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Peter Galison and David J. Stump, Eds. ***The Disunity of Science: Boundaries, Contexts, and Power.*** Stanford, CA: Stanford University Press, 1996. 567 pp. $65.00 (cloth) ISBN 0-8047-2436-9.

Faith in the unity of science has long been an important element in positivist philosophies of science as well as some cruder forms of scientism. The propagation of this faith occurred in two major waves, one in the nineteenth century, the other in the twentieth. In the first wave one must include some of the most prominent German scientists of the time, men like Helmholtz, Virchow, and Du Bois-Reymond, but also less reputable philosophers like Herbert Spencer. Some of the logical positivists of the Vienna Circle, particularly Otto Neurath and Rudolf Carnap, were prominent figures in the second wave. Two of the chapters in the Galison & Stump volume examine the views of these latter figures.

But, as its title indicates, the volume is less concerned with exploring traditional notions of the unity of science than with the implications of rejecting all such notions. The latter part of the twentieth century has not been kind to the unity of science, both as idea and as practice. As fundamental cracks opened up in the cohesiveness of both the physical and the life sciences, philosophers of science ceased to preach the virtues of unification and turned their attention to constructing philosophies of disunity. Several of these are represented in the present volume.

Changing metaphors for describing scientific knowledge form a rather striking expression of this philosophical shift. Where unificationism adopted hierarchical models that facilitated reductionistic explanations, the philosophies of disunity advise us to think of science as a quilt (Stump) or as a magazine rather than a book (Hacking). For two of the contributors to the volume, this leads to a conception of "scientific styles" that constitute distinct forms of reasoning. Ian Hacking distinguishes seven such styles, each of which has its own standards of objectivity and its own kind of scientific object. Each style is marked by certain self-stabilizing techniques which make it self-authenticating and give it historical stability. A. I. Davidson draws on the ideas of Hacking and Foucault to analyze the change from an anatomical to a functionalist style in nineteenth century psychiatry. He also makes an explicit link with the concept of artistic style as developed by art historian Heinrich Wölfflin. Some philosophers of disunity would not wish to go as far as that, but if "style" is taken as an important category for the analysis of science as well as of art—the question of their relationship is inevitably placed on the agenda. The answers provided in this volume, however, are rather tentative.

Much more is said about another relationship, that between the unity/disunity of science and its authority. In the words of one of the contributors, "the political power of science rests in considerable part on the assumption that it is a unified whole" (Dupré, 115). For several other contributors the socio-political aspects of the unity issue are of primary importance. Simon Schaffer is concerned with what he calls processes of canonization that are at work in scientific communities. The canon of a discipline is first defined as "the corpus of exemplary texts that provide a standard of that discipline" (207), though later the notion is broadened to include non-textual practices (222). This extension would seem to be crucial if the concept is ever to be applied to the history of the behavioral sciences which have placed their faith in canonical methods rather than canonical texts. In any case, Schaffer sees

important part of this process, and it is the historian s task to make that visible.

Historians' interest in the local contextualization of scientific knowledge makes it likely that their work will add grist to the mills of scientific disunity. Indeed, several of the historical contributions to this volume have this effect. But that raises the question of the historian's own localization, that is, the way in which histories of science depend on historians' current perspectives. For example, historians' awareness of current knowledge about a topic may color their account of earlier variants. Perhaps all that is needed here is a bracketing of the truth of scientific beliefs while their formation is being accounted for, as advocated by Arthur Fine in this volume.

But in the work of many of the volume's contributors, the notion of decontextualized scientific truth no longer has any place at all. Thus, Joseph Rouse uses Foucault's analysis of power to reject what he calls "epistemic sovereignty", and Evelyn Fox Keller presents an analysis of the subject that is always present in the representation of objective scientific knowledge. Historians are likely to find Mario Biagioli's examination of this and related issues particularly interesting. He points to the *partiality* (not just the localization) of all perspectives, including that of the historian. That makes a certain kind of presentism unavoidable, though it is not to be confused with whiggish legitimation of the present. The implications of such a position are made very clear by Donna Haraway when she advocates the removal of the wall that separates the political and the technical and insists that "both the objects and the subjects of knowledge-making practices must be located" (440).

This volume's major contribution lies in a demonstration of the many ways in which the question of the unity or disunity of science is inescapably linked to fundamental philosophical and historiographic questions. I would not like to end this review without mentioning the superb index. In a book of this sort that is an important component whose quality makes a real contribution to the value of the collection.

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