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Review of “Foundations of Cognitive Psychology: Core Readings”

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Book Review

Foundations of Cognitive Psychology: Core Readings, Edited by Daniel J. Levitin. Cambridge: MIT Press, 2002, Preface, index. 862pp. ISBN 0-262-12247-2 (paperback), \$50.00.

In his short preface, Levitin describes this book as having been designed as a text for an undergraduate course in cognitive psychology that he teaches at McGill University. Not surprisingly, the specificity with which he envisions the book's first audience and use largely determines both style and content.

The articles are selected with an audience in mind that allows the editor to presuppose "a solid background in introductory psychology and research methods" (xv). Readers of the collection and those who choose to use it as a text should have this presupposition in mind. As a text, it is most likely to succeed in classes where students share the kind of background Levitin assumes--and it is equally likely to prove frustrating for students who do not share that background. Levitin expects (with good reason, I think) that the collection will find an audience beyond the classroom. His suggestion that it should be suitable "for students who wish to acquaint themselves through self-study with important ideas in cognition" (xv) should be qualified with a reminder of the background in psychology and research methods he assumes for his students; and it goes without saying (which is all the more reason to say it in a review) that undergraduate students who take this book up as a guide to self-study will need to be highly motivated. One of its greatest uses for philosophers (who may also belong to the set of students who take up the book as a guide for self-study) will be that it "gathers up key articles in one place" (xv). A side benefit of this gathering is that the key articles can serve as a sort of massive annotated bibliography to point students at all levels to critical sources in the multidisciplinary domain gathered under the title "cognitive science." Particularly since this multidisciplinary enterprise is under constant (and rapid) construction, using a collection like this as a starting point is a good way to provide some direction for researchers who come to the material with a variety of disciplinary backgrounds and may need some introduction to key participants in the conversation. Equipped with that introduction, students and researchers can move on to other work by authors included in this collection, to work suggested in their references, and to problems that they pose. Readers can rest assured that one thing will lead to another, and--though none of us can claim to know all of the work being done in this field--we can become familiar with a core that will enable us to further the conversation.

There are thirty-nine selections in the collection, topically arranged. Levitin describes ten as coming from undergraduate textbooks, six from professional journals, seven from sources intended for "the educated layperson," and sixteen from "high-level" books (xiv). This mixture serves his purpose well, allowing considerable attention to methodological issues that will serve as review for advanced students and introduction for others, and allowing generally illuminating transition between introductory and advanced material. Advanced students are likely to encounter selections that they have seen before as well as

material they have not previously encountered. A collection of readings makes it easy to skip material that is already familiar (or perhaps to review it in well-chosen pieces) and to focus on what is new (also in pieces that have been carefully selected and are reasonably easy to digest).

Part I consists of three chapters that address the “philosophical basis” of cognitive psychology, which Levitin understands first and foremost in terms of the “mind/body” problem. This includes two substantial selections from Daniel Dennett and a piece on “visual awareness” by Stephen E. Palmer. That the book begins with visual awareness is partly a tribute to its location in the psychology program at McGill but also, more broadly, to the primacy of vision research in the early development of cognitive science and the study of perception. Part II consists of a long selection from the first chapter of the seminal text in parallel distributed processing by McClelland, Rumelhart, Hinton, and the PDP Research Group. Part III (“Objections”) consists entirely of a selection from John Searle, who, though he is not the only philosopher to have objected to the direction of research in cognitive science, is certainly among the most influential. Part IV is the editor’s introduction to experimental design, which includes a particularly useful discussion of statistical methods and significance testing. This section provides an excellent critical base on which to read sections that follow on “Perception,” “Categories and Concepts,” “Memory,” “Attention,” “Human-Computer Interaction,” “Music Cognition,” “Expertise,” and “Decision-Making.” It is a bit misleading to restrict Part IX to human-computer interaction, since the two articles by Donald A. Norman that it includes reach much further into the “psychopathology of everyday things” and “distributed cognition,” both areas of interest to design psychology and both excellent demonstrations of the practical influence of J.J. Gibson and ecological psychology. Part XIII includes two articles that address relationships between evolutionary theory in biology and its application (sometimes misapplication) in psychology. Parts XIV, XV, and XVI attend to language, with a nice balance between recent research in language acquisition and some classic discussion of logic and pragmatics from philosophy and linguistics (Grice and Whorf). Part XVII is devoted to discussion of intelligence, with particular attention to Howard Gardner’s multiple intelligences but also with a good overview of the development of psychological theories of intelligence. The last section of the collection, Part XVIII, turns to cognitive neuroscience, including, appropriately, a chapter on “The Mind and Donald O. Hebb.”

Levitin’s “fundamental assumption” that “cognitive psychology is in many respects *empirical philosophy*” (xv) will add to the book’s appeal for philosophers--both those who agree and those who disagree with the assumption. Whether familiar with the particular readings and authors included here or not, philosophers will recognize the “core questions” as familiar territory. The subtle influence of autobiography in the construction of the book is also a plus, making it more engaging than is often the case for collections of readings. We learn at the outset that Levitin’s roots include MIT, Berkeley, and Stanford, as well as McGill--an impressive pedigree for a cognitive scientist. Those roots are never far from view in the choices that guide the book’s selections and organization. Though it is “organized thematically around topics traditionally found in a course on cognitive psychology or cognitive science at the university level” and though Levitin says the order of readings “could certainly be varied without loss of coherence” (xv,xvi), the progression works in tandem with the little bit of autobiography included in the preface: from philosophical roots through investigation of visual perception and parallel distributed processing to a whole range of perceptual issues often illuminated by music as well as vision and, finally, to D.O. Hebb, who is a theoretically and practically unifying figure for the book as he was for McGill’s program in psychology. That progression lends the book a conversational tone that should help students and other readers join a fascinating conversation that has long proved fruitful for philosophy and continues to generate new ideas and approaches across a remarkable variety of disciplines and theoretical

perspectives.

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