

conceptual repetition-compulsion, an 'addiction to theorizing about mind and world, language and reality.' In short, for Stern, taking those differentiated voices together will lead us to see the full mosaic.

Although it may not fit the rubric of the series of introductions in which this volume is published, because Stern's book ends its detailed discussions only toward the close of the private language discussion, a second volume continuing this helpful elucidatory and interpretation-canvassing work (particularly into Wittgenstein's remarks on the picture of thinking as an incorporeal process, on understanding, on the will, on memory, and on aspect perception) would indeed be most welcome.

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*Reconstructing the Cognitive World:  
The Next Step.*

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This book articulates and defends a view of cognition that contributes to the loose network of approaches to understanding the mind that fall under the headings of situated, embedded, and dynamic cognition. Andy Clark's *Being There* (1997) is perhaps the best-known philosophical work in this tradition, and there indeed is much that Wheeler shares with Clark, including the authorship of several articles. What distinguishes Wheeler's own view is his explicit attention to the work of Heidegger, and his attempt to demonstrate the fit between developing work in the cognitive sciences that falls under the situated or embedded rubric and the philosophical perspective on cognition articulated by Heidegger, especially in *Being and Time* (1926).

The nine substantive chapters in the book divide the book roughly in three. In the first third (Chapters 2-4), Wheeler lays out a view that he calls *Cartesian psychology*, showing that it is a label appropriate in characterizing both Descartes' own views as well as those at work in traditional cognitive science, including classic AI and connectionist modeling. (For an earlier, related use of this term, see my *Cartesian Psychology and Physical Minds: Individualism and the Sciences of the Mind*, 1995.) In the second third (Chapters 5-7), the focus is on Heidegger, especially on drawing the contrast between the Cartesian and Heideggerian frameworks for cognition and on

making the case for the goodness of fit between the latter framework and the new, situated direction to cognitive science. In the final third (Chapters 8-10), Wheeler engages in more explicitly constructive analytical work that takes up notions such as representation, modularity, causal spread, and cognitive technology.

While the writing is fresh and easy-going on the eyes and mind alike, some will find it a frustratingly long time for Wheeler to cut to the chase. I found the first two hundred pages or so (up until Chapter 8) largely scene-setting, with the real interest in the book lying in the development of the ideas in its last one hundred pages. That may be a partial function of having worked in the general area for some years; others with different backgrounds may find the articulation of eight theses characterizing 'Cartesian psychology' in Chapter 2 (repeated in several places), as well as the presentation of Heidegger's murkier framework, to be of use in understanding alternative ways to proceed in thinking about the mind. The general contours of this contrast, however, are already well-understood; for this reason, much of the first two-thirds of the book reads like an advanced introduction to the philosophical end of cognitive science.

On the Cartesian view, the mind is representational, perception is inferential but separate from cognition, and there is no deep sense in which the mind is either embodied or embedded in the environment. The Heideggerian view not only denies each of these claims, but paints its own positive view of cognition as a 'matter of smooth coping' (133) in which the dichotomy between subject and world, central to Cartesianism, is a barrier to understanding both the phenomenology and actuality of what Heidegger calls 'being-in-the-world'. Wheeler does supply some bells and whistles here, and it is worth conveying what these are.

By employing the contrast between two traditions of thought about thought, Wheeler (like Richard Rorty before him in epistemology and Hubert Dreyfus closer to home in cognitive science) provides a graspable framework on which much else can be hung. The most interesting, novel addition here is Wheeler's emphasis on the role that *temporal complexity* plays in the two frameworks. On the Cartesian view, time is abstracted away from in much the way that the body and the environment are: they are acknowledged to exist but primarily as distractions in the business of understanding cognition. By contrast, what Wheeler calls 'richly temporal phenomena' (135) are critical to the Heideggerian view of the mind. The temporal austerity (88) of the Cartesian framework receives its own chapter (Chapter 4), and so there is much more to be said about this feature, but the basic contrast is between conceiving of time as a sequence and cognitive processes thus as sequences of separable events, and viewing cognitive processes as dynamic feedback loops for which not just 'time' but *timing* is critical to the overall process.

This emphasis on richly temporal phenomena provides a hook into one of the tensions within the book, one that Wheeler is not only aware of but makes several attempts to address head-on (e.g., 165, 225). While the embrace of temporal richness is central to both Heideggerian *phenomenology* and to

dynamic systems *models of cognition*, there's an appreciable gap between the two. Wheeler does a good job of addressing Heidegger's putative technophobia and anti-science stance (and a less good job of drawing out the implications of Heidegger's anthropocentrism for the study of animal cognition, 157-60), but the bottom line is that while there are concepts in Heidegger that allow us to grapple towards some kind of embodied cognitive science, dynamical systems theory in the vein of Randall Beer or Tim van Gelder remains an island apart. Part of Wheeler's aim is to build a bridge between the two, but since I finished the book scratching the 'Why Heidegger?' itch, I guess I am a resistant reader.

So I count that as two related strikes: too much attention to scene-setting at the expense of more directly constructive engagement with the ideas and methods that show the way forward, and a failure to remove the suspicion that we don't really need to understand *Dasein* to do situated cognition. Even with the recent reinvigoration of interest in phenomenology via the continuing bout of consciousness-philia that philosophers of mind and cognition remain dizzy with, I don't envisage many more people slogging through *Being and Time* any time soon. For those of us sympathetic to the general perspective on cognition as an embodied and embedded phenomenon that needs to be studied as such, we might adapt the wry, ethnophobic response to multiculturalism that I grew up within in Australia: can't they just send the recipes?

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