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ACTING AND REFLECTING

The Interdisciplinary Turn in Philosophy

Edited by

WILFRIED SIEG

*Department of Philosophy, Carnegie Mellon University,
Pittsburgh, U.S.A.*



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To Ernest Nagel

It would presumably be taken as a sign of extreme naiveté, if not callous insensitivity, if one were to ask why all this ardor to reconcile the findings of natural science with the validity of values? . . .

The point of the seemingly crass question . . . is thus to elicit the radical difference made when the problem of values is seen to be connected with the problem of intelligent action. If the validity of beliefs and judgements about values is dependent upon the consequences of action undertaken in their behalf, if the assumed association of values with knowledge capable of being demonstrated apart from activity, is abandoned, then the problem of the intrinsic relation of science to value is wholly artificial. It is replaced by a group of practical problems: How shall we employ what we know to direct the formation of beliefs about value and how shall we direct our practical behavior so as to test these beliefs and make possible better ones? The question is seen to be just what it has always been empirically: What shall we *do* to make objects having value more secure in existence? And we approach the answer to the problem with all the advantages given to us by increase of knowledge of the conditions and relations under which doing must proceed.

John Dewey

from *John Dewey, The Quest for Certainty*, volume 4 of "The Later Works, 1925-1953", Southern Illinois University Press, Carbondale and Edwardsville, 1988.

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PREFACE

In the fall of 1985 Carnegie Mellon University established a Department of Philosophy. The focus of the department is logic broadly conceived, philosophy of science, in particular of the social sciences, and linguistics. To mark the inauguration of the department, a daylong celebration was held on April 5, 1986. This celebration consisted of two keynote addresses by Patrick Suppes and Thomas Schwartz, seminars directed by members of the department, and a panel discussion on the computational model of mind moderated by Dana S. Scott. The various contributions, in modified and expanded form, are the core of this collection of essays, and they are, I believe, of more than parochial interest: they turn attention to substantive and reflective interdisciplinary work.

The collection is divided into three parts. The first part gives perspectives (i) on general features of the interdisciplinary enterprise in philosophy (by Patrick Suppes, Thomas Schwartz, Herbert A. Simon, and Clark Glymour), and (ii) on a particular topic that invites such interaction, namely computational models of the mind (with contributions by Gilbert Harman, John Haugeland, Jay McClelland, and Allen Newell). The second part contains (mostly informal) reports on concrete research done within that enterprise; the research topics range from decision theory and the philosophy of economics through foundational problems in mathematics to issues in aesthetics and computational linguistics. The third part is a postscriptum by Isaac Levi, analyzing directions of (computational) work from his perspective.

The intent of the volume is clearly programmatic: we want to invigorate and strengthen a tradition—in philosophy—that joins theoretical analysis and reflection with substantive work in a discipline. How else—but through such work—to garner the proper material for analysis? Isn't such active work and a sense of a discipline's history needed to reflect on the direction or misdirection of particular developments? And isn't, in addition, a critical philosophical awareness needed to recognize important general problems? Reflection has to be based on sound analyses not to degenerate into idle speculation, and its results have to be challenged by genuine problems to test their adequacy. These questions and remarks apply in particular to philosophy's interaction with scientific disciplines; there too, we are pushed to interdisciplinary work—how else can we thoroughly appreciate that science is not “a set of technologies” nor “a body of results”, but rather “a continuing process of inquiry whose fruits are the products of a remarkable intellectual method”?

Ernest Nagel, who was teacher and friend to many of us, emphasized the need to view science in that light not only to uncover the structures of science,

PREFACE

but also for another social end, namely to help overcome “the age-old and socially costly conflict between the sciences and the humanities”. And here philosophy has a special role; settled by tradition among the humanities, it is deeply intertwined with the sciences and in particular, with mathematics. Indeed, with the latter it shares a penchant for pure, shall we say speculative, thought and the need for working connections to other disciplines: broad conceptual designs emerge from and have to be measured against multifarious experience. Nagel admits and emphasizes that science does not exhaust the modes of experiencing the world. “The primary aim of science is *knowledge*; and however precious this fruit of science may be, it clearly is not and cannot be a substitute for other things which may be equally precious, and which must be sought for in other ways.” But no one who is deeply devoted to the humanities can ignore the particular dimension of experience to which science is relevant.

It satisfies that desire [to know] by dissolving as far as it can our romantic illusions and our provincialisms through the operation of a social process of indefatigable criticism. It is this critical spirit which is the special glory of modern science. There are no reasonable alternatives to it for arriving at responsibly supported conclusions as to where we stand in the scheme of things and what our destinies are.¹

In the smaller scheme of things that effect our destinies so much more directly, I want to express my admiration for the vision and courage of the administration of President Cyert and the faculty at Carnegie Mellon to create a modern department of philosophy and thus, the occasion. The Inaugural Celebration was organized by Dan Hausman and Dana Scott; they laid the groundwork for a most informative and joyful day. As to this volume², I thank all contributors for the (additional) work of preparing their papers for publication; my discussions with Tom Schwartz and Teddy Seidenfeld were important for sharpening its distinctive direction. Finally, my thanks to Kathryn Black who prepared the manuscript with unstinting care (in L^AT_EX) and sound advice in matters of style.

Wilfried Sieg

Pittsburgh, July 1, 1989

¹All quotations are from “Modern Science in Philosophical Perspective”, an article published in 1959 and reprinted in Nagel’s collection of essays *Teleology Revisited and other Essays in the Philosophy and History of Science*, Columbia University Press, New York, 1979, pp. 7–28.

²The preparation of the volume was, in part, supported by a grant from the Buhl Foundation.