

Tranquillisers no answer to schizophrenia

Malcolm Lader

Drugs, Madness and the Brain. By Solomon H. Snyder. Pp. 287. (Hart-David, MacGibbon: London, 1975.) £6.

It would be a macabre task to draw up a league table of the most terrible diseases which can afflict mankind. In such a list, schizophrenia would be very near the top as this illness disrupts and destroys normal mental functioning. It is common, one in a hundred adults succumbing. The outcome is uncertain, some recovering unscarred, others with residual symptoms and strange behaviour, and an appreciable unfortunate group who occupy the majority of the 'chronic beds' in health services throughout the world. These patients exist in institutions ranging from true mental hospitals, with rehabilitation and return to the community as the aim, through lunatic asylums, where the patients are cared for to a greater or lesser extent, to 'bins', a pejorative but accurate slang term.

New hope dawned for schizophrenic patients, their families and medical attendants with the advent of the major tranquillisers 20 years ago, coinciding with more liberal attitudes towards the mentally ill. The numbers of patients in hospital declined although the number of admissions rose.

In this book, Solomon Snyder, a psychiatrist-cum-pharmacologist, sets out for the layman recent research into the biology and treatment of schizophrenia. In part I he outlines concepts of insanity, the treatments for schizophrenia and the effects of the psychedelic drugs like mescaline and lysergic acid diethylamide (LSD) pointing out that the psychoses which these drugs induce differ in several crucial respects from schizophrenia. Part II provides a superb non-technical description of the many mental aberrations and behavioural peculiarities of the schizophrenic patient. Finally, Snyder describes the psychosis induced by repeated high doses of amphetamine and shows how similar the mental state is to that of paranoid schizophrenia.

One tantalising question remains unanswered. What is the clinical type of

action of the major tranquillisers such as chlorpromazine? Are these drugs anti-psychotic, that is, lessening psychotic symptoms whatever the causation, or are they truly anti-schizophrenic, influencing the schizophrenic disease process itself? Although Snyder heads one chapter "Anti-schizophrenic Drugs", he is at pains to point out the contradictions implicit in this rubric. For example, schizophrenic patients are not all cured and some sceptics have suggested that the major tranquillisers are merely 'chemical strait-jackets'.

The most relevant pharmacological effect of the major tranquillisers has recently become clearer. All these drugs have the common property of attenuating the action of the neurotransmitter dopamine by competitive, postsynaptic blockade. This explains extrapyramidal side-effects like Parkinsonism and some hormonal effects of the drug. It is tempting to postulate that schizophrenia involves dopaminergic overactivity in the brain but Snyder points out the dangers in such

a facile extrapolation. This area of pharmacology is growing rapidly and should uncover the biochemical and physiological mechanisms associated with psychotic behaviour in general and (dare one hope) schizophrenia in particular.

The book is well written in non-technical language. It is entertaining, vigorous, optimistic in outlook but balanced in opinion. It can be heartily recommended to any intelligent layman who wants to keep abreast of research development in a major area of health concern. It should also be read by medical and scientific professionals from medical and psychology students to researchers involved in the field. And our administrators and politicians involved in the provision of health care might also take time to learn about schizophrenia—this dreadful life-long mental condition which afflicts so many thousands of patients vegetating in institutions or existing precariously in the community. Major tranquillisers are still not a substitute for adequate health services. □

Pervasive role for acetylcholine

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Central Cholinergic Systems and Behaviour. By P. V. De Feudis. Pp. x+422. (Academic: London and New York, 1975.) £6; \$15.75.

At a conservative estimate, established chemical transmitters in the central nervous system must now number at least seven, even excluding polypeptides which act as hypophyseal releasing factors, the recently discovered endogenous morphine-like compound, and the elusive substance P. Why so many substances should be needed to carry messages from nerve cell to nerve cell is a major unsolved question. The classical concept of post-synaptic excitations and inhibitions suggests a requirement for two, and the present surfeit might be thought to support the view that major varieties of action at the post synaptic cell have yet to be described.

Among these agents acetylcholine has a particular place, as the first such substance convincingly to be demonstrated to have a neurohumoral role, and by reason of the detailed knowledge we have of its release and action in the periphery. Yet its functions in the brain might be thought recently to have been neglected by comparison, for example, with the monoamines.

This monograph by de Feudis contributes toward redressing the balance and reviews in detail the information which suggests that acetylcholine undoubtedly has a pervasive role. Although much of the subject matter concerns experimental findings at the electrophysiological and cellular level the book is organised in terms of functional systems and behaviour. The author does not flinch from plunging the reader into a first chapter on cholinergic mechanisms and consciousness, and follows this with sections on motor systems, and the role of acetylcholine in autonomic and endocrine control, and in motivated behaviours, emotion, learning and memory. The reference in the title to behaviour is therefore justified and the book will be of particular interest to physiological psychologists. De Feudis has been unusually successful in his attempt to bring together a variety of relevant studies at the biochemical and cellular level and at the level of gross structure and function.

A text organised around a single neurotransmitter substance invites questions concerning the lead which information concerning this substance might give us to the functional organisation of neurotransmitter mechanisms in general. When does a pathway need to use acetylcholine as a neurotransmitter? Anatomical precision is crucial here, and as de Feudis makes clear, in spite of the development of the cholinesterase technique, there are many limitations in our present knowledge of the anatomical identity of cholinergic neurones. □