Discourse, Practice, Context: From HPS to Interdisciplinary Science Studies
Alison Wylie

Published in: *PSA 1994*, Volume 2, edited by Micky Forbes, Philosophy of Science Association, East Lansing MI, 1996, pp. 393-395.

Introduction to a symposium presented at the 1995 PSA Biennial meetings
Participants: Joseph Rouse, Andy Pickering, Brian Baigrie, and Betty Smocovitis.

One of the most widely debated and influential implications of the "demise" of positivism was the realization, now a commonplace, that philosophy of science must be firmly grounded in an understanding of the history of science, and/or of contemporary scientific practice. While the nature of this alliance is still a matter of uneasy negotiation, the principle that philosophical analysis must engage "real" science has transformed philosophical practice in innumerable ways. For one thing, it has led to a systematic questioning, indeed, in the view of many, the dismantling, of "unity" theses and the presumption that the sciences embody a common rational core that philosophers can reasonably expect to "reconstruct." As HPS practitioners have scrutinized particular sciences, their diversity has come more clearly into focus and this has generated, in turn, vigorous programs of research that take an increasingly wide range of "special" sciences--including a range of life sciences, earth sciences, and social sciences--as a legitimate primary focus of concern. Increasingly these are recognized to be philosophically interesting in their own right, not just a resource for testing (a source of counterexamples), or an export destination for models of "real" science. This has put considerable strain on traditional approaches to HPS (see Baigrie, this volume), frequently foregrounding the particularities of these sciences and of the (intellectual) contexts in which they have flourished, and forcing a consideration of much richer explanatory models; one response has been the growing interest in strategies for "naturalizing" philosophical studies of science.

In the same period, sociologists of science have called into question the efficacy of philosophical analysis in much more general terms, intent on finally and decisively displacing any lingering philosophical convictions about the uniqueness, unity, and rationality of science. As these challenges have evolved, they have generated a quite heterogenous family of programs of science studies research, not all of which are as categorically opposed to philosophical approaches as the original Strong Program or its most direct descendants (see, for example, contributors to Pickering 1992, and Pickering's introduction to this collection). For all their diversity, however, they share an insistence on the need to understand the sciences in context, meaning not just intellectual context, but pragmatic, sociological, historical, and political-economic contexts. The proponents of cultural studies of science further insist that the sciences be understood as essentially cultural, discursive enterprises (see Smocovitis and Rouse, this volume).

While (some) philosophers have vehemently opposed all forms of sociological challenge, and (some) sociologists retain a rigorously oppositional (anti-philosophical) stance, there has been considerable movement on all sides toward more a constructive exchange on matters of common interest (for philosophical responses, compare the exchange between contributors to Brown 1984, with the responses to Roth and Barrett 1990 and the approach taken by, for example, Henderson 1990, Longino 1990, and Rouse 1987). Where philosophy of science is concerned, there is a very real sense in which the sociological demand for contextualization simply extends the earlier, internal demand that philosophical analyses of science be grounded in the detailed analysis of actual scientific practice, and complements the more recent interest in naturalizing philosophical studies of science (Manicas and Rosenberg 1985, 1988). Similarly, a good many sociologists of science have backed away from the more extreme constructivism some had espoused, and from the sociological essentialism with which it is often associated. What emerges is an increasingly clear appreciation by all parties to these debates that each of the existing science studies disciplines is inherently limited, taken on its own. Indeed, given the complex and multi-dimensional nature of scientific enterprises--a feature of science that is inescapable when you attend to its details--it is simply implausible that the sciences could be effectively understood in strictly philosophical, or sociological, or historical terms. As Pickering puts the point, "my suspicion is that scientific practice has its own unity and integrity that cuts very deeply across disciplinary boundaries....[it] is situated and evolves right on the boundary, at the point of intersection, of the material, social, conceptual (and so on) worlds" (1990, 710).

The real challenge, then, is one that now confronts philosophers, historians, and sociologists alike; it is to recast our problems and categories of analysis so that we can comprehend, more adequately, the full range of factors that constitute and that shape science. This will require the development of genuinely interdisciplinary programs of science studies research that draw on but are not constrained by the resources of each of the disciplines that have traditionally taken an interest in science as a subject of inquiry. And it may require substantial change in the institutions that support and structure science studies research.

Given these considerations, it seems especially fruitful, at this juncture, to focus attention on recent developments at the interface between various disciplinary science studies fields. To this end, the symposium presented here brings together two philosophers who explore the implications of sociological and historical contextualization for philosophical studies of science (Baigrie and Rouse), with a sociologist (Pickering) and an historian (Smocovitis) whose work raises philosophical questions about the sciences and about science studies. Each argues for ways of reconceptualizing our subject domains, our purposes, and our conventional strategies of inquiry that promise much richer understanding of the sciences, but necessarily challenge discipline-specific traditions of science studies quite profoundly. If there is a common theme to be discerned in these discussions it is that, in the spirit of Rouse's recommendations (this volume), science studies should be understood to be an essentially open ended and dynamic enterprise, like the sciences they study.

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