readings that ultimately put Kuhn's project at the margins of current debates within philosophy of science, in this book, Marcum aims to show not only that the Kuhnian image of science—in its historical and evolutionary dimensions—entailed a rupture from the “received” view of science, but that the impact and relevance of the Kuhnian project is slowly reaching maturity rather than having completely faded. If this is part of Marcum's goals, then we can understand why he decides to focus his last two chapters on the ongoing influence Kuhn has had on our reflections on both the philosophy of science and the sciences themselves. In Marcum's narrative, rather than having moved away from Kuhn's proposals, historians of philosophy of science have only recently begun to climb into Kuhn's head—which is precisely what Kuhn himself claimed one must do as a historian—and treat Kuhn's writings from within the Kuhnian project itself. I see Marcum's book as proposing precisely such a project.

The book aligns itself perfectly with current trends in scholarship on Kuhn and on Kuhnian philosophy of science. To preserve Kuhn's relevance, given the directions of research in current philosophy of science, historians of philosophy of science and philosophers of science have to move from Kuhn's historical philosophy of science as developed in SSR and focus on Kuhn's EPS. The move seems natural, as Kuhn's EPS seems more able to accommodate questions about pluralism, practice-oriented accounts of science, questions about continuity within scientific developments, and so on, questions which dominate at least a part of the current spectrum of philosophical issues within philosophy of science—a part which I take Marcum to feel at home with.

What is novel about Marcum's approach is, on my reading, its putting the methodological insights of the Kuhnian evolutionary approach into play with respect to Kuhn's own works. Despite his claim that Kuhn brought about two revolutions—historiographic and evolutionary—in broader conceptualisations of and about science, I take Marcum here to resort to a subtle, unexpressed methodological trick. Marcum talks about the two Kuhnian revolutions, employing what he ultimately takes to be Kuhn's own notion of revolution, as reconstructed in its full articulation and not merely the partial one of SSR. This is a remote concept from our usual, more political, notion of revolution, which entails a rupture followed by a massive change in the system. If we understand Marcum's concept of revolution along these lines, then Marcum's thesis would be that Kuhn's initial historiographic revolution, presented in his early years, was overthrown and replaced by the evolutionary one towards the end of his career. As I understand Marcum's book, this is not its goal. On the contrary! Marcum wants to show that the second evolutionary revolution was already a conceptual possibility in Kuhn's early work, and that we can reconstruct retrospectively how Kuhn ultimately managed to articulate this possibility, whilst being pressed from many angles by his commentators and critics. Such articulation took place within the context of a growing philosophical interest in evolutionary epistemology and cognitive studies in the early '80s. It is not the received Kuhnian discontinuity that Marcum uses, since, as he would have it, the ascription of such a discontinuity is a misinterpretation of Kuhn. Instead, Marcum approaches Kuhn's

development through the lens of continuity, the sort of continuity that is at stake in Kuhn's evolutionary conception of scientific progress.

We see then that EPS does not replace the model of science from SSR because the latter proves itself inadequate, but rather that EPS develops out of that very model by better specification and a more nuanced understanding of SSR's conceptual apparatus. A case in point to which Marcum devotes some discussion is the incommensurability thesis, which no longer denotes the distinction between progress in normal science and progress in revolutionary science as it did in SSR; incommensurability is now located in the taxonomical alterations of the lexicon of any given specialisation. Given enough such alterations, speciation of a discipline into independent and self-sustaining new disciplines is accounted for via such local incommensurability (esp. pp. 137–9 and 173–4).

The reading outlined above is the interpretation of Marcum's book and line of argumentation that I find compelling, and that makes sense of the book's reliance on what otherwise might look like snapshot analyses of Kuhn's papers and talks, which analyses, with an almost unapologetic stubbornness, avoid entering into interpretation. We are not given a "Marcumian" reading of what the evolutionary image of science is and then a filtering out of what the relevant chronological intellectual moments are in Kuhn's path to the articulation of such an image; instead, we are provided with a curated cherry-picking of moments taken, retrospectively, to explain how Kuhn came to EPS.

Do note that the reading of Marcum given above is a reconstruction of what I take the book to be doing. Despite the book's clarity and straightforwardness, Marcum does not spend much time explaining the motivation for the book, nor does he set out his thesis, nor the exact argument the book offers. If we do not reconstruct Marcum's strategy as above, then the book easily risks looking like a chronological "encyclopaedia" of Kuhn's ideas, or maybe a textbook on Kuhn. And although it is undeniable that Marcum himself states that he provides an introduction into Kuhn's project, writing textbooks is hardly compatible with the Kuhnian spirit.

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## References

- <sup>1</sup> Marcum, J.A., *Thomas Kuhn's Revolution: An Historical Philosophy of Science* (London: Continuum, 2005), ix.