

BOOK NOTES (cont.)

Irreversibility and Evolution in Peirce's Cosmology

Andrew S. Reynolds. Ph.D.
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This dissertation explores Peirce's attempts to explain irreversible processes and the evolutionary development of complexity and order within the universe as a whole. It uncovers two distinct models of irreversible behavior in Peirce's thinking. One is based upon the law of large numbers of probability theory and statistics; the other, which is better known in Peirce scholarship, is called by Peirce the law of mind or, equivalently, the law of habit. Both of these models describe a type of teleological process. That which is described by the law of large numbers is a comparatively weak stochastic telos. The law of habit involves a much stronger notion of final cause characteristic of conscious and deliberate goal-seeking behavior. Peirce's attempts to explain how the stronger version arises from the weaker version is investigated, with special attention being paid to his attempt to give a molecular theory of protoplasm based upon the principles of the statistical mechanical theory of matter.

The claim is made that the two distinct models of evolutionary phenomena found in Peirce's cosmological theory are in tension with one another. This tension is formulated here as two separate problems: a problem of redundancy and a problem of incompatibility. Moreover it becomes apparent that there is related ambiguity in Peirce's thinking about the evolution of natural laws. While the law of large numbers seems suitable as an explanation of law in the sense of a mere statistical uniformity, it has definite shortcomings as an account of the growth of dynamical (i.e. causal) law. For this topic the law of habit naturally suggests itself as a superior hypothesis. Yet Peirce never makes the distinction between the two models explicit and even appears to offer both as accounts of the very same phenomena. In summary, Peirce apparently failed to realize that he was relying upon two distinct models and so was unaware of the difficulties which their combination entails.

Logik, Mathesis universalis und allgemeine Wissenschaft; Leibniz und die Wiederentdeckung der formalen Logik im 19. Jahrhundert

Volker Peckhaus
Akademie Verlag, Berlin, 1997, 412 pp.
ISBN 3-05-003111-5 (Cloth)

This masterful treatise centers exactly on the topic expressed in its subtitle: Leibniz and the re-discovery of formal logic in the nineteenth century. It addresses the

bridging role that Leibniz's view of a *mathesis universalis* played in the second half of that century in the face of the dramatic progress exhibited in science and mathematics. It argues that the changes in logic through this time were prepared for by changes in philosophy and mathematics. The account begins with the early treatments of Leibniz by C. Wolff, J. H. Lambert, and G. Ploucquet and sets the stage for the post-Hegelian context in which the key two-volume Erdmann edition of Leibniz's works appeared in 1839 and 1840. The heart of the work is the study of Boole, Jevons, and Schröder. Schröder in 1877 credited Leibniz with having foreshadowed the logical calculus that was getting underway at this time. Thus the turn of the century saw a major re-treatment of Leibniz's work, principally by Louis Couturat, that made explicit the presence of Leibniz's spirit in the latest developments. Peckhaus brings out fundamental connections in Schröder's work to mathematics—in particular "absolute algebra"—and thereby counters the common historical view that the algebra of logic of Peirce and Schröder had no essential connections with mathematics. The view of Peirce given by Peckhaus is essentially the view as seen through Schröder. There are only passing references to Peirce's works and Schröder's remark about the abstractness of Peirce's "Algebra of Logic" (1885)—"sehr abstrus anmutenden Abhandlung" (p. 279)—stands without further comment as the only hint of why Peirce does not figure more prominently in this history.

Pragmatism as a Principle and Method of Right Thinking. The 1903 Harvard Lectures on Pragmatism, by Charles Sanders Peirce

Patricia Ann Turrissi, ed.
State University of New York Press,
Albany, 1997. xi + 305 pp.
ISBN 0-7914-3265-3 (Cloth)
ISBN 0-7914-3266-1 (Paper)

The philosophical significance of the 1903 Harvard Lectures can hardly be overstated. Peirce was unable to publish them when he was alive, and, until Turrissi's edition, the fifth volume of the *Collected Papers* was for about sixty years the only textual source scholars could conveniently access. The lectures represent a considerable editing challenge, for many of them exist in several drafts, and Peirce kept revising them until the last second before presentation. What to publish and how to edit it constitute two very difficult practical questions, and they allow for different strategies. It had long been known that the CP text did not do sufficient justice to the lectures, and so Turrissi's

answer to the challenge deserves a warm welcome, and indeed much scholarly gratitude. She decided to publish as much as was feasible, as a result of which we have the pleasure of being able to read three of the drafts of lecture 2, for instance. Unlike their more recent publication in *Essential Peirce 2*, Turrissi tried to reproduce the lectures as Peirce actually delivered them, and she thus relegated most of the passages Peirce skipped for lack of time into the notes instead of restoring them into the running text. Her edition begins with an introduction that ably explains the historical circumstances of the organization of the lectures. An 80-page long commentary follows, in which Turrissi moves from one lecture to the next exploring various Peircian philosophical themes. The lectures themselves take up about half the book and are textually quite reliable. Most of the endnotes consist of additional Peirce text. The work ends with a good conceptual index.

The Quest for Reality: Charles S. Peirce and the Empiricists

Cornelis de Waal, Ph.D. Dissertation.
University of Miami, 1997.

Locke's, Berkeley's, and Peirce's conceptions of reality are analyzed, using Peirce's distinction between nominalism and realism as a guideline. These three authors are chosen, first, because Peirce declares for realism in his 1871 review of Berkeley and does so in opposition to both Berkeley and Locke, and second because Peirce's criticism of nominalism runs roughly parallel to Berkeley's criticism of Locke. It is shown that all three conceptions of reality are hypotheses, which provides the criteria to compare and evaluate them: the hypothesis must be either required, or at least useful, for explaining the origin and regularities of those ideas that are not of our own making. This leads to the following result: Locke's conception of reality fails on both counts. Berkeley's alternative, though also not required, is explanatory, but as it appears, this results entirely from a strong presupposition that does all the explaining for him. It is further shown that his approach is based on a denial of matter that is untenable, and that it ultimately fails for the same reasons as Locke's. Peirce's view of reality as the object of a final opinion, though not required either, can be defended as being explanatory, but needs some modification, since some things will be real but not part of the final opinion. This leads to a new conception of reality, called the hypothesis of hypothetical realism, by way of a conclusion. This hypothesis is explanatory, and is safe from the criticisms raised against the previous conceptions.