Book reviews

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Can Schizophrenia be Localized in the Brain?

Edited by Nancy C Andreasen. (Pp 87; £15.00.)
Cambridge: Cambridge University Press. 1986.

This concise, compact volume is the latest in a series entitled 'Progress in Psychiatry' published by the American Psychiatric Press. It is a brief review of recent evidence, mainly derived from brain imaging research, that schizophrenia can be localised in the brain. As well as discussing the relevance of cerebral localisation in psychiatry, subsequent chapters deal with evidence locating schizophrenia in frontal, temporolimbic, and left hemispheric areas of the brain. The final chapter discusses brain morphology in schizophrenia from a genetic perspective.

The first chapter reviews the historical development of the localisation of cerebral functioning in the brain from the time of Kraepelin. Written by the editor, who is herself an expert on CT scans in schizophrenia, chapter 1 provides a succinct overview of the evidence for brain specialisation and the localisation of function that has accrued over the years. She also briefly discusses the development of various brain imaging techniques such as regional cerebral blood flow (rCBF), positron emission tomography (PET), nuclear magnetic resonance (NMR), brain electrical activity monitoring (BEAM), and computerised tomography (CT) scanning.

Chapter 2, written by J Marihasi and D R Weinberger, considers whether schizophrenia is a frontal lobe disorder and discusses regional blood flow and PET scan studies. The authors cite recent research which has attempted to correlate structural abnormalities in the frontal lobes as demonstrated by CT scanning with brain electrical activity monitoring changes. They also cite evidence that regional blood flow in the dorsolateral prefrontal association cortex is reduced in schizophrenics performing a test of cognitive functioning compared to controls. The authors suggest that these studies provide 'compelling evidence' for the association of frontal cortical pathology with schizophrenia.

Chapter 3 is a review of the evidence that schizophrenia may possibly be due to temporolimbic dysfunction and this chapter is also written by the book's editor. The chapter contains a very familiar description of the Papez circuit and a brief descrip-

tion of the association between temporal lobe epilepsy and schizophrenia.

In chapter 4 schizophrenia as a disorder of left hemispheric functioning is discussed by Nasrallah. Again familiar early studies are quoted as part of historical review of the evidence for this. Subsequently the author discusses evidence from studies into handedness, skin conductance, conjugate lateral eye movements, dichotic listening, EEG evoked potential, neuropsychological testing, and reversed hemispheric asymmetry. In his conclusion the author honestly admits that while there is some evidence for left hemispheric and interhemispheric dysfunction in schizophrenia, there are also studies that point to right hemispheric or no hemispheric dysfunction in schizophrenia.

The final chapter describes the application of the twin method to anatomical changes in schizophrenia. Based on a small sample of MZ twins who are discordant for schizophrenia, the authors (A M Reveley and M A Reveley) describe their own unique perspective on the aetiology of schizophrenia.

It is unclear what readership the book is aimed at. Although the early chapters are informative and provide very up to date reference material, the later chapters (3, 4, and 5) provide little new or very recent information. However, it must be said that the current 'fashion' in schizophrenia research is to examine for frontal lobe pathology while other chapters cite more familiar territory, at least to most psychiatrists trained in the UK. The specialised perspective of this book makes it rather limited as an undergraduate text and for the postgraduate studying for College examinations it is probably rather too concise, although it does provide a good reference source. For the non-clinician basic scientist or neurologist it provides a clear overview of recent brain imaging research in schizophrenia, and it is probably this readership who may consider its purchase.

The medical geneticist, however, will find the final chapter disappointing and muddled. The specialist seeking an authoritative account of genetic studies in schizophrenia would be better looking elsewhere, for instance, Gottesman and Shields' *The Epigenetic Puzzle*.

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