

are L-dopa, amphetamines, methylphenidate, MAOI, imipramine, lithium, and acetylcholine.

The third group of papers is focused on the electrophysiologic measures employing EEG and evoked potentials, and includes a study of sleep in psychotic patients. The attempts to learn more about the various kinds of psychopathologic states by means of electrophysiologic exploration has held out considerable appeal. Nevertheless, despite their appeal, and despite the fact that studies of the EEG and evoked potential in schizophrenics and affective psychotics appear to differ from normal in a number of EEG and evoked potential characteristics, diagnostic specificity was suggested by relatively few findings, and this in only certain subgroups of these disorders.

The papers pertaining to the studies of neuromuscular abnormalities were directed toward investigating the presence of skeletal muscle and subterminal motoneuron abnormalities in psychotic patients with both schizophrenic and affective psychoses. Nevertheless, despite the interesting observations in this area, there appeared to be a lack of correlation between a skeletal muscle-type creatinine phosphokinase abnormality and psychotic states as well as a lack of correlation in individual patients between histologic abnormality and the enzyme abnormality. Moreover, the observations leave unanswered the question as to why these muscle abnormalities are not more disease specific.

The last and major part of the symposium was devoted to presentations summing the present status of the neurochemical measures being studied in these psychiatric disorders. The exhaustive presentations detail the effects of neuroleptics on nigrostriatal and mesocortical dopaminergic systems; the psychotropic drugs and dopamine uptake inhibition; amine precursors in neurologic disorders and the psychoses; the neurotransmitter-related enzymes in the major psychiatric disorders; studies of amine metabolites in affective illness and in schizophrenia; a critique of single amine theories and evidence of a cholinergic influence; and evidence for neuroendocrine abnormalities in the major mental illnesses. These studies making it possible to compare amine metabolites in affective illness and schizophrenia, however, appear unable to specifically answer the question of "amine specificity" both as to an affective illness or

a schizophrenic state. Nevertheless, the issue has served to emphasize the increasing appreciation of the value of various experimental paradigms in opening up fresh approaches to the problems of dissecting behavioral and chemical relationships in these disorders.

The presentations in the symposium were supported, for the most part, by a generous proportion of tables, charts, and bibliographies which are valuable resources for those seeking a point of departure for further investigations. The technical complexity of many of the presentations may, however, make for difficult reading at times and may even obviate their usefulness to the non-specialist or psychiatric clinician seeking to integrate such information into his practice. These highly specialized presentations also emphasize the problem faced in narrowing the communications gap between the various technical facets of these multidisciplinary efforts. Recognition of this need has resulted in the structuring of this symposium, like many of its predecessors, in a manner designed to minimize some of the obstacles to understanding by providing summaries at the conclusion of the presentations as well as the discussions that follow the major sections.

No attempt has been made to critically evaluate the specific presentations, for this can apparently best be left to the specialists. Rather, the primary focus has been instead on the meaningfulness of these presentations in providing direction for the clinician attempting to become conversant with these most recent investigative developments by those most competent to express such information. As such, the symposium accomplishes its mission. It can be recommended as a helpful encyclopedia of information outlining some of the biologic parameters of the major psychoses.

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Central Cholinergic Systems and Behaviour.

F. V. DeFeudis. London/New York/San Francisco, Academic Press. 1974. 223 pages. \$15.75.

This book by DeFeudis is long overdue. It is the sort of book many of us have talked about writing but never have. We can thank the author for bringing together in a most

lucid manner some of our knowledge on the central cholinergic systems and their relationships to consciousness, motor activity, respiratory and cardiovascular control, release of antidiuretic hormone and oxytocin, as well as temperature regulation. In addition, the author reviews the role of the cholinergic system in drinking and feeding behavior, as well as a large variety of emotional-motivational behaviors including attack, self-stimulation, and learning and memory. A large number of studies on the release of acetylcholine from the cerebral cortex, caudate nucleus, thalamus, hypothalamus, mesencephalon, medulla, and spinal cord in vivo are also reviewed, as well as in vitro studies regarding the release of acetylcholine from brain slices and subcellular particles. An excellent bibliography is also available. This book is of special interest to experimental neurobiologists. For those interested in the role of acetylcholine in brain function, this book is a must. Although there is little of practical, clinical, neuropsychopharmacological information contained, those clinicians interested in the central role of acetylcholine will certainly find this excellent background material. In view of current clinical research on the effects of cholinergic precursors and agonists as well as antagonists in diseases of the extrapyramidal systems, Chapter 3 on motor systems is of obvious relevance.

I recommend this excellent book to interested neuroscientists and clinicians. It is a must for all medical and neuroscience libraries.

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Disorders of Voluntary Muscle. J. N. Walton, editor. Edinburgh and London, Churchill Livingstone (New York, Longman, Inc.). 1974. 1149 pages. \$48.00.

The Moving Finger writes; and having writ
 Moves on: nor all your Piety nor Wit
 Shall lure it back to cancel half a Line,
 Nor all your Tears wash out a Word of it.

Stanza 71, The Rubáiyát of
 Omar Khayyám
 Edward Fitzgerald

The original aim of this work, which first appeared in 1964, was to provide clinicians

with a comprehensive but concise view of neuromuscular disorders. To achieve this aim, it was decided to treat the subject from standpoints other than the purely clinical. Hence the book is divided into the following sections: anatomy and physiology; pathology; clinical and genetic aspects of neuromuscular disease; and, finally, a practical one devoted to the use of electrical methods in the diagnosis of such diseases. New developments in these areas since 1964 have twice necessitated extensive revisions, one in 1969 and the latest last year. As a result, whereas ten years ago the concise view could be presented in 628 pages, 1149 pages are now required to accomplish the same purpose. It might be comforting to know, though, that the rate at which new developments are occurring is apparently diminishing; for whereas 300 pages were added to the first edition, only 200 have been added to the second. Actually, only 160 were, because a new chapter on the pathology of peripheral nerve has been added to this edition.

At first thought, the increase in scientific literature with time would seem to be the main, if not the only, reason for the progressive increase in the length, weight, and expense (the first edition cost only \$20) of this work. But a comparison of the three editions reveals that this is not the whole story. Another, and by no means minor, reason for the increase in size is that a very large part of the text of each edition is retained in the next. New work is mainly referred to in the text by insertions at the sentence or paragraph level. Occasionally, advances in a certain area of research have required the insertion of a new paragraph or a new section. Only rarely has any material been deleted or references to the literature removed from the chapter bibliographies. Incidentally, about 20 per cent of the increased size of this edition over the first is due to the increase in the number of pages devoted to the listing of the literature, an increase that could have been prevented, if not more than compensated for, by omitting the titles of papers.

We are not saying that revision by accretion is in itself a bad thing; the third edition of this book is just as readable as the first. It just does not happen to square with the editor's averral that each chapter was extensively revised or completely rewritten. Only five of the remaining 29 chapters were radically changed from their counterparts in the second edition, and it may be signifi-