

7-1-2009

Book Review of "The Kantian Legacy in the Nineteenth -Century Science"

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Original Citation

Book review of "The Kantian legacy in the Nineteenth -Century Science," M. Friedman, and A. Nordmann (eds.); *Journal of the History of Philosophy* 47 (3), 478-479 (2009). doi: 10.1353/hph.0.0128

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Michael Friedman and Alfred Nordmann, editors. *The Kantian Legacy in Nineteenth-Century Science*. Cambridge, MA-London: MIT Press, 2006. Pp. ii + 370. Cloth, \$45.00.

The book originates from an international conference held in November 2000 at the Dibner Institute for the History of Science and Technology at MIT. The main conviction of the authors is that not only the development of modern mathematics, foundations of mathematics, and mathematical logic, but also the development of modern scientific thought can be better understood as an evolution from Kant. The main reason for focusing on the nineteenth century is that this will allow us to set aside the question of whether the Kantian analysis has lost its relevance in the context of the twentieth-century scientific revolutions. The thirteen articles in the book explore “the complex and subtle tracing of the multiple intellectual transformations that have led, step by step, from Kant’s original scientific situation to the new scientific problems of the twentieth century” (1).

The articles can be grouped in five main focal points of the nineteenth-century scenario. The first three articles explore the Kantian legacy in the origin, development, and growth of *Naturphilosophie*, and its connection with the nineteenth-century scientific work. In more detail, Frederick Beiser argues that, contrary to a widespread opinion, the transition from Kant to *Naturphilosophie* arises as a resolution of the Kantian problems. Robert J. Richards discusses the influences of Schelling on Goethe’s Kantian dilemmas, and how this affected Goethe’s scientific work in biology. The third paper is Michael Friedman’s analysis of how *Naturphilosophie* was crucial in Oersted’s experimental work in electromagnetism.

The subsequent two articles focus on a more detailed analysis of the philosophy of science of Frie, recognized as an important figure in the science and mathematics of the time. The idea is that Frie connects the two worlds of *Naturphilosophie* and neo-Kantianism, so that analyzing his philosophy will provide a better understanding of the transition between the two. In more detail, Frederick Gregory argues that Frie can be seen as extending Kant’s connection between philosophy and science, analyzing in particular Frie’s views on chemistry. The same line of thought is developed by Helmut Pulte, who discusses in addition Frie’s views on biology and pure mathematics.

In the third and fourth groups the focus is on neo-Kantianism. First, there is an analysis of scientific thinkers like Helmholtz. Robert DiSalle describes Helmholtz’s neo-Kantian empiricism in connection (and in contrast) with Poincaré’s conventionalism, while Timothy Lenoir analyses Helmholtz’s theory of perception in connection with Kant, discussing the influence of the development of new media technologies on his work.

Then the analysis moves to the Marburg school of philosophy, in particular the philosophy of Cohen, Cassirer, Riehl, and Pierce. Alan Richardson argues that the relations between epistemology and philosophy of science were already discussed by these philosophers. Michael Heidelberger’s main idea is that the philosophy of Riehl has been as influential as that of Mach for logical empiricists like Schlick, while Alfred Nordmann discusses the similarities and differences between Riehl, Cohen, and Pierce in connection with Kant.

The last three articles deal with Poincaré’s philosophy, mathematics, physics, and the relations among them. Even if Poincaré, contra Helmholtz, never identified himself as a neo-Kantian, like Helmholtz he defended broadly Kantian views. In particular, Janet Folina analyzes and defends Poincaré’s arguments for the (Kantian) view that mathematical reasoning is synthetic *a priori*. Jeremy Gray defends the view that, even given his conventionalism, Poincaré adopted a more intuitive conception than the one of Hilbert. Lastly, Jesper Lützen compares and contrasts the Kantian, empiricist, and conventionalist tendencies of Hertz and Poincaré.

Like all collection of articles, the book suffers from an inevitable discontinuity of style and sometimes of focus, as well as some repetitiveness. Despite that, it is remarkably comprehensive, complete, clear, deep, and incisive. The literature on Kant is notoriously immense, but I have not seen so far a similarly interesting book on this particular topic, on whose importance I agree with the authors. In fact, as is well known, Kant’s philosophy has been tremendously influential in almost all areas, either because it was rejected or because it was reformulated and extended to accommodate new developments in science,

mathematics, and philosophy in a purely Kantian spirit. While the existence of this influence seems clear, it is not at all straightforward exactly what it consists in, and how it was relevant for the subsequent development of science, mathematics, and philosophy. This book's aim is exactly to elucidate these issues, and it succeeds very well.

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David Leopold. *The Young Karl Marx: German Philosophy, Modern Politics, and Human Flourishing*. Ideas in Context, 81. Cambridge-New York: Cambridge University Press, 2007. Pp. xii + 315. Cloth, \$105.00

David Leopold positions this work as “for a new generation of readers who no longer feel obliged to swallow (or spew out) Marx whole.” He does not mention the more powerful and widespread pressure—to ignore or distort Marx. This is an antidotally meticulous, if somewhat Talmudic, study of the young Marx. Its first chapter is a historical introduction to the corpus of Marx's early work and its complex history of posthumous publication. Its second and third chapters situate his ideas within the German philosophy of the period, spelling out its differences from Hegel and Bruno Bauer (with perhaps disproportionate preoccupation with the anti-Semitism of Bauer). The fourth chapter entitled “Human flourishing” is very much the most interesting. No concept is so widely incanted by contemporary philosophers and so lacking in principled ground, while no work is more suggestive here than the early Marx's. The fifth and final chapter is Leopold's “Epilogue,” which usefully reviews the book's general argument.

The young Marx has long inspired interest because his critique of capitalism and political economy is so dynamically emancipatory in its naturalist humanism. Leopold is not moved. To give a paradigmatic taste of his treatment, he excoriates a very famous passage of the young Marx—“Communism . . . is the genuine resolution of the conflict between man and nature, and between man and man . . . the riddle of history solved”—as “opaque,” “isolated and contested,” “patently implausible,” and with “no textual support elsewhere” (244–45). As contemporary philosophers in general, he does not relate to Marx's deepest unifying ideas. Connective horizons and transformative social vision are beyond the ken—to use Marx's own phrase for the fate of an early work—of “the gnawing criticism of mice.” The given syntax of philosophical acceptability blocks them.

Consider another turning-point of dismissal in this study. Here Marx's identification of the defining principle of human work as “raising a project in the head before erecting it in reality,” the architect's construction versus the bee's, is repudiated as saying nothing about a “human essence.” The reason for this, argues Leopold, is that such projective consciousness could be possessed by an extra-terrestrial species too (225–26). The essential connections here are overridden by appeal to a non-fact. Yet the *differentia specifica* of human being that Leopold dismisses is the defining human ontology of “foresight” that distinguishes men from slaves in Marx's favorite ancient philosopher, Aristotle, and of Marx's own regulating principle of human freedom that explains why he regards the working class in capitalism as dehumanized into “wage slavery.” Marx's vision of a communist society cannot therefore be understood as what it is at the existential level—a human project in macro form, a social plan of the associated producers that enables their self-governing freedom in place of their external subjugation by the life-blind capitalist mechanism.

Regrettably, Leopold consistently condescends to or fails to recognize the integrating onto-ethical *logos* of Marx's philosophy. Early on, he dismisses without argument Marx's epistemology as unqualified for “philosophical interest” (47–48), although Bertrand Russell regarded it (e.g., the young Marx's *Theses on Feuerbach*) as the first ever “activist epistemology.” Russell elsewhere tartly commented that “originality is the one thing unoriginal minds cannot see use of.” Analytic condescension here as elsewhere is apt to hollow out philosophical substance in the name of it.