About the reviewers

**Itiel Dror** is a senior lecturer in cognitive sciences at the University of Southampton (School of Psychology). He holds degrees in philosophy and psychology, including a PhD from Harvard University. Dr. Dror’s research focuses on the foundations of cognitive neuroscience, philosophy of mind, and how cognitive research and philosophical questions interrelate. In addition to behavioural experiments that explore the nature of cognitive processing his work includes computational analysis and neuroscience research. For further information, see: http://www.ecs.soton.ac.uk/~id/

**Ailsa Péron** is a doctoral candidate at the School of Psychology at the University of Southampton. She holds a BSc (Hons) in experimental psychology and a MSc in research methods. In her research she investigates how higher order cognitive processes and mental states affect what we perceive.


**Reviewed by Jyh Wee Sew (CHIJ ST Theresa’s Convent, Singapore)**

The model of description adopted in this book is one of the two major approaches on information processing by the brain — the computational model. The review explores the ideas in the book from a few angles, namely the brain as a technical tool of language processing, the brain as a learning tool and its learning ‘style’, and the emphasis on an exclusively brain-based notion of mind, suggested by the book’s title. Against the latter, I argue that, as acknowledged by biochemists and neurologists, the body is an essential collaborator of the brain in shaping one’s mind. In an attempt to avert a myopic view on the subject matter, significant research on these three perspectives will be mentioned, including current work in theoretical linguistics, language pedagogy, and biochemistry.

Each manufactured article in the human world is made through the thoughts of the human brain. Technology, which we both enjoy and fear, stems from our thinking processes. A virus, for example, that bugs computers worldwide is a result of intelligent manipulations. Technologists and laymen alike might want to know the operating system behind the human mind underlying the makings of the modern world. Rawlins (1996: 159) represents the history of mother earth in an exponential timeline, showing how quickly the world changes with the emergence of the human brain. If we follow Rawlins’s argu-
ment that all life on earth constitutes a gigantic adaptive machine, adapting itself both to the vagaries of the universe and to itself, the need to understand our brainy machine in the head is key to a sustained existence in the future.

The human brain is our last organ to mature. Our language faculty remains pliant until adolescence. The language area in women is generally more distinctly developed as Broca’s area is 20% larger in women than in men and Wernicke’s area is nearly 30% larger (Schiffler 2001: 328). The human brain is also the most fascinating subject of analysis as it holds the answers to many important questions essential to both child psychologists and computer scientists. How does a child acquire language and how does a computer simulate this linguistic competence are key issues in cognitive psychology and artificial intelligence.

The question, “What is on your mind?” is no longer the one to ask, in the wake of a book that argues that it is “what is in your brain” that actually accounts for the states and processes of your mind at any particular point in time. To be sure, the account in question is far from simplistic. Adopting Rumelhart and McClelland’s (1986) parallel distributed processing (PDP) approach, the author depicts each mental process or state as resulting not from one but from many brain processes active in different areas of the brain that deal with different kinds of stimuli. No linear causation brain → mind is assumed, therefore. In this respect, although the author relies on the computational approach (the rival of the PDP or connectionist approach) as a useful account regarding word processing by the brain, she is critical of the representationalism usually associated with it. In this respect, the author might draw some benefit from taking into account Steven Pinker’s more recent work (e.g., Pinker 1999), where he attempts to combine ideas from both camps in order to explain different types of verb morphology. Indeed, the association network propounded by the connectionists seems to be suitable to complement the morphology rules introduced by the representationalists (cf. Smith 2001: 106).

The author discusses the way the brain learns and claims that humans can never learn something totally new (p. 63). The neuronal networks of a learning process are formed through the existing neuronal patterns, which are modified into different neuronal combinations. All existing knowledge becomes the foundation for acquiring new knowledge. This is the reason why learning is easier through analogy as we understand new information based on the existing old information housed in the permanent storage of our brain (p. 64). Learning a particular piece of knowledge requires the brain to use both permanent and temporary memory, stored in different areas — the former in the
cortex and the latter in the hippocampus (p. 90). The ‘Multiple Intelligences’ teaching approach of Lazear (1999) seems to be consonant with this connectionist-inspired account of learning, by stressing the complementary role of *awakening* and *amplifying* in the development and integration of knowledge.

The book also provides interesting information about the state of the brain when one is suffering from a stroke, brain injuries, and Alzheimer. While the death of neurons in our brain is quite normal, the loss of a large amount of neurons, especially when belonging to the same module, causes brain damage and consequent impairment of capabilities such as speech, movement, memory or comprehension.

The most important thing I learned from this book is how to see a network of relationships between external stimuli of various assortments mapped onto the brain as a pattern of active distributed neuronal firings. A ‘mind’ is so-to-speak made at each particular point in time. This mind remains active and forms the foundation of the next mind as one thinks or reasons, i.e., as one continues to process information. This is endlessly reiterated, each time in a different distribution and combination of firings. This process of ‘minding’ goes on very quickly — even in sleep, since the language area in the left hemisphere remains very active during hypnosis (Schiffler 2001: 331).

Another important finding concerns the contrast between the way our brain functions and the tendency to think in terms of dichotomous categories such as right or wrong, yes or no, positive or negative. The PDP brain does not operate in a single binary mode but rather in a cluster of such operations. Nothing remains right or wrong, yes or no, positive or negative any longer in the human brain than the changing images captured by our roving eyes. Similarly, the ever-changing technology in the human world parallels the rapid changes in the human mind. Perhaps politicians who would spit at each other one day and hug each other the next day best reflect the characteristic mode of functioning of our brain. Consequently, foe or friend isn’t forever, unless we mindfully ensure it to be so with cultivated hatred or love.

If we consider the mind in the light of other evidence, however, things look quite different. For instance, according to Candace Pert (1997) who examines the relationship between psycho-neurology and pathology in humans, the mind is ‘embodied’ in the sense that the brain operates in close interaction with the body, for neural communication is not unilaterally top down or bottom up. Pert’s understanding of human healing in pathologies like lung cancer and AIDS offers fresh insights in the old body-mind debate. In her view, dualism is misguided because the body is our unconscious mind. This means that the
study of the brain alone is not sufficient for understanding the mind. There is a close interaction between body and mind in language teaching too. Research in applied linguistics shows that the use of techniques borrowed from drama in foreign-language teaching improves considerably the level of achievement of the students (cf. Schiffler 2001). Furthermore, German students who learned French as the third language performed better when gestures and accelerating rhythm were combined in the classroom. The combination of these means in foreign-language learning technique is aptly termed body learning by one of its creators (Schiffler 2001: 331). It is against this background of ordinary body-brain cooperation in regular ‘minding’ that such ‘aberrations’ as the achievements of a severely bodily disabled intellectual genius (Smith 2002: 105) must be investigated, rather than by resting content with appeals to worn out concepts such as ‘heightened motivation’ or sheer higher brain capacity.

This book stems from the author’s frustration with the technical jargon typically employed in most of brain research publications. She wanted to offer a readable book to serve as a general introduction broad enough to stimulate further reading. The book is indeed easy to understand. It is well structured, minimally technical in its terminology, informative, and argumentatively clear. Readers interested in a basic understanding of what is known today about the human brain would definitely find this book valuable; and teachers of the non neuroscience-oriented cognitive sciences, particularly cognitive psychology and cognitive linguistics, might find it a useful introduction to brain research for their students.

References

About the reviewer

Jyh Wee Sew, who specializes in Malay pedagogy and coached Process Drama at the STC Mother Tongue camp, has been the Staff Welfare Chair, and Cockpit Coordinator of STC since 2003. His recent communal activities include the adopting of a senior citizen housing block in Telok Blangah (Singapore) and group visits with Malay, Indian, and Chinese children to the Moral Welfare Home in Telok Blangah. In 2004 he published Dari Kertas ke Skrin [From Paper to Screen] (on learning and teaching Malay in multimedia) as well as two book reviews.


Reviewed by Valerij Dem’jankov (Moscow State University)

The book under review deals with “the ways that people talk about what they are feeling, and with the words that they use in whatever language they speak” (p. 4). This approach, elsewhere called “linguistic psychology”, is analogous to “linguistic philosophy”, which studies philosophically relevant concepts employed in ordinary language. The authors’ working hypothesis is that “a careful examination of linguistic data can provide clues to what people mean when they use such words or expressions” (p. 5), showing that “it is possible to identify what elements of meaning are specific to the language under examination, and what elements are shared with similar words and expressions from other languages” (p. 7). Since the first part of this program is not always realisable, because of the utter subjectivity of speaking about one’s inner world, the main result belongs to the second part of the program.

The papers of this book belong to two groups. The first consists of papers written by linguists describing a language other than their mother tongue: Robert D. Bugenhagen (“Emotions and the nature of persons in Mbula”), Nick