"end of oil."   However, I did not find these references to later issues and problems to be sufficiently systematically, or continuously developed and linked to the theses of the work.

There are several interpreters of renaissance technology in relation to the general culture whom Sawday does not utilize, despite the immense range of reference he deploys. One is Roger D. Masters' *Fortune is a River*, which discusses evidence for a collaboration between Machievelli and Leonardo in canal building. Sawday mentions the collaboration in a footnote, but cites only a source that briefly casts doubt on its reality. Masters' work is very suggestive on the relations between notions of physical and political power in renaissance thought. Another is Paolo Rossi's *Technology and the Arts in the Early Modern Era.* The works of Edgar Zilsel, from which I suspect a major theme of Rossi's is taken, concern the social crisis that threw together partially literate technologists and experts in the crafts with literary and learned humanists lacking in practical technical knowledge. Two other figures that have interpreted the relation between the broader renaissance society and economy and the mechanical approach to nature are Franz Borkenau and Henryk Grossman. Zilsel, Borkenau and Grossman are all non-orthodox Marxists. Sawday does make a number of references to Marx, but not to twentieth century Marxists who discussed renaissance technology. The three just mentioned also wrote primarily in German, and Sawday's primary focus in terms of secondary sources is English. Borkenau elaborates on Marx's claim that Descartes saw the world through the eyes of manufacture. Grossman criticizes Borkenau (and is used by writers such as E. J. Dijksterhuis and to criticize Marxism in general), but develops a much more nuanced and historically accurate (in terms of time sequences of developments) case about the relation of the capitalist economy to the mechanical view of the world.

The conclusion of the book characterizes the book's theme as one of the natural and the artificial. However, I found the book to be more of a collection of separate essays than a continuously developed argument. This is not a major criticism, given the valuable material that the author surveys and presents. Nevertheless, the philosopher of technology will need to mine the book for examples to be interpreted, not for a major connecting theme or striking thesis.

I recommend this book as a treasure trove of fascinating quotations from English writers concerning technology. However, the issue of in what respects renaissance writings concerning technology differed from those in the Middle Ages and Enlightenment still needs to be developed.

Val Dusek

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Pragmatism as Post-postmodernism: Lessons from John Dewey by Larry A. Hickman (Fordham University Press, 2007). 284 pp. ISBN: 978-0823228423.

As a specialist in John Dewey studies, Larry A. Hickman has made and continues to make contributions to the development of Dewey's philosophy. This new collection of papers from

more than three decades of work is his latest approach defending and extending Dewey's classical pragmatism. As Hickman writes, his aim is to "extend the reach of John Dewey's insights into areas where they have so far had little or no recognition" (p. vii). In the pragmatist tradition, Hickman's concern is especially to help people everywhere promote their intelligent resources and practical capacities to solve social problems. Pragmatism here is the classical philosophical program that derives from Charles Pierce, John Dewey, and William James. For Hickman, productivity is central to this pragmatism, and thus the book works to "produce" creative artifacts for communities and not simply to think as an end in itself. In light of such an understanding, Hickman denominates Dewey's position as *productive pragmatism*. From the perspective of productive pragmatism technology is understood as "a natural activity of human beings, a part of their attempt to secure transitory goods and improve the conditions of their lives, both as individuals and groups" (p. 84). Like all productive human activities, it uses what Dewey calls the method of inquiry to seek and secure goods. The discussions in this book - on broadly overlapping topics such as postmodernism, neomodernism, globalization, and environment - all provide further examples of this method. The conscious reader will thus find the book's structure to be philosophical and even pragmatic. The technical route is to start from "theories" looked at as "practices" in relation to technology and its context. Afterward, using these reflections, argumentation moves back to theories again in order to advance classical pragmatism. Early in this book, Hickman locates productive pragmatism in the contemporary history of philosophy by comparisons with postmodernism and neopragmatism. Before the terminology of postmodernism was invented, classical pragmatism had already taken an antifoundationalist and deflationary attitude toward traditional metaphysics. However, Hickman's approach here is not simply to "postmodernize" pragmatism, but to make a distinctive philosophical argument that unlike highbrow postmodernism, Dewey and classical pragmatism provide "a theory of experimental inquiry that takes its point of departure from real, felt existential affairs" (p.29), in opposition to postmodernist cognitive relativism emphasizing difference, discontinuity and incommensurability. This is why Dewey's pragmatism can be called "post-postmodernism".Classical pragmatism, Hickman argues, also offers significant advantages over some currently popular versions of neopragmatism. For instance, Richard Rorty's neopragmatism blurs the distinctions between arts and technosciences and attempts to displace classical pragmatism's thick program of active experimental reconstruction with thinner projects that present hoping and coping as the best available paths to progress. By contrast, Dewey's classical pragmatism honors the distinctive roles of the arts and technosciences and emphasizes their objective results over subjective attitudes we might take toward them. Dewey is thus more able to mobilize the pragmatic enthusiasm for engaging and solving social problems, especially those characteristic of technological culture. Here, Hickman is in agreement with other interpreters such as Junichi Murata, an active Japanese pragmatist who maintains that the Deweyan contribution to the ethics of technology is to solve sociotechnical problems by means of creative long-term technology assessment. After presenting his vision of pragmatism as post-postmodernism, Hickman thus turns to consider the specific advantages of Dewey's viewpoint for intractable issues of technology and environment.

Hickman is one of the earliest pragmatists to reconsider Dewey as primarily a philosopher of technology. Especially in *John Dewey's Pragmatic Technology* (1990) and *Philosophical Tools for Technological Culture* (2001), he has used a Deweyan approach to create theoretical and practical resources for disciplines such as the philosophy of technology and technology studies.Among three other social-critical philosophers of technology with whom he has entered into dialogue in these previous and the current book — Jürgen Habermas, Andrew Feenberg, and Albert Borgmann — Hickman argues that Feenberg's social-critical theory of technology is closest to Dewey. Hickman commends Feenberg for moving away from his teacher, Herbert

Marcuse, toward the critique of technology advanced by Dewey. From a pragmatist perspective, Harbermas and Borgmann are more deficient. Habermas places too much weight on the noninstrumental side of the unstable dualism of strategic action versus communicative action, and lacks an adjustive historicist perspective on human situations. Borgmann's device paradigm is too broad and seems to deprive humans of creative uses of technology.

Hickman argues that where technology fails, the problem is ourselves. It is our lack of ability to invent new tools and to criticize our own highly cherished values. Hence, Dewey's critique of technology in Hickman's narrative calls for "naturalizing" technology, locating it in a realm that is neither supernatural nor extranatural and in which the only telic elements are the natural ends of objects, individuals, and events, all of which in turn may become means to further ends. This leads directly to Hickman's treatment of environmentalism as a related practical theme amenable to a Deweyan perspective. In this section, Hickman compares Dewey's environmental naturalism with that of Aldo Leopold and some other green pragmatists. Dewey would accept much of their work in environmental philosophy, but his naturalism would not accept the idealized, nonhuman nature, or mystic ideals sometimes encountered in Leopold and others. Evolutionary naturalism is Dewey's main theoretical framework in all his reflections on the human world. In the last part of book, Hickman tries to encapsulate the central concepts in Dewey's classical pragmatism. These ideas include the theory of inquiry (what Dewey called "epistemology industry"), warranted assertibility, habits as artifacts and productive pragmatism (Hickman's key term). Instrumentalism and experimentalism are two highlighted methodologies. But this part also tries to think through classical pragmatism from a higher level, elaborating on earlier descriptions of classical pragmatism as a post-postmodernism. Although contextualist, productive pragmatism also promotes the creative invention of new "tools" to solve problems in different situations. Its experimentalist inquiry produces new artifacts, including new habits, making it more active than either postmodernism or neopragmatism. For scholars in philosophy of technology and other technology studies disciplines, this book offers two main contributions: First, compared with other books on pragmatist philosophy of technology, it presents a more theoretical and systematic account of Dewey's pragmatism. Second, the volume is an intelligent resource for philosophy and technology studies. More specifically, in problematical sociotechnical culture, it actually helps produce creative artifacts in the forms of tools to address social problems. In sum, Hickman's most prominent achievement is to present classical pragmatism as a creative philosophy of production.

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