LIAISONS

Philosophy Meets the Cognitive and Social Sciences

Alvin I. Goldman

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Introduction

Types of Interfaces between Philosophy and the Cognitive and Social Sciences

In the last twenty-five years philosophers have established increasingly intimate relations with neighboring disciplines. Moral and social philosophers regularly exchange ideas with economists, political theorists, medical practitioners, and lawyers. Philosophers of science confer not only with physicists, biologists, and mathematicians but also with historians and sociologists of science. Philosophers of mind and language have eroded or obliterated old boundary lines and pursue ongoing collaboration with psychologists, linguists, neuroscientists, and artificial intelligencers. In almost all of these fields, new journals have sprung up that publish a burgeoning cross-disciplinary literature.

Do these developments create an identity crisis for philosophy? They certainly make philosophy harder, and often more specialized. Still, they are an occasion for satisfaction rather than anxiety. As healthy responses to genuine intellectual forces, they increase the fertility and excitement of philosophy. They also return philosophy to the position it occupied in its most significant historical periods. The giants of ancient philosophy had no fear of intellectual borders; and philosophical developments of the seventeenth and eighteenth centuries were thoroughly interwoven with the scientific advances and political ideas of their day.

This volume of essays is not a survey of philosophy's interdisciplinary activities. Nor does it purport to be representative of the ways philosophy intersects with the cognitive and social sciences. It is, rather, a partial record of how one philosopher has been driven by the "logic" of philosophical problems toward questions and perspectives that occupy cognitive and social scientists. It tries to chart new paths of disciplinary interchange, not just map the old. Often it is absorbed with the basic rationale and structure for such interchange, acknowledging that detailed developments lie in the future. Many of these essays address two fields of philosophy—epistemology and metaphysics—that were traditionally seen as *purely* philosophical, untainted by messy empirical facts and free of the paradigms and pursuits of empirical science. That is not the scenario I envisage for these fields. Even epistemology and metaphysics, properly conceptualized, would invite contributions from empirical disciplines.

To clarify the lines of disciplinary convergence that guide these essays, it will help to distinguish three types of interfaces between philosophy and the cognitive and social sciences. The philosopher can relate to these sciences as a contributor, a methodological critic, or a consumer. I shall illustrate these relations first for the cognitive sciences and then the social sciences.

Philosophy has *contributed* to cognitive science (often serendipitously rather than deliberately) by the creation of intellectual tools and the identification of agenda-setting topics. Various branches of logic and styles of semantical theory are examples of intellectual tools in widespread use within AI and linguistics. Major topics that originated with philosophy but are now the concern of linguistics and the theory of natural language understanding include predication, reference, quantification, modality, indexicals, presupposition, propositional attitudes, and speech act theory. Another central type of contribution by philosophy concerns the conceptual foundations of cognitive science. Whereas Cartesianism erected barriers to the empirical investigation of the mind, and behaviorism imposed narrow restraints on mental theorizing, the functionalist-computationalist model of mental states developed by Putnam, Fodor, and others provided a friendly conceptual underpinning for cognitivism.

The second role for philosophy is *methodological criticism*. This is a stance philosophers of science take toward any science. What are the legitimate theoretical constructs of the science, they often ask, and what is their ontological status? What are the kinds of research programs in the science, and how do they mesh with programs at higher or lower levels of analysis? In philosophy of cognitive science, these questions have centered on propositional attitude constructs and theories. Are belief and desire appropriate concepts for cognitive science, or should they be eliminated from a mature science of the mind-brain? If they should be retained, should they be construed "realistically" or "instrumentalistically"? Should they be used as full-fledged semantical concepts, or treated merely "syntactically"? Is the symbolic level of theorizing a really fruitful level, or are mental processes best studied at the neurological (or "abstract neurological") level? What are the promises and accomplishments of the connectionist research program in cognitive science?

When philosophers speak of "philosophy and cognitive science", these are the topics that leap most readily to mind. Yet these are not the topics that occupy this volume, even in the chapters that intersect with cognitive science. The present essays are not devoted to methodological critique. The foregoing are questions in the philosophy *of* cognitive science; but that is not part of this book's agenda.

The main mission of these essays (those relating to cognitive science) falls in the third category: the consumer relationship. They try to show

how various branches of philosophy can apply the findings and theories of cognitive science. The emphasis, then, is not on a critical appraisal of results in cognitive science but on the philosophical uses to which such results might be put. Of course, we only want to use results or theories that are true; so an appraisal of their epistemic merits is in order. But these essays mostly focus on a prior question: supposing that cognitive science can discover certain facts about the human mind, how would these facts impinge on this or that philosophical endeavor? Various philosophical problems cannot be properly addressed, I contend, without the help of empirical research in psychology or other cognitive sciences.

Chapter 1 argues for this perspective in the philosophy of mind, more specifically, for the question of how mental states (especially the attitudes) are ascribed to other people. The core question here is, What is our (ordinary) concept of a mental state? Third-person ascription of such states has seemed particularly problematic on some accounts of our mental concepts, and this has led to behaviorist, functionalist, and charity (or rationality) theories, which ostensibly accommodate third-person ascription tolerably well. But are these theories, I ask, psychologically realistic? Do people really use a functionalist concept of mind in attributing mental states to others? Do they really impose rationality requirements in interpreting others? Even philosophers who are otherwise well disposed toward cognitivism have typically addressed these issues purely a priori, without conceptualizing them as empirical questions. But if we conceptualize them as questions about the psychological and linguistic activity of cognizers, then the questions are readily seen as (broadly) empirical in nature.

This does not mean, of course, that empirical psychologists have already investigated precisely these questions in (satisfactory) detail. In fact, I do adduce a few specimens of relevant psychology, including some developmental psychology, where this sort of question has begun to be explored. At this point in time, however, recourse must be taken to thought-experiments, at least as a temporary expedient. It is also crucial to notice that since these questions have been largely neglected by psychologists (until recently), they have not framed many hypotheses for testing. Indeed, it is a principal contribution of philosophy to have formulated and reflected on several such hypotheses. Chapter 1 advances a simulation hypothesis, which resembles the "empathy" or "Verstehen" approach endorsed by numerous philosophers since the eighteenth century. Thus, it exemplifies not only the third but also the first type of interface between philosophy and cognitive science: philosophy acting as contributor to cognitive science.

Chapters 2 and 3 advance a conception of metaphysics in which inputs from cognitive science would play an active role. These essays distinguish two branches of metaphysics: descriptive and prescriptive. Descriptive

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metaphysics seeks to describe and explain our "folk ontology"—the basic categories and concepts deployed in representing and understanding the world. This task can certainly be viewed as a joint venture between philosophy, psychology, and linguistics. Even prescriptive metaphysics, moreover, can benefit from cognitive science. As we learn how cognitive structure shapes or influences such elements of our ontological scheme as object-unity, color, time, and modality, we find it necessary to reconfigure our naive ontology into a more sophisticated one.

The third topic illustrating the philosophy/cognitive science interface is (individual) epistemology. I have treated this interface at length in *Epistemology and Cognition* (Goldman 1986). The central thesis is that epistemic achievements like knowledge and justified belief critically hinge on the use of suitable psychological processes. Since the repertoire of processes available to the human cognizer can only be disclosed through empirical research, epistemology should work hand-in-hand with cognitive science.

In the present context, 'psychological processes' refers to events that cause beliefs. In the not-so-distant past, causal questions were banned from epistemology. Epistemic status was equated with evidential status, which was thought to arise purely from deductive and inductive relations among propositions. To worry about causes was to commit the 'genetic fallacy'. Chapters 4 and 5 played a role—I like to think a substantial role—in changing people's opinions about this (although, of course, not everyone's opinion has changed). Chapter 6 went on to assign central status to 'cognitive processes', invoking them in the account of 'justification' and not merely of 'knowledge'. Although chapters 4, 5, and 6 provide a rationale for incorporating psychology into epistemology, detailed pursuit of this program occurs in chapters 8 and 9. The latter essays not only emulate *Epistemology and Cognition* in its use of psychology but advance beyond it in applying psychology to study the epistemic *evaluator* as well as the epistemic *agent*.

Let us turn now to the relations between philosophy and social science. The same classification scheme introduced earlier will serve us here as well. Philosophy can either contribute to social science, make methodological assessments of social science, or consume the products of social science. 'Consumption' would include the application of social science's models, paradigms, or research findings to various and sundry philosophical ends.

Philosophers standardly address the social sciences as methodological critics. They debate whether social science should be methodologically akin to natural science or methodologically distinct. What is the proper role of experimentation in social science? Are there distinctive forms of explanation in the human sciences—rational or meaningful explanation—that contrast with nomological explanation? What is the proper theoretical perspective for social science: "holist" or "methodological individualist"?

There is only a little in this volume that addresses these questions, and this appears in chapter 1, not in the main "social" essays of parts III and IV. Chapter 1 gives a modern reconstruction of "empathetic," non-nomic explanation of human action, lending support to one party in the dispute over explanation. (However, it does not *exclude* nomic explanation of human action.) Moreover, this reconstruction of Verstehen has already been fruitfully applied by one economist to economic theory (Bacharach 1989). However, the main "social" parts of this book—parts III and IV—are not concerned with the standard methodological issues in the philosophy of social science.

A second arena of intense interaction among philosophers and social scientists is a wide gamut of normative subjects: political theory, social theory, and moral theory. Not only have philosophers contributed to the distinctively philosophical aspects of these subjects but their work has often contributed to mainstream social science. Major historical examples are Condorcet, Mill, and Marx. On the contemporary scene, influence flows in both directions. Welfare economists pay heed to what social philosophers say about justice, and social philosophers utilize analytical tools created by economists and political scientists. Philosophical applications of game theory, social choice theory, and bargaining theory are legion. The adequacy of market mechanisms and the problem of 'public goods' are additional topics of significant philosophical interest.

Part IV falls into the arena of political theory, although more 'positive' than 'normative' political theory. The two essays in this part develop a theoretical analysis of social power. This is an instance, then, of philosophy *contributing* to social science. Even in these essays, however, there is considerable *consumption* of the social science literature. Earlier investigations of power by political scientists are examined and utilized, and one tool of analysis is borrowed from social choice theory (the notion of a "decisive set").

Part III intersects with social science in developing a relatively new and unorthodox topic: social epistemology. According to my conception of epistemology, one branch of the subject—social epistemics—should study interpersonal practices and social institutions that influence belief formation (chapter 10). This conception agrees with recent historians and sociologists of science in their emphasis on the social dimensions of science. Unlike most of those practitioners, however, I favor normative objectivism, which takes seriously the goals of truth acquisition and error avoidance. Moreover, I do not restrict attention to science. Institutional practices in many social domains, including law, education, advertising, and the media, are potential targets of social-epistemological investigation (chapter 11). The study of these institutional practices cannot, of course, be purely a priori; it will inevitably appeal at certain junctures to empirical findings. Thus, social

epistemology must be a joint venture among philosophers and social scientists, just as individual epistemology should be a joint venture among philosophers and cognitive scientists.

Social epistemology can profit not only from the findings of social science about particular institutional arrangements but also from its models and paradigms, especially those of economics. This is best illustrated by chapter 12, which explores an 'invisible hand' approach to truth acquisition in science. Assume that scientists and other professional inquirers are motivated to advance their personal reputations; assume that this motive guides their research. Can this self-interested motivation promote the community's discovery and possession of truth? Chapter 12 shows that under specified circumstances the credit-seeking motive does indeed promote truth possession (though not quite as efficiently, in the class of cases investigated, as "pure," truth-seeking motivation).

The multidisciplinary theme I have just outlined is the central unifying theme of this volume, but not the only one; several themes unify smaller segments of the book. Part II, for example, provides the record of my approach to naturalistic epistemology that has evolved steadily from 1967 to the present. Parts II and III together articulate and illustrate a wider naturalistic conception of epistemology (or epistemics), embracing the social as well as the psychological. An emphasis on truth-linked evaluation pervades almost all of these epistemology papers. Finally, a more recent theme links Chapters 2, 3, and 9. This is the idea that both metaphysics and epistemology should distinguish their descriptive and prescriptive missions. Conflation of descriptive and prescriptive questions creates confusion, whereas systematic differentiation of these questions can promote considerable progress.

Each chapter has its own note of thanks to the individuals who helped me with its ideas or formulation. But only one person, Holly Smith, has given me extensive comments on almost all of the papers. Her invaluable help, both philosophical and stylistic, both critical and constructive, has averted many errors and led to numerous improvements.

Part I

Mind and Metaphysics

Chapter 1
Interpretation Psychologized

I

A central problem of philosophy of mind is the nature of mental states, or the truth-conditions for the ascription of such states. Especially problematic are the propositional attitudes: beliefs, desires, and so forth. One popular strategy for attacking these problems is to examine the practice of speakers in ascribing these states, especially to others. What principles or procedures guide or underlie the ascriber's activity? In identifying such principles or procedures, one hopes to glean the criteria or satisfaction conditions of the mentalistic predicates (or something like this). Now the ascription of the attitudes involves the assignment of some sort of 'content' or 'meaning' to the mind, which can be seen as a kind of 'interpretation' of the agent or his behavior. (It is also related, on many theories, to the interpretation of the agent's utterances.) Thus, ascription of mental states, especially the attitudes, can be thought of as a matter of interpretation; and the strategy of studying the interpreter, in order to extract the conditions of mentality, or propositional attitudehood, may be called the *interpretation strategy*. I do not assume here that this strategy will or can succeed. Nonetheless, its popularity, if nothing else, makes it worthy of investigation.

The aim of this paper, then, is to study interpretation, specifically, to work toward an account of interpretation that seems descriptively and explanatorily correct. No account of interpretation can be philosophically helpful, I submit, if it is incompatible with a correct account of what people actually do when they interpret others. My question, then, is: how does the (naive) interpreter arrive at his/her judgments about the mental attitudes of others? Philosophers who have addressed this question have not, in my view, been sufficiently psychological, or cognitivist, even those who are otherwise psychologically inclined. I shall defend some proposals about the activity of interpretation that are, I believe, psychologically more realistic than their chief competitors.

In the very posing of my question—how does the interpreter arrive at attributions of propositional attitudes (and other mental states)—I assume that the attributor herself has contentful states, at least beliefs. Since I am

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