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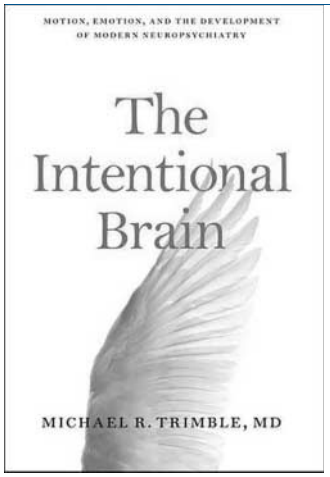
Book reviews

Edited by Allan Beveridge, Femi Oyebode and Rosalind Ramsay



The Intentional Brain: Motion, Emotion, and the Development of Modern Neuropsychiatry

By Michael R. Trimble.
The Johns Hopkins University Press. 2016.
£12.59 (hb). 328 pp.
ISBN 9781421419497

A fascinating but conceptually elusive subject, 'neuropsychiatry' has no universally accepted definition. More than simply the interface between two allied medical specialties, it is a field fundamentally and necessarily connected with the humanities: history, politics, anthropology and philosophy. Expecting a heavily scientific tome, I was delighted to discover that *The Intentional Brain* is an accessible text principally about history and culture; intimidating in its ambitious scope (Trimble is frighteningly well read!), but nonetheless immediately readable. Trimble's particular skill is to bring narrative clarity to a complex and developing field, providing depth to everyday clinical practice.

The book reads as a distillation of Trimble's hard-earned wisdom about the historical mind/brain dilemma. Entertainingly informative and with broad interdisciplinary appeal, the text is an invigorating tour de force covering evolution and medical discovery, creativity and emerging civilisations, traversing ancient concepts of consciousness, the development of dissection and anatomical drawings, the contribution of the Enlightenment and both World Wars. In a chronologically appropriate, increasingly scientific manner, the account moves from the observational to the experimental. Thus, we uncover the earliest accounts of epilepsy, hysteria and psychosis, then learn of the advances offered by histopathology, the controversy surrounding phrenology and the localisation of cerebral functions, and finally, about the vital role of electroencephalograms in developing our collective understanding.

Testament to the diversity of Trimble's influences, his chosen protagonists in this adventure include expected household medical names (Charcot, Parkinson, Broca, Wernicke, Maudsley, Sacks), alongside great thinkers (Hippocrates, Descartes, Paracelsus, Nietzsche) and literary giants (Shakespeare, Coleridge and Wordsworth). I also learnt about Martin Luther, Leonardo Da Vinci, King George III, and more besides. However, this range of sources gives the text a scattergun feel at times, as it seeks to cover such extensive ground. There was a whole section on the brain and poetry, which felt over-inclusive.

Importantly, however, Trimble demonstrates that all psychiatrists require a grounding in the history of human thought. He reminds us that neuropsychiatric phenomena, in particular epilepsy, 'the sacred disease', used to be (and often still are) mistaken for supernatural or religious experiences, illustrating that society directly influences medicine.

It is an earnest text, with occasional space for humour, a diverse range of illuminating anecdotes, and fascinating links with literature. It is a history of two complementary but at times conflicted subspecialties. It reminded me exactly why I love psychiatry, for its complex history and ongoing scientific mystery. If you are feeling in need of a reminder of how far we have come, Trimble may provide just that inspiration.

Rory Conn ST6 Trainee in Child and Adolescent Psychiatry, Tavistock and Portman Mental Health Trust, 120 Belsize Lane, London NW3 5BA, UK. Email: rconn@doctors.org.uk

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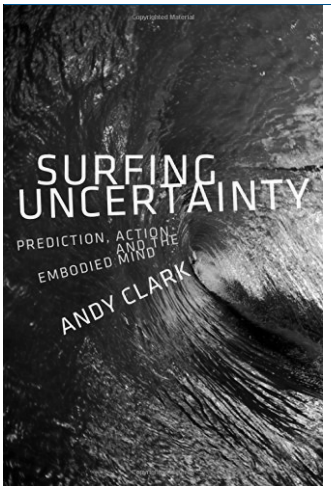

Surfing Uncertainty: Prediction, Action, and the Embodied Mind

By Andy Clark
Oxford University Press. 2016.
£19.99 (hb). 424 pp.
ISBN 9780190217013

Our understanding of 'how the brain works' has expanded enormously in recent decades. Nevertheless, the relatively new field of neuroscience is still searching for a 'unified theory' of brain function – one that can explain how the brain finesses perception, action and attention using a more general (neuro-computational) framework.

In his engaging new book, philosopher Andy Clark sketches out what is arguably the best current contender for such a unified theory: the predictive processing hypothesis. This hypothesis makes the bold claim that practically everything that the brain does can be understood by viewing it as an organ that is ceaselessly attempting to predict the future (more precisely, to predict its moment-by-moment exteroceptive and interoceptive inputs). Under this hypothesis, vision, for example, is achieved not by decoding the signals coming in through the optic nerve in a stepwise fashion, but by comparing the actual incoming sensory signals against the predicted signals, given the brain's internal representation of the world. This 'top-down' view of brain function is a radical departure from the account found in most undergraduate textbooks.

Clark argues convincingly that the predictive processing hypothesis is not just of interest to basic neuroscientists, and outlines recent work that has applied the model to psychiatric disorders including schizophrenia, autism and functional neurological disorders. His enthusiasm for the predictive processing hypothesis is evident in his writing, and he succeeds in conveying the hypothesis' key ideas in an accessible manner.

Surfing Uncertainty stands out from most accounts of the predictive processing hypothesis in the existing literature by avoiding the use of mathematical equations and opting instead to use illustrative examples. Despite its informal tone, however, this erudite text does not shy away from the minutiae of