The most relevant chapters for psychiatrists in this fascinating book are those by Michela Summa, Thomas Fuchs and Till Grohmann. Summa argues that even though it is true that there is a distinction and a discontinuity between reality and fiction, reality shapes fiction and the experience of fiction too acts to reconfigure our sense of reality. This chapter does not deal directly with the discontinuities between 'psychotic' reality and everyday reality, but it is clear that much of what is explored is relevant to an understanding of how patients traverse the differing worlds and may also help to illustrate the interpenetration of psychotic reality and everyday experiences. Fuchs focuses on what he terms the 'as-if' function; this is the human cognitive function that allows us 'to suspend the force and validity of the immediate experience and to enter a parallel world of imagination, daydreaming, hypothetical thought, fiction, pretence, role play or theatre'. Fuchs' case is that impairment of this cognitive function underlies the concrete attitude, delusions and what he terms 'transitivism' (the threat of loss-of-self that is posed by the presence of others) in schizophrenia. I am not persuaded by his arguments but nonetheless his is a novel approach. Finally, Grohmann disputes the role of the disturbance of Theory of Mind in schizophrenia and autism and argues for an account based on the phenomenology of intersubjectivity. There's no doubting the fact that the case being put forward is not persuasive but it illustrates that, even in a condition such as autism where certain empirical facts are settled and established, alternative accounts are still possible.

This is a densely written book that has a lot to offer, but it is not for a general audience. Matters that have a central place in psychiatric thought are treated with seriousness and rigour alongside approaches that will surprise many psychiatrists whilst at the same making the subject seem fresh and vital.

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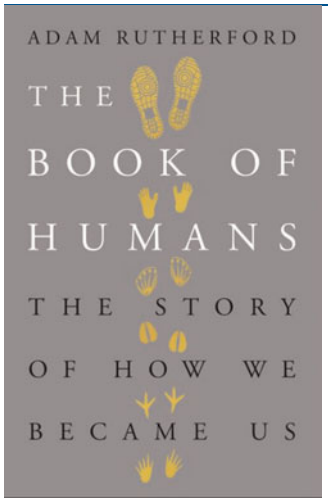

The Book of Humans: The Story of How We Became Us

By Adam Rutherford. Weidenfeld & Nicolson. 2018. 272 pp. £18.99 (hb). ISBN 9780297609407

Adam Rutherford is a geneticist who may be better known as a science broadcaster on Radio 4 and for his previous books about genetics for a lay audience. In this book, Rutherford focuses on *Homo sapiens* as animals, whose genetic endowment gives rise to strong similarities with other animals, but also significant differences. In the first half of the book, Rutherford describes many examples of animal behaviour that some might consider uniquely human, such as tool use, cultural transmission of behaviour and the full range of non-reproductive sexual activity.

It is in the second half that Rutherford examines the human capabilities that enable the modern mind, and which do seem to be unique to humans in terms of degree and complexity; namely symbol formation, linguistic capacity and what psychiatrists would call 'mentalising skills' i.e. the capacity to make inferences about other people's minds and intentions and to see them as real. He cites research that indicates that the capacity for the modern mind seems to have evolved long before it was put into use; that there was a kind of delay before we were able to use these skills to become sapient.

This is an easy book to read and Rutherford has a warm and passionate voice as a science writer. He reminds us that genes only encode proteins and that there are no genes for complex behaviours; rather, it is the cultural evolution by which we teach others what we know that enables humans to create themselves as humans and develop across time. He insists that cultural and biological evolution cannot be separated and emphasises the interdependence of all organisms, concluding that we can be proud of our animal heritage and marvelling at the complexity of life on earth.

A book for the lay reader must always risk dealing with big domains of knowledge superficially, and the book is less successful in its reflections on the modern mind than on the wonders of animal behaviour. But it is an enjoyable read; not least for some very funny lines like 'we [humans] spend a titanic amount of time trying to touch each other's genitals', which makes the genetics department of University College London sound like an interesting place to work.

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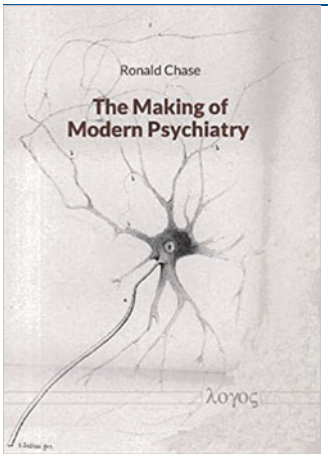

The Making of Modern Psychiatry

By Ronald Chase. Logos Verlag Berlin. 2018. 232 pp. £31.00 (pb). ISBN 9783832547189

German psychiatrist Emil Kraepelin (1856–1926) suffered several tragedies, including the death of three of his children in early childhood. He was an avid traveller of Europe and Africa. He became teetotal, convinced that alcohol weakened the will and caused intellectual stupefaction and moral insanity. To record objectively the clinical features of all his patients, he created his famous card index since clinical notes slipped from his grasp when patients moved between hospitals. In his later years Kraepelin acknowledged that the distinction between 'dementia

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praecox' and 'manic-depressive insanity' was not as clear as he earlier surmised.

This book sets the pursuit of knowledge and understanding of psychiatry into the frame of the people exploring the subject, their daily lives, philosophical ideas and professional encounters, mainly in German-speaking lands in the 19th century. This includes the mysterious murder of Dr Bernhard Gudden, a psychiatrist and neuroanatomist who treated King Ludwig II. Henry Maudsley, Philippe Pinel and others at the Salpêtrière are mentioned occasionally. Camillo Golgi from Italy and Santiago Ramón y Cajal from Spain were central to debates on the structure of neurones and how they communicate. Microscopy and staining methods had limitations, and a dispute raged between the 'reticularists', who 'saw' that axons and dendrites touched each other, and the 'neuronists', who described gaps between them. Despite the German leadership in the field, Cajal and Golgi jointly received the Nobel Prize in Medicine or Physiology in 1906 for their work on neurones, even though one was a neuronist and the other a reticularist.

Alongside the neuronal argument came that of functional brain localisation. Could the brain have localisation when the soul is unitary? How do mind, body, brain and soul interact? Is there one or more insanity? Are causes of insanity moral or biological and, if biological, why were there usually no signs of abnormality on post mortem? Wilhelm Griesinger argued that if all psychiatric illnesses were brain illnesses (although not all brain illnesses were psychiatric) then their treatment should be part of medicine and medical training. Griesinger heavily influenced the introduction of psychiatry into the medical school curriculum.

This lively book tells a story of people, events and discoveries. Some of the illustrations are touching, such as Cajal in his laboratory and Kraepelin's photograph of catatonic patients, and the author includes his own photographs of Kraepelin's grand home in Heidelberg. The book is well written, but suffers from some irritating typographical errors, a limited index, some passages outside of the chronological framework and occasional misunderstandings. For example, Chase states that 'admissions increased sharply' (p. 47), but the increase was roughly in line with population changes; bed occupancy rising dramatically was associated with not discharging patients who had severely debilitating and chronic disorders.

Chase's book will be thought provoking for anyone trying to understand the many questions on diagnosis and aetiology in 21st century psychiatric practice. Many of the dilemmas raised over a century ago are evocative of those today, particularly the relationship between bipolar disorder and schizophrenia, as Chase discusses in his final chapter. If Kraepelin and his colleagues returned today they might not recognise the society and technology around them, but they would chuckle when they found that the concepts and diagnostic conundrums with which they grappled still exist.

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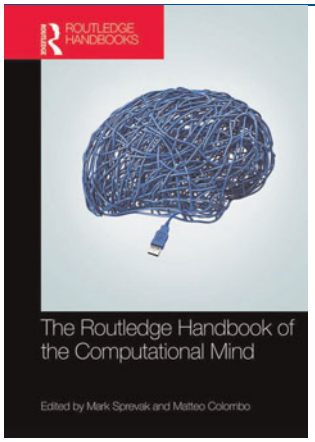

The Routledge Handbook of the Computational Mind

Edited by Mark Sprevak and Matteo Colombo
Routledge. 2018. 510pp. £175 (hb).
ISBN 9781138186682

In 2011, speaking at Google's Zeitgeist conference, Stephen Hawking declared that 'philosophy is dead'. He bemoaned philosophers failing to keep pace with scientific progress and thus he declared their art was dead. *The Routledge Handbook of the Computational Mind* finds philosophy in rude health. Like Daniel Dennett, I tend to think that such claims regarding philosophy and science leave unacknowledged the philosophical baggage that attends all of our scientific practices. The *Handbook* reconnects us with the baggage of a computational approach.

One of the many strengths of this volume, skilfully edited by Mark Sprevak and Matteo Colombo, is that it reminds us of how long scientists – many of them psychiatrists (including R. D. Laing) – have wrestled with issues of computation in the mind and brain. This book is particularly timely given the wealth of opinion pieces and working-group position papers on computational psychiatry, a field some have quipped is best defined as having more reviews than data papers (a problem to which I am guilty of contributing).

The excitement and enthusiasm around computational psychiatry ought to be tempered by what it means to commit to computational theories of mind and brain – what one gains and what one might lose, and ultimately what is being computed and how in the healthy and the symptomatic brain. Those with an interest in computational psychiatry would benefit from reading this book.

The book is not just concerned with philosophy. It begins by tackling the history of computation and its invocation as a metaphor for what the mind and brain do. In the next chapters the possible types of computing are outlined, and then the foundations and challenges of computational views on mind and brain are tackled. Finally, applications of the approach are discussed, including chapters devoted to psychiatry – specifically psychotic symptoms (by Brugger and Broome) and addiction (Gu).

My academic work is infused by computation and, rather than the 'busman's holiday' feel I get from many books on topics in which I feel invested, I felt inspired and eager to learn more after reading this book. For example, it was chastening to be reminded that the current debates in artificial intelligence (deep-reinforcement learning versus symbolic approaches) have their roots in much earlier work, where the debate centred on mental structure and mechanism (Fodorian modularity versus connectionism, for example). But I was inspired by the plurality

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