**Cartographies of the Mind: Philosophy and Psychology in Intersection**
Massimo Marraffa, Mario De Caro, & Francesco Ferretti (Eds.)
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*Cartographies of the Mind* contains stimulating contributions to the fields of cognitive science and philosophical psychology. Most of the chapters provide empirically rigorous and philosophically interesting introductions to the topics that are examined. It could serve well as a primary text for either upper-level undergraduate courses or graduate-level survey courses on cognitive science or philosophical psychology. But given the breadth of topics covered and the uneven quality of the essays, a course reading list would require supplementary materials as well.

The book consists of twenty-three chapters, divided into three parts: "The Interplay of Levels," "Dimensions of Mind," and "Dimensions of Agency". These titles are not informative; so, this review provides a general overview of main themes discussed in each part, and examines some of the more interesting chapters. According to the editor's preface, the volume's authors share an *interactionist* approach to the study of the mind. This approach purports to avoid the biases of both "*scientific*" and "*philosophical* isolationism." The former regards scientific psychology to be the only viable methodology for examining the mind. The latter regards philosophical methodology to be the only viable tool for investigating the mind. The interactionist approach integrates the findings of an empirically-informed philosophy of mind and a philosophically-informed scientific psychology.

Part One, "The Interplay of Levels," contains an introductory chapter to the book and two chapters that focus on computational explanation. Each chapter in Part One assumes that some version of computational functionalism is true; hence their emphasis on computational explanation.

Chapter One, Massimo Marraffa's "Setting the Stage: Persons, Minds and Brains," introduces the main themes and topics examined in the book. Marraffa constructs a brief but detailed history of cognitive science during the 20th Century, which focuses on how various reactions to eliminativism about folk psychology (in its introspectionist and computational forms) shaped the development of cognitive psychology and the central debates in philosophy of mind during that period. Marraffa's account of the development of functionalism from behaviorism is exemplary. He also lucidly describes the main theoretical perspectives taken towards the relation between neuroscientific explanation, psychological explanation, and other forms of explanation. Marraffa ultimately advocates a non-reductionist theory that he calls, "explanatory pluralism," which contends that as science develops, different "levels" of explanation *co-evolve* and do not succumb to reduction. Marraffa contrasts the pluralistic model of the co-evolution of scientific theories that he endorses with the reductionist model defended by Paul Churchland and Patricia Churchland. Marraffa criticizes the *unidirectionality* of their reductionist approach, and he endorses a non-reductive theory that displays *bidirectionality* (i.e., lower-level theories are considered to "mutually influence" higher-level theories). Marraffa's explanatory pluralism draws from the work of Huib Looren de Jong. While the general discussion of the role of scientific explanation in cognitive psychology is fruitful, Marraffa's chapter is marred by his hasty dismissal of the explanatory value of introspection. He argues that to rely on introspection in cognitive psychology is to commit the "homunculus fallacy." His argument would benefit from engaging with contemporary philosophical work on introspection, including the sort of work present in subsequent chapters, such as Tim Bayne's attempt to

vindicate the status of introspection (discussed below). This is an instance of a more general weakness of the book: although there is some engagement between the chapters, they are mostly freestanding and are not well integrated with each other—an extremely striking flaw given the editors' *interactionist* ambitions. The addition of an epilogue that integrates the arguments and themes of the book might have helped in this regard.

Part Two, "Dimensions of Mind," consists of seven chapters each of which provides interesting and recent psychological data on a specific topic (e.g., perception) and discusses philosophical issues that pertain to the topic. Part Two contains chapters on the following topics: perception, synaesthesia, memory, emotion, cognition, concepts, reasoning and language comprehension. Many "research programs" are offered in these essays, and their abbreviated proposals would benefit from more sustained argumentation. (Craig De Lancy's "Emotion and Cognition: A New Map of the Terrain," provides the most developed proposal in Part Two.)

Part Three, "Dimensions of Agency," is longer than Parts One and Two combined, and is divided into four sections. The section titles are uninformative and a more specific description of their contents is in order, which is unfortunate since the strongest and most interesting chapters of the book appear here.

Section One, "Self-Knowledge," consists of chapters about the unconscious, self-deception, and the nature of human agency. The latter is discussed by Eddy Nahmias in his "Autonomous Agency and Social Psychology." Nahmias describes a series of threats to human autonomy (better: 'volitional integrity') that have emerged from the findings of various studies in social psychology, such as situationism, the explanatory irrelevance of character traits, and the errors of folk psychology and introspection. One moral that is frequently drawn from these studies is that human beings do not govern their behavior by principles that they have consciously chosen. Nahmias persuasively argues that the empirical data of these studies do not provide evidence for this broad threat to human autonomy. Nahmias' arguments are stimulating, and raise difficult questions about what it is to consciously choose a principle of action.

Section Two, "Consciousness," consists of three chapters that formulate and defend various conceptions of the unity of consciousness. Tim Bayne's "The Unity of Consciousness: A Cartography," is particularly helpful. Bayne articulates a few of the most prominent understandings of the idea that consciousness is unified. One conception, dubbed "the *unity thesis*" by Bayne, maintains that "for any subject of experience, there will be a global phenomenal state that subsumes each of the experiences that the subject in question has at the time" (p. 207). Bayne indirectly supports the unity thesis by undermining the primary objection to it—namely, the split-brain objection. According to this objection, empirical data from cases of persons with a severed corpus callosum show that such persons have two simultaneous streams of consciousness, at least within experimental contexts. Such cases are frequently used as counter-examples to the unity thesis. Bayne criticizes the split-brain objection, saying that "the evidence suggests that conscious perception of the split-brain subject may alternate between their hemispheres, rather than each hemisphere supporting its own stream of consciousness" (p. 208). Bayne supports this interpretation of the evidence by citing the findings of Jerre Levy and Colwyn Trevarthen's work on split-brain cases, which strongly suggest that the split-brain data do not provide a straightforward counter-example to the unity thesis.

Section Three, "Agency and the Self," contains two chapters that argue against eliminativism about the self and one chapter about the problem(s) of free will. Although the title of the section may suggest otherwise, it is not about action-theory or moral psychology. The two chapters that argue against eliminativism about the self, Ralph Kennedy and George Graham's

"Extreme Self-Denial" and Stephen White's "Empirical Psychology, Transcendental Phenomenology and the Self," present similar arguments against Humeanism about the self. Both chapters develop versions of the Kantian thesis that conscious perception requires that there is an agent that has such perception. Kennedy and Graham emphasize the *mineness* of conscious perception; White emphasizes features of rationality that presuppose the existence of a subject of what he dubs *rich perception*. The arguments of these chapters are interesting, but they would benefit from more engagement with actual defenders of Humeanism about the self such as Derek Parfit (Kennedy and Graham do mention Parfit's view, but they do not grapple with it).

Section Three also contains Mario De Caro's "How to Deal with the Free Will Issue: The Roles of Conceptual Analysis and Empirical Science," which contains a classification of theories of free will. There is a problem with this taxonomy that is also directly relevant to the categorization of theories provided in the book's preface. De Caro classifies theories of free will as either scientific isolationist, philosophical isolationist or pluralist. Scientific isolationism treats the problems of free will as empirical problems that can only be addressed by empirical science. Philosophical isolationism regards the problems of free will as *a priori* conceptual problems that can only be solved with philosophical conceptual analysis. The third option, which De Caro advocates, is pluralism, which maintains that both empirical science and philosophy should be used to resolve the problems of free will. De Caro's taxonomy employs an unclear contrast between philosophical methods and scientific methods, and his characterization of philosophical methodology is particularly unhelpful: he claims that philosophical approaches to a problem require (1) the deployment of a unique form of *philosophical* conceptual analysis and (2) the use a priori methods for solving problems. First, there is no distinctively *philosophical* form of conceptual analysis, and it is doubtful that analytic philosophers (the philosophers most explicitly concerned with conceptual analysis) share a single conception of it. Frege, Wittgenstein, Russell, Quine, and Kripke clearly have different conceptions of conceptual analysis and its role in philosophical investigation. Moreover, many branches of contemporary analytic philosophy (e.g., contemporary normative ethics) are not primarily concerned with or primarily deploy conceptual analysis. Second, assuming that philosophical investigation must be *a priori* is highly controversial and endorses an overly rationalist conception of philosophy.

In short, scientific isolationism, philosophical isolationism and pluralism are not helpful categories for classifying the central issues of either free will or philosophy of mind. Few, if any, contemporary analytic discussions of free will and philosophy of mind either solely rely upon empirical science or only deploy conceptual analysis and *a priori* methods. Most of the major figures in philosophy of mind use empirical science, conceptual analysis and *a priori* methods in their research: consider the work of Ned Block, David Chalmers, and Jerry Fodor. To address the problems of free will and philosophy of mind, it is more helpful to examine the arguments of authors doing research in these fields than it is to classify their arguments as (scientifically or philosophically) isolationist. In this vein, De Caro does provide an interesting discussion of the theories of Robert Kane and Timothy O'Connor.

Section Four, "Social Agency," consists of chapters about (a) whether non-linguistic animals can have beliefs, (b) theory-theory versus simulation theory and (c) the relation between social science and neuroscience. Simone Gonzzano's "The Beliefs of Mute Animals," contains a particularly sophisticated discussion of the first topic. Building upon Donald Davidson's work on belief, Gonzanno argues, against Davidson, that one may be justified in attributing beliefs to certain non-linguistic animals.

One final note: the text contains numerous typographical errors. This reviewer detected twenty-six (most of which are before page 200). One would hope to provide a better example for one's students.

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