

Bojana Mladenović. *Kuhn's Legacy: Epistemology, Metaphilosophy, and Pragmatism.* xiv + 236 pp., notes, bibl., index. New York: Columbia University Press, 2017. \$60 (cloth). ISBN 9780231146685.

Following the fiftieth anniversary of the publication of Thomas Kuhn's *Structure of Scientific Revolutions* (Chicago, 1962), several new works have reexamined its message and legacy. Relevant reappraisals have come from the community of historians of science; these include *Shifting Paradigms: Thomas S. Kuhn and the History of Science*, edited by Alexander Blum, Kostas Gavroglu, Christian Joas, and Jürgen Renn (Edition Open Access, 2016), and *Kuhn's "Structure of Scientific Revolutions" at Fifty*, edited by Robert J. Richards and Lorraine Daston (Chicago, 2016). Bojana Mladenović's monograph nicely integrates these studies by looking at Kuhn from a complementary disciplinary angle: philosophy of science that aims to integrate historical inquiry. A reading of Kuhn's historical conception of science and scientific rationality against the background of American pragmatism enables her to defend him against allegations of sociological constructivism and epistemological relativism while reasserting the conceptual strength of his philosophical endeavor.

Mladenović's rereading of Kuhn employs three intertwined topics: after an overview of the main theses of Kuhn's *Structure* (Ch. 1), Part 1, "History" (Chs. 2 and 3), offers a nonconstructivist interpretation of Kuhn's historically informed epistemology; Part 2, "Rationality" (Chs. 4–6), focuses on the problems of his antirelativist but community-bounded understanding of scientific reason and the "logic" underlying his ateleological view of progress; and Part 3, "Pragmatism" (Ch. 7), offers an original contribution to the reconstruction of the intellectual contexts of Kuhn's philosophy.

Mladenović interprets Kuhn's use of history in *Structure* in light of the particular status of key categories (paradigm, normal science, crisis, scientific revolution), which are “schematic... but not... distorting” (cf. p. 43) As intellectual tools, they are neither naively empirical nor given in a pure form. They are logical constructions, like Weberian ideal types, that guide the historical-epistemological inquiry but should not be naturalized. Kuhn was deeply upset by sociologists' appropriation of his models in line with the “strong programme,” which explains all systems of belief, theories, and facts through sociological causes. Against such constructivist excesses, he reaffirmed that science postulates “nature.” Further, he distanced himself from sociologists' “muckraking investigation of the historical record” (p. 70) because he saw their bias toward a political critique of science as hostile to authority as well as to science in general. By contrast, he embraced a “cognitivist internal historiography” (p. 73) that restricts investigation to past scientists' problems and goals. Given this emphasis on the role of history, one would have appreciated more details on Kuhn's historical works and their connection to his philosophy.

As for scientific progress, Kuhn derived his model of nonteleological, unidirectional, and irreversible advancement from Darwin. Natural selection offers a model that is compatible with an idea of scientific advance in which no absolute evaluative criterion exists. In his late work, Kuhn also regarded scientific specialization as akin to biological speciation. Scholars are keenly awaiting Mladenović's forthcoming publication of Kuhn's unfinished book, *The Plurality of Worlds: An Evolutionary Theory of Scientific Development*, in order to gain a better understanding of his treatment of biology, history, and epistemology, which, as she remarks, raises crucial questions—not least the risks of naturalism.

Kuhn opposed relativistic readings of *Structure* that drew on his idea that epistemic values (such as accuracy, simplicity, and consistency) are grounded on concrete practices but not on absolute universals. According to Mladenović, he assumed that collective processes of science can ensure the rationality that is often missing at an individual level, since community consensus (or disagreement) can be (rationally) regulated independently of personal bias or interests. Moreover, Mladenović indicates a minimal set of requirements for scientific rationality that are always valid according to Kuhn's approach: the prohibition of inconsistency and ineffectiveness, the *prohibition* to suspend inquiry (her interpretation of the impossibility not to choose a paradigm in science), and that research results, reasons, and choices be shared publicly. Kuhn considered the demand for a rationality dependent on criteria that are higher than those of scientific practice to be either unnecessary or unavailable—or both.

Mladenović argues that these convictions correspond to fundamental theses of pragmatism in general (she particularly discusses the founding fathers of classical pragmatism, Charles Sanders Peirce, William James, and John Dewey): the primacy of practice in philosophy and science; antiscepticism, because radical doubt is meaningless in practice and theory; fallibilism in the absence of a foundational metaphysics; and the refusal to separate facts and values. The influence of pragmatism on Kuhn's conceptions and his own impact on pragmatic philosophy became more visible in the years following the publication and the debates on *Structure* and featured in his exchanges with neo-pragmatists such as Hilary Putnam, Nelson Goodman, and Richard Rorty.

Mladenović also identifies some limitations of Kuhn's pragmatism. In particular, although he rejected sharp dichotomies between theory and practice, he did not go as far as to accept a perspective, such as Dewey's, that refused to set a separation between "internal"

cognitive aspects of science and their “external” social context. According to Dewey’s perspective, scientific practice includes *all* values actually operative in society.

Kuhn’s Legacy presents a valuable discussion of crucial problems of epistemology in a clear and thorough manner. By taking Kuhn as a *maître à penser*, it expands the reader’s orientation within the historical and pragmatic entanglements of the philosophy of science.

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