

regarding the specific domains of philosophy and science, Searle and Dennett dismiss such distinctions in favour of an entirely empirical approach to understanding mental phenomena. Searle is specific. 'These [mental states] are entirely caused by brain processes ... Conscious states exist [only] in the brain' (p. 99). Dennett refers to philosophy as a sort of 'autoanthropology' in which one's intuitions alone are consulted, as though the philosopher were undertaking an empirical study with an n of 1.

Searle and Dennett are bold in their assertions about the progress that has been made in field of neuroscience. In contrast, Bennett and Hacker take a more cautious approach to the attainment of knowledge. They emphasize the need for correct concepts and accurate language in directing scientific inquiry. Science, they claim, 'is no more immune to conceptual error and confusion than any other form of intellectual endeavor' (p. 9). Bennett attempts to illustrate this point with examples from the history of neuroscience, exhorting us to 'pause and reflect' before accepting many of the claims being made by the neuroscientific community. His history lesson might be construed as an overly pessimistic view of science, perhaps even undermining our fidelity to an evidence-based method of practising psychiatry. But what physician has not wondered whether the vast sea of 'evidence' has contributed more to confusion than clarity?

Robinson's purpose is not to belittle neuroscience, but rather to strengthen it with the appropriate distinctions and clarity of language, and to remind us that we are ultimately trying to understand what it means to be human and how we can relieve suffering. In a field as diverse and, at times, contentious as psychiatry, this book in an excellent and economical way to join the conversation. Its brevity belies its depth.

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Psychological Medicine, 41 (2011).

doi:10.1017/S0033291710002552

First published online 20 January 2011

Secondary Schizophrenia, 2nd edition. By P. S. Sachdev and M. S. Keshavan (Pp. 436; \$120.00; ISBN 9780521856973 cloth.) New York: Cambridge University Press. 2010.

The remarkable proliferation of genomic and other biological studies of schizophrenia in the last decade has directly and indirectly provoked a 'shake-up' of pre-existing conventional wisdom about the disorder.

This has impacted not only genetic and non-genetic theories of its etiology. Sachdev and Keshavan's broad-ranging book hints that this has also spread to the realm of its very definition. One of the most striking results in the panoply of recent discoveries has been the small proportion of variance explained by either many known common, or a few observed rare alleles, commonly explained by the current inability to detect a putative 'missing heritability'. This inevitably leads to the possibility that non-genetic causes may play a larger role than previously thought, in the etiology of even the most carefully diagnosed and clinically typical cases. Another glint of light into a previously darkened corner has come as a meta-analysis of existing twin studies. This has demonstrated that environmental factors shared within a family (such as parenting styles, nutrition, propensity to infection, etc.) explain a modest but significant portion of variance in risk, which individual studies are underpowered to demonstrate. This state of affairs has engendered a kind of cognitive dissonance in many seasoned workers in the field: holding out the possibility of using genetic variants to predict risk and treatment response, while simultaneously making it plausible that theories with which we have long grown uncomfortable, such as the schizophrenogenic mother, could be exhumed.

This is the contemporaneous scientific milieu forming the backdrop of this book and which makes it particularly timely. It is therefore either prescient or revisionary that Sachdev and Keshavan have selected the title of their book, the predominant focus of which is the numerous non-psychiatric syndromes and conditions associated with psychotic symptoms. However, which one it is will ultimately have to be decided by an enormous amount of future work disentangling reliably measured genetic variation from potential environmental causes in cases defined by the strictest and most universal diagnostic criteria. For the title and indeed the book itself suggest that psychosis as we know it may be a final common pathway of myriad processes, and that schizophrenia is but one class subsuming only processes which have yet to be identified. This is the underlying premise of their dichotomy of 'primary' and 'secondary' schizophrenia.

First and foremost, this is a textbook designed to thoroughly review non-psychiatric causes of psychosis for the medical student and interested researcher alike. All of the major classes of such conditions are covered. Some are caused by Mendelian diseases such as lysosomal storage diseases, as well as mitochondrial diseases. Some are genetically complex disorders such as Alzheimer's, in which psychosis is a prominent feature. Some are multifactorial conditions impinging directly on brain

structure, such as stroke, normal pressure hydrocephalus, and tumors. Some are systemic perturbations such as infection. Some are exogenous substances such as stimulants, psychedelics, and alcohol. Some are chromosomal abnormalities such as velo-cardio-facial syndrome, which have a prominent association with psychosis. All of these are subsumed under a section heading entitled 'secondary syndromes of schizophrenia'. But this flies in the face of the orthodox requirement that such conditions need to be ruled out in order to make a diagnosis of schizophrenia. It is telling that the authors have placed a fine review of linkage and association studies of schizophrenia in this section, alongside reviews of psychosis in Prader–Willi syndrome, Friedrich's ataxia, and Huntington's disease. This suggests a hope that genetic influences on schizophrenia could one day be as direct and observable as those seen in these genetically simpler diseases.

All reviews are written by seasoned and productive experts in their respective fields. They all begin by laying out the historical antecedents of the contemporary evidence-based literature. This leads into a detailed exposition of the most salient findings in the literature, organized by the classic categories of epidemiology, biochemical and anatomic pathology, diagnosis and classification, and epidemiology and clinical features of the specific psychotic phenomena seen in the condition. In some cases, such as Niemann–Pick disease, a plausible and elegant model of chains of causal effects propagating from the molecular up to the organ system levels is put forth. In all cases, there is an attempt to connect up what is known about the biochemical or anatomical specifics of the insult with the commonly held theories of schizophrenia etiology, such as the dopamine or NMDA

hypotheses. The prose is clear, succinct, and focused. The forays into the literature are wide-ranging, deep, and scholarly, while the results are presented well-organized fashion with clear tables and figures. Dr Sachdev's introduction in particular is beautifully written, erudite, and engaging. It touches on the influence of Cartesian dualism on current nosological conventions, and ultimately defends the book's dichotomy from a position of pragmatism based on the need to combat stigma and protect the purview of psychiatry from inexorable shrinkage. Sachdev suggests that psychiatrists would do well not to cede even those processes which, by virtue of their being clearly identified, tend to become the preserve of neurology.

In summary, this book provides a rich and comprehensive review of the many conditions known to be associated with psychosis, which could be of great value to students and a resource for senior scientists in the field. It is thought-provoking, and its treatments of provocative issues resulting from very recent research are timely and enjoyable. The book is particularly satisfying because it excels on so many levels. This includes the clear list-making organization of basic facts characteristic of the allopathic tradition, and the thoughtful attempt at integration of disparate findings into etiopathogenic explanations of signs and symptoms. Adding to this already very useful review of vast swathes of clinically oriented literature is the valiant and nuanced contextualization of otherwise typical textbook fare into the fundamental conceptual conundrum lurking at the heart of the entire book: what is schizophrenia?

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