I. INTRODUCTION

Revealing an amiable sense of humor, the epigraph for Wade Hands’s Reflection without Rules quotes Kurt Vonnegut: “The writing style which is most natural for you is bound to echo speech you heard when a child . . . I myself grew up in . . . Indiana, where common speech sounds like a band-saw cutting galvanized tin, and employs a vocabulary as unornamental as a monkey wrench.” Fortunately, his childhood in Indiana has not left a lasting mark on Hands, for his writing style is wonderfully clear and revealing of a deep knowledge of the histories of economic methodology and science theory as well as the interlacing of the two.¹

The past few decades have witnessed an increased interest in economic methodology. The first issue of this research annual, for instance, came out in 1983. In 1985, the first copy of the journal Economics and Philosophy was published, with the aim to combine the disciplines of economics and philosophy in a powerful, fruitful, and mutually enriching manner. Four years later, the International Network for Economic Method was established with the goal to bring together economists with diverse interests and attitudes toward method. The Network at first published a bulletin entitled Methodus and next, in 1994, started the Journal of Economic Methodology that explicitly embraces a broad view of methodology. In the same year, the International Economics and Philosophy Society was formed to promote collaboration and exchange among scholars interested in economics and philosophy. Several books on various aspects of economic methodology were published during the 1980s (Blaug, 1980; Boland, 1982; Caldwell, 1982; Hausman, 1984), with revised editions coming into print a short decade later (Blaug, 1992; Caldwell, 1994; Hausman, 1994).

The last decades of the twentieth century also saw intense activity in science theory. The first issue of Social Studies of Science, an international review of
research in the social dimensions of science and technology, was published in 1971. Four years later, the Society for Social Studies of Science was established to bring together those interested in understanding science, technology, and medicine, including the way they develop and interact with their social contexts. The journal sponsored by the Society, entitled Science, Technology, and Human Values, came into print a year later, containing research and commentary on the development and dynamics of science and technology, including their involvement in politics, society, and culture. In 1987, the journal Social Epistemology was started, to provide a forum for philosophical and social scientific inquiry that incorporates the work of scholars from a variety of disciplines who share a concern with the production, assessment, and validation of knowledge. Also, many books on various aspects of science theory as well as anthologies of the field came out during the 1970s, 1980s, and 1990s (e.g. Bloor, 1976; McMullin, 1992; Mulkay, 1979; Pickering, 1992).

In light of these vigorous developments, efforts to establish connections between economic methodology and science theory come as no surprise. Yet, up to the publication of Reflection without Rules, little effort had been made to subject these to systematic scrutiny.

II. OVERVIEW

Wade Hands offers a much-needed comprehensive survey of the traditional methodological literature and recent developments in the field as well as of contemporary science theory as it relates to economic methodology.

The discussion of the methodological tradition in economics starts with John Stuart Mill, then covers the contributions of Lionel Robbins and Terence Hutchison, and ends with the insights of Milton Friedman and Paul Samuelson, stopping just short of the recent renaissance mentioned in the introduction. As Hands notes, Hutchison, Friedman, and Samuelson “clearly represent the ‘big three’ of twentieth-century methodological writing (at least prior to the last few decades), and for those of us who are middle-aged American-educated economists, they . . . represent the sum total of what we learned about ‘economic methodology’ in graduate school” (p. 48).

A wide variety of recent developments in economic methodology is covered in a fair, balanced, and impartial manner. These include appraisals of the Popperian (and Lakatosian) tradition in economics, efforts to resuscitate the Millian approach by Nancy Cartwright and Daniel Hausman, debates about realism by Tony Lawson and Uskali Mäki, and appeals to folk psychology by Alexander Rosenberg. What these share is an understanding that science in
general and economics in particular is much more complex than simple rule-based economic methodology leads one to believe. How did this realization come about? To answer that question, Reflection without Rules turns to changes in science theory.

Hands documents the demise of the Received View within the philosophy of science, on which the methodological tradition in economics had relied, in response to the problem of underdetermination as elucidated by W.V.O Quine and that of theory-ladenness as explained by Thomas Kuhn. These developments gave rise to what Hands calls the naturalistic turn, the sociological turn, the pragmatic/discursive/rhetorical turn, and the economic turn in science theory.

The naturalistic turn involves a philosophical vision that is informed by contemporary scientific practice. Hands devotes special attention to evolutionary epistemology, in which the naturalizing is based on evolutionary biology, as well as to approaches to naturalized epistemology that rely on cognitive science. Next, Hands argues that the sociological turn in science theory may be interpreted as a version of naturalism. Whereas it helped undermine the Received View in philosophy of science, it gave rise to new tensions such as relativism and reflexivity. The chapter on the pragmatic/discursive/rhetorical turn in Reflection without Rules considers a variety of recent developments in science theory and reads somewhat like “everything that ought to be discussed in a book surveying economic methodology and science theory but that does not fit anywhere else.” Finally, all the twisting and turning return us to economics. As Hands argues, the naturalistic and sociological turn “naturally” lead to the economic turn, in which economics is used as a resource in the study of scientific knowledge.

Hands cleverly notes: “Economic methodology is dead; long live economic methodology” (p. 7). That is, traditional economic methodology has all but disappeared and created space for new economic methodology. Concluding with a few issues of concern, such as whose interest is served by the new economic methodology and how to handle reflexivity and the interpretation of “the social,” Hands’s overall assessment is that the displacement and redirection of economic methodology ought to be celebrated.

**III. EVALUATION**

One of the sentences in Reflection without Rules that jumped out at your reviewer appears on page 127: “Kuhn and Neurath are just two of the many authors who, in one way or another, anticipated the recent naturalistic turn, a turn to which we now, well, . . . turn.” Besides offering yet another illustration of the author’s affable sense of humor, it further reflects the narrative strategy
he employs, which is to present the history of economic methodology and science theory as a series of turns. Moreover, its claim that some of these turns were anticipated suggests a certain insensitivity to history, for it does not present knowledge contemporaneously with historical actors and actions. Studying and evaluating earlier theories in lights of contemporary insights inevitably results in distortions. Instead, I would like to highlight the historical situatedness of Kuhn and Neurath as well as the economic turn.

First, Otto Neurath was employed by the Austrian planning ministry during World War I, worked for the governments of Bavaria and Saxony towards socializing their economics after the war, and developed his insights in Red Vienna (see Cartwright et al, 1996). In this context, he stressed three central concerns: (1) unity of science; (2) rejection of a general scientific method; and (3) anti-foundationalism. In Neurath’s view, a unified science was needed because managing the world requires a community of scientists able to combine various sciences. His rejection of a general scientific method connected with his desire for a social science with a political aim, namely the emancipation of society. And anti-foundational epistemological opinions and social democratic views tend to go together. In sum, Neurath’s central concerns must be seen in light of his dedication to socialism and the rationalization of society.

Similarly, Thomas Kuhn’s work was heavily influenced by the Cold War and the accompanying rise of Big Science (see Fuller, 2000). At the time, he was at Harvard University and participated in its general education program that had been set up in an effort to improve the public's appreciation of and respect for science. James Conant, a governmental advisor and science manager who served as President of Harvard from 1933 until 1953 and also played a key role in the creation of the atomic bomb, heavily influenced Kuhn. Within the historical context of the Cold War, he sought to defend both the authoritarianism that characterized Big Science and the egalitarianism on which American superiority was based. The solution offered by Kuhn involved bringing the public closer to science, as opposed to the reverse, by educating it on the self-organizing principles that supposedly characterize science. Appealing to Paretian principles, Kuhn argued that though scientists do not intend to be socially useful, this is the overall outcome of their activity. The result was a Platonic double-truth doctrine consisting of an ideology and pedagogy for the public and the scientific underlaborers combined with a separate metaphysical perspective reserved for the scientific elite. In short, then, Kuhn’s contributions must be read within the context of the Cold War.

Finally, recent appeals to economics of science must be understood in light of changes that have been taking place in the general structure, organization, and funding of science (see Mirowski & Sent, 2002; Sent, 1999). A quick glance
at science during the twentieth century, focusing mostly on the United States, allows one to identify three regimes: (1) the proto-industrial regime from the start of the century until 1940; (2) the Cold War regime from World War II through the Cold War; and (3) the globalized privatization regime from 1980 until the present. During the first regime, colleges and universities were mostly focused on education and liberal arts. With most research and development taking place at a few large corporations, science was largely defined by the captains of industry and their managers. Science received little to no support from the government, reflecting the fact that Americans had great trouble coming to terms with the nascent idea of public funding for science. The Cold War regime on the other hand was characterized by a massive government presence in the planning and funding of science. More specifically, most federal funding for research and development was channeled through private corporations, thereby skewing the technological exploration in selected industries. At the same time, the government defended a "communal" approach to the appropriation of the fruits of subsidized research, as evidenced by its weak property protection and active antitrust policy. These arrangements came to an end due to the continued political and economic obstacles faced by government subsidies, the universities acting more and more like corporations, the globalization of science, and the collapse of the Soviet Union. These developments ushered in what may be labeled the globalized privatization regime, characterized by increased privatization of not only research but also the teaching functions of the university. At the same time, corporations have been scrambling to reinvent contract research, supported by a more lenient antitrust policy as well as more stringent legal strictures on intellectual property. It comes as no surprise, then, to witness an economic turn with the move from the Cold War regime to the globalized privatization regime.

Now, Hands can hardly be faulted for not discussing all contexts of contexts of his subject matter. Moreover, he deserves to be lauded for the generosity he exemplifies in his evaluations. Your reviewer, for instance, would have been much more critical in her commentary on, for example, Herbert Simon’s influence on the field of naturalized epistemology,4 Nancy Cartwright’s recourse to economics in making a case for capacities,5 or Alvin Goldman’s contributions to economics of science.6

IV. FINAL COMMENTS

If there is anything for which Reflection without Rules might be criticized, it is for ending on a downbeat with the observation that recovering (or salvaging) some aspect of normative epistemology is an immensely difficult task, which
has important implications for the relationship between economic methodologists and economists. If methodologists and the economists they study are truly distinct in an epistemological sense, then methodologists can only claim some kind of epistemic privilege in understanding the economists’ quandaries more deeply than they do themselves by using some criteria of superiority. However, the source of these criteria is unclear. If, on the other hand, economic methodologists and the economists they study are not distinct epistemologically, their interdependence suggests that the methodologists’ research processes assume (at least part of) the answers they set out to find. Yet, supposing the methodologists are able to reproduce the economists’ reasoning in their own terms, then it is unclear why one should take their word over the economists’. Thus, methodologists’ voices either undermine their own assertions or become indistinguishable from the voices they wish to observe. If the economists are unintelligible, then how come methodologists can make sense out of them? If the economists are intelligible, then why would we listen to methodologists?

To be fair, there may be no solution to these tensions, so perhaps all we are left with is praise for the comprehensive, enlightening, and impressive survey contained in *Reflection without Rules*.

**NOTES**

1. Rather than dwelling on the implications of Vonnegut’s insights for yours truly, who listened to Dutch when she was a child and who now lives in Indiana, let us proceed with our review.

2. For those of us who are thirtysomething Dutch-educated economists, they represent the sum total of what we learned about “economic methodology” in undergraduate school!

3. To be sure, Hands (pp. 215–217) views pragmatism as one of the fastest growing philosophical frameworks on the intellectual landscape. In his opinion, this is because it: (1) occupies a position in between foundationalism and radical relativism; (2) blurs the relationship between theory and practice; (3) is fundamentally social; and (4) responds to the problems of theory-ladenness and underdetermination.


5. Sent (1996) criticizes Cartwright’s nostalgia for Simon’s early work on causality, the early attempts by the Cowles Commission to solve the problems of structural estimation, and Mill’s concern with tendency laws.

6. Sent (1997) outlines how Goldman’s use of economics brings not only promises but also problems.

**REFERENCES**


