



Review

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Source: Isis, Vol. 84, No. 4 (Dec., 1993), p. 811

Published by: University of Chicago Press on behalf of History of Science Society

Stable URL: http://www.jstor.org/stable/235159

Accessed: 24-11-2015 14:32 UTC

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Menachem Fisch; Simon Schaffer (Editors). *William Whewell: A Composite Portrait.* xiv + 403 pp., bibl., index. Oxford: Clarendon Press of Oxford University Press, 1991. \$98.

William Whewell (1794–1866) is a nineteenth-century figure of great significance whose multivolume works have long sat silently on library shelves, attracting only a smattering of interest over many decades. With the two-hundredth anniversary of his birth fast approaching, his work and his place in the nineteenth-century scientific and philosophical economy are receiving due attention. (A similar outcropping occurred near the centenary of his death.)

The present volume views its quarry from varied perspectives and under differing lights, vielding a new and deeper appreciation of Whewell as philosophically minded historian, historically minded philosopher, terminologically minded scientist, confident natural theologian, conservative political apologist, axiom-seeking moral philosopher, and committed reformer of scientific pedagogy. Old stereotypes fall away as new, or newly nuanced, characterizations emerge. Largely gone is the old and easy talk of "Kantian influence" on Whewell's basic philosophical notion, the "fundamental ideas." Whewell did draw on Kant in certain ways, but he was no Kantian: his fundamental ideas are less precisely defined than anything in Kant's transcendental taxonomy and are conceived as being historically embedded and developmental in a way that Kant's categories and forms of intuition are not. Menachem Fisch's second essay provides a detailed discussion of Whewell's theory of "antithetical knowledge," revealing along the way the many un-Kantian aspects of Whewell's thought, even if in his first essay he somewhat misleadingly attributes a form of "transcendental reasoning" to Whewell (pp. 62-64). Gerd Buchdahl's masterful comparison of Whewell's and J. S. Mill's deductivist and inductivist philosophies of science is a major contribution to the history of the philosophy of science; in the course of it, Buchdahl closely details similarities and dissimilarities between Whewell and Kant. Several authors sound a new theme in Whewell studies: Whewell's opposition to the utilitarian calculus of pleasures as a major motivating force in his rejection of traditional empiricist and inductivist epistemology and in his practice of natural theology (Harvey Becher, Geoffrey Cantor, Perry Williams, John Hedley Brooke, Richard Yeo, Simon Schaffer, David B. Wilson). Williams's essay is especially effective at showing how Whewell came to adapt and employ his early philosophical commitment to nonempiricist "fundamental ideas" in a political and moral program that took God and tradition as its objects of reverence. Williams plausibly contends that the History of the Inductive Sciences and the Philosophy of the Inductive Sciences were fruits of this program. The essays of Michael Ruse, Williams, Brooke, Wilson, and M. J. S. Hodge reveal the pervasive presence of Whewell's theism in his philosophical and scientific projects.

The authors of this volume wrote with a firm conviction that Whewell deserves more attention than he has received. If their volume receives its due from historians of science and historians of philosophy, as well as from philosophers of science and historians of the philosophy of science, Whewell studies will be much advanced.

GARY HATFIELD

Robert J. Richards. The Meaning of Evolution: The Morphological Construction and Ideological Reconstruction of Darwin's Theory. (Science and Its Conceptual Foundations.) xvi + 205 pp., frontis., illus., bibl., index. Chicago/London: University of Chicago Press, 1992. \$19.95, £15.95.

Lest there were any doubts: the history of scientific ideas is alive and living rambunctiously in Chicago. In his peppery prose, Robert Richards treats us to a tour through the meanings of evolution from early modern times through Darwin's version. This is no mere exercise in word tracing: as its subtitle suggests, this small, profusely illustrated book has a larger agenda. An existing tradition holds that there have been two distinct meanings of evolution, one denoting a preformationist theory of embryological development, and a separate, later one denoting descent with modification. The burden of Richards's argument is that these two meanings were not separate at all, but were united through the concept of embryological recapitulation.

The stakes here are not as low as may appear, at least within the Darwin industry. The "separatist" argument maintains that Darwin