

disrupted or misdirected, and often inconclusive even for a healthy and mature mind/brain. Thus it is not surprising that ‘source errors’ are involved in many of the pathologies explored in this book.

Pathology often provides crucial clues in the investigation of normal processes; where would the study of memory be without case studies relating specific brain lesions to specific forms of amnesia? So it seems reasonable to expect that pathologies of *belief* will open windows upon its normal workings. To this end, V.S. Ramachandran cites some extreme cases of false belief — such as the anosognosic stroke victim who insisted that she was pointing at his nose with her left arm even as it lay paralyzed in her lap — and offers his own theory about the brain mechanisms involved. Chris Frith and Raymond J. Dolan explore the role of memory in the delusions associated with schizophrenia, while Mahzarin Banaji and R. Bhaskar look into the social causes and effects of implicit stereotyping. Here we are looking mainly at beliefs about the world (i.e. ‘semantic’ memory) rather than beliefs about the ‘veridicality’ of episodic memories.

The problem with this approach is the temptation to *define* ‘belief’ as a pathology, a trap which seems to ensnare Howard Eichenbaum and J. Alexander Bodkin. They show that damage to the hippocampus in rats prevents them from using visible landmarks as normal rats do when learning to navigate a water maze, and they explain this with a salient contrast between two kinds of memory. But instead of using available terms (perhaps ‘semantic’ and ‘procedural’) to name the contrast, they dub the more adaptive kind of memory ‘knowledge’ and define ‘belief’ as ‘a disposition to behave in a manner that is resistant to correction by experience’ (p. 177). Despite their attempt at a rationale, even those who don’t mind attributing beliefs to rats may find this choice of terms arbitrary. In ordinary discourse, people typically say that they ‘believe’ something in order to express diffidence about it; if they want to express inflexible attachment to an idea they are more likely to claim that they ‘know’ it. Eichenbaum and Bodkin reverse this usage, thus undermining their own contribution.

The one article here that steps completely outside the frames of autobiography and pathology is the opening one by Chris Westbury and

Daniel Dennett. Aiming to respect established usage while avoiding ‘philosophically problematic’ assumptions, they define *belief* not ‘as an entity that an organism might have or not have’ but ‘in terms of the circumstance under which a belief can be justifiably *attributed* to that organism’ (p. 24). This is compatible with Nelson’s developmental account and with Damasio’s more rough-and-ready definition of belief as ‘attribution of truth value to a particular thought content’ (p. 326), while leaving open the partly empirical question of what motivates us to make such attributions.

A science of belief will have to raise some questions that are not addressed in *Memory, Brain and Belief*. For instance, not even Eakin’s discussion of ‘fiction’ deals with the peculiar response to literature that Coleridge called the ‘willing suspension of disbelief’. The vast regions of myth and religion also go unexplored in this book, a curious omission given that ‘religious studies’ was among the disciplines represented in the working group which gave rise to it (p. 1). But a new discipline, like the proverbial thousand-mile journey, has to begin with the first step, and this one is very well taken.

Gary Fuhrman

David Sudnow

Ways of the Hand: A Rewritten Account

Cambridge, MA: The MIT Press, 1978, 1993, 2001, xxii+139. \$19.95, ISBN 0-262-19467-8 (hbk)

Ways of the Hand: A Rewritten Account is a second version of David Sudnow’s 1978 classic book of the same name. The newer edition offers an unusual and alluring account of Sudnow’s experience of learning how to perform skillfully as a jazz pianist. Although I have not read the earlier version, I did find the slim, rewritten account accessible, even poetic.

Overall the book captures Sudnow’s excitement and struggles over the five years he invested in learning to ‘sing with his fingers’, a term he uses to describe jazz performing. What makes the book most convincing is the way the musician/author carefully acquaints the reader with the tension between frustration and accomplishment as he moves toward his goal of improvisation. Sudnow first prepares us for the ups and downs of his journey, explaining precisely what the jazz musician must accomplish.

As he tells the reader, 'You've got to know just where you're headed in order to get there correctly, not tripping up along the way, not hitting two keys together out of uncertainty, for instance.' Then, sequential chapters effectively outline how the author progressively came to embody jazz-making ways of the hand. As he details his efforts to acquire skills, Sudnow also impressively captures what it means to combine skill and intuition.

Generally, what sets this book apart is its ability to step outside of the academy. Unlike many academic books that explore intuitive aspects of the arts, this author is not intent on presenting a theory connecting creativity and intuition using the abstract tools of the philosopher. Instead, and to his credit, *Ways of the Hand* allows the reader to walk in the moccasins of a student who transforms himself into a jazz musician. This first-person approach allows Sudnow to present a convincing analysis of an internalized learning process. We are educated about the methodology he employs as well as the 'feeling' of the activities. Moreover, when Sudnow invites us into his experience, he educates us about searching, looking, identification, and the discrete characterization of musical elements that precedes the ability to operate intuitively while playing.

Particularly noteworthy are the many episodes in which Sudnow recognizes that he now has acquired some personal insight into an area previously opaque to him, despite attempts to carefully observe the particulars. I personally found each description of a new insight convincing because I have experienced similar exhilaration in recognizing a veil has been lifted from my eyes. For example, at one point, early in his study, he speaks of the realization that he had never actually listened to the complexity of jazz pieces he thought he knew well. Again and again we see how an insight increases his ability to master the nuances of sound and body relationships. Each carefully chosen example further enhances our ability to perceive that skill and intuition grow in tandem.

In summary, as his story unfolds, Sudnow acquaints us with the significant insights that aided him in moving into an embodied mental space beyond his earlier knowledge base. Indeed, to my mind, the author's greatest contribution is his facility in developing the importance of mastering specific jazz-related tasks,

and then describing how task competence is related to body movement, gesture, complex musical chords and varied tonal relationships in jazz performance. On completing this extraordinary book, I felt Sudnow had distinguished how playing the piano differs from the experience of developing jazz-making ways of the hand. He also successfully conveyed his enthusiasm about jazz and his devotion to developing ways of the hand.

Finally, Sudnow's experience goes beyond the specifics of the survey he presents. Hubert L. Dreyfus demonstrates this in the Foreword. Briefly, Dreyfus places this hands-on study of skill acquisition in a larger context in two ways. First, he helpfully outlines how *Ways of the Hand* relates to cognitivist theories of skill acquisition in general. This sets the stage for the first-person account and aids the reader in placing the story within a larger framework. Also of note is Dreyfus' discussion of Sudnow's 'correction' of Merleau-Ponty's characterization of the skilled body. Although the Dreyfus contribution is limited, being only five pages, I believe it will still be of great interest to readers of the *JCS*.

Ways of the Hand succeeds in conveying the complexity of skill acquisition. As it does this, the book admirably combines cognitive elements with the complexity of jazz performance. While the tools and goals of jazz performance are unique from other arts and skills, it nonetheless seems clear from this study that learning the appropriate language needed to accomplish complex 'tasks' in a specific domain are transferable in a general sense. It is in capturing this that Sudnow's book reaches beyond jazz improvisation. If there is a downside to the discussion, it is the extent of detail offered. Although the volume is slim, at times I found I would have preferred less detail about hand placement and musical possibilities. On balance, however, those who are musically trained, or jazz aficionados might find these passages are the high point of the volume. All in all, *Ways of the Hand* is an exciting treat.

Amy Ione