Book Reviews

Being a body

How the body shapes the mind by Shaun Gallagher. Oxford University Press, 2005. (284 pages) £35.00/$55.00 ISBN 0 19 927194 1

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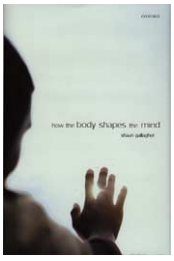

Even Descartes acknowledged that: 'I am not only lodged in my body as a pilot in a vessel …my mind and body compose a certain unity' [1]. Today, our understanding of this 'certain unity' remains insufficient. The ambition to 'naturalize the mind' is constantly renewed but, as Gallagher says in his new book, 'implicitly, the idea that the body has little to do with cognition continues to haunt all claims to the contrary' (p. 134). Still, he adds, 'there are important exceptions to this theoretical elimination of the body' (p. 136). Gallagher counts among these exceptions.

Gallagher's approach renews the philosophical debates that classically wonder *if* the mind can be naturalized. Rather than pursuing abstract conceptualization of mental and bodily properties, and rather than taking for granted results and interpretations of brain-imaging studies, Gallagher overcomes the limitations of both anti-reductionism and neuronal reductionism by specifically considering *how* the body shapes the mind.

Interdisciplinary integration

Interdisciplinary integration is necessary for this task. Indeed, natural sciences classically underestimate the 'body-subject' and the first-person perspective, whereas phenomenology underlines the subjectivity of the body but disregards its objective status. Conversely, Gallagher bypasses the two abstract subpersonal and mentalistic vocabularies by proposing an integrative vocabulary of embodiment. Importantly, he weaves his philosophical arguments around numerous scientific studies – including very clear and detailed discussions of neonate imitation, gesture, phantom limbs, neglect, deafferentation, blindness, schizophrenia, and autism. Moreover, he does not merely associate different disciplines (phenomenology, developmental psychology, neuroscience): the different perspectives he takes are intimately merged, just like the subjective and objective aspects of the body.

Gallagher's task is not merely to understand how the body contains the mind, but how the body *shapes* the mind. Accordingly, he does not pursue the 'Correlation approach'. This classical interdisciplinary strategy to naturalize the mind first defines relevant characteristics of the mind and then correlates them to brain states. However, this approach remains too dualistic. To bypass this dualism, Gallagher explores an 'Embodied approach'; that is to say he conceives the mind as inherently 'accomplished' by the body. Importantly, the Embodied approach overcomes three important problems that the Correlation approach leaves open. First, Embodiment can provide a naturalistic *explanation* that remains beyond the scope of Correlation. Second, Embodiment is incompatible with any form of dualism that conceives the mind as a mental realm merely correlated with physical states. Third, Embodiment seeks to understand how 'the mind is embodied, in the full sense of the term, not just embrained' (p. 135, quoted from [2]).

Kinds of embodiment

Within the specific approach of naturalization by Embodiment, a first strategy seeks to understand how mental representations are constrained by (simple embodiment) or can be replaced by (radical embodiment) bodily processes [3]. A second way towards embodied cognition reverses the perspective: instead of trying to make the mind fit into the body, it considers the body itself and sees how far one can go into the so-called mental domain. Gallagher chooses this second approach and this seems a very promising track. Indeed, the embodiment of the mind cannot be achieved only thanks to a bodily-oriented investigation of the mind: it also necessarily implies a renewal of our understanding of the body itself.

Gallagher's most urgent task is thus to clarify the very notion of embodiment. Throughout the book, he very clearly describes diverse forms of one's bodily relations to oneself, the world and others. Consider the following major points. The body is sometimes taken as the intentional object of one's consciousness, but this body image itself relies on another form of bodily consciousness, a 'proprioceptive performative awareness' which constantly provides a pre-reflective sense of one's body and action, without taking them as explicit objects of consciousness. Importantly, this difference between body image and pre-reflective body awareness does not overlap the difference between body image and body schema. The latter does not enter the content of consciousness but rather structures it. It corresponds to a 'system of sensory-motor functions… that play a dynamic role in governing posture and movement' (p. 26). To clarify this distinction, Gallagher examines in detail the case of deafferentation. This clinical condition of a missing body schema clearly shows that the body image can control movement of the body, but does not usually do so: 'thanks to the coordinated processes of body schemas, movement usually takes care of itself' (p. 91). Interestingly, some movements rely neither on the body image nor on the body schema: it is the case of communicative gesture. Here, Gallagher

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proposes 'an integrative theory [that] understands gesture to be, first, *embodied* (constrained and enabled by motoric possibilities); second, *communicative* (pragmatically intersubjective); and third, *cognitive* (contributing to the accomplishment of thought, shaping the mind)' (p. 123). Communicative gestures provide only one way in which we encounter others bodily. In fact, Gallagher explains, embodiment forms the basis of intersubjectivity through an 'interactive practice of mind': during interactions with others, we rarely need to attribute to them abstract mental states standing behind their contextualized behaviour, because the latter already expresses their subjectivity.

Being human

This sample of the many topics Gallagher deals with in *How the Body Shapes the Mind* illustrates a point that becomes very clear once you have read this book: 'Before you know it, your body makes you human' (p. 248). Understanding this point necessarily involves understanding the body in its specificity and this requires not only to differentiate numerous levels of body functioning, but also to consider the intricacy of these levels by integrating them to each other.

Overall, some may think that a more striking account of how the body shapes the mind could have been provided, that several arguments should have been detailed, rather than merely quoted, but these critics should not disregard Gallagher's specificity: he does not simply build a bridge between two different lands, but intends to 'erase the boundaries between body and mind' (p. 244), without ever confusing mind embodiment with unrestrained reductionism. The strength of this book is that it 'remaps the terrain' (p. 10) so accurately that the understanding of the mind–body unity simply follows from the consideration of what it specifically and fully means *to be a body*.

References

1 Descartes, R. (1641) *Meditations Concerning First Philosophy* VI, 13
2 Damasio, A. (1994) *Descartes' Error: Emotion, Reason and the Human Brain*, G.P. Putnam
3 Clark, A. (1999) An embodied cognitive science? *Trends Cogn. Sci.* 3, 345–351

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Keeping up with current trends in cognition

The Handbook of Cognition edited by Koen Lamberts and Robert L. Goldstone. Goldstone. Sage Publications, 2005. £75.00 (455 pp.) ISBN 0 7619 7277 3

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The modern Oracle, otherwise known as Google, provides a number of definitions of the term 'cognition'. Most definitions refer to the mental functions and/or neural processes that underlie knowledge-based thought – including attention, language, memory, perception, and reasoning. The cover of this edited book declares that its aim is to offer a guided tour of up-to-date research in all these areas. It is intended for advanced students and researchers in related areas who have a general grounding in the subject but need an update in less familiar areas of cognition.

By and large, the book makes a very good stab at achieving its aim. The chapters divide into three groups. First, there are fourteen chapters devoted to specific areas of cognition, sub-divided into perception/attention/action, learning/memory, language, and reasoning/decision making. Then there are three chapters on cognitive neuropsychology, covering object recognition/action, learning/memory, and language. Finally there are two chapters on modelling. The authors are well-established, authoritative figures in their respective fields, giving the reader some confidence regarding their chapter contents.

The edited form of the book means that chapters are relatively independent, so it is possible to read the coverage of a specific issue without the assumption that previous chapters need to have been read. Inevitably, the authors present a personal view of the field, emphasizing developments that they perceive as particularly important or interesting. Take, for instance, the very first chapter on Visual Perception by Wagemans, Wichmann and Op de Beeck. It offers an excellent perspective on current trends in the area, assessing the utility of the traditional 'measurement approach' to psychophysics (which assumes that early processes take measurements of the image). It also includes extended discussions of Gestalt and Gibsonian approaches. The latter might not figure highly on everyone's list of 'hot topics', but are welcome nevertheless. Humphreys and Riddock's chapter in the cognitive neuropsychology section draws heavily on their own work, but I guess there is a relatively limited population of relevant neuropsychological patients, and they have probably worked with most of them. It is reasonable nevertheless to expect the reader, who is likely to be a

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