that developments within them have already yielded advances in therapeutics. The Open University is therefore to be congratulated on introducing, early in its existence, a course on the biological bases of behaviour which ignores conventional interdisciplinary boundaries: this volume is the course reader and contains papers reprinted from general scientific journals or texts.

Thirty-four papers cover the structural and physiological substrates of perception, emotion, motivation, memory and learning, their sociological aspects, and certain philosophical and ideological problems generated in this area of knowledge and inquiry. Fourteen of these papers are reprints from *Scientific American* and the authority of the text and excellence of its presentation are therefore assured: in general this can also be said of the other contributions.

Even a balanced selection, as this is, of such a small number of brief articles covering a very large field inevitably leaves the novice with a rather tachistoscopic impression of it, but the authors have helped the reader by giving him his bearings in a brief introduction to each section. Though intended for those taking a specific Open University course this book would interest the neuropsychiatrist wishing to remind himself of the scientific background to his clinical work and some articles can be read for their humour or for their provocativeness.

R. N. HERRINGTON

* Price not stated.

GLYCOLIPIDS, GLYCOPROTEINS, AND MUCOPOLYSACCHARIDES OF THE NERVOUS SYSTEM By V. Zambotti, G. Tettamanti, and M. Arrigoni. (Pp. 334; illustrated; \$17.50.) Plenum Press: New York. 1972.

Although as much as 10% of all cerebral proteins are glycoproteins little information has hitherto been available on their properties in the nervous system. Rather more is known about glycolipids but study of the mucopolysaccharides has been limited. The publication of the proceedings of a conference on the topic indicates that some advance has now been made.

The first section deals with the chemistry and metabolism of glycoproteins and mucopolysaccharides of the nervous system. This is a very new field and many of the contributions include details of experiments necessary for the separation and identification of these complex substances. Mechanisms for transglycosylation are clearly discussed. Some evidence suggests that glycoproteins are important in information transfer at neuronal and synaptosomal membranes. It has, for example, been proposed that these macromolecules are involved in

memory processes and glycosaminoglycans may be important in axonal flow and in myelination.

The next part deals with the chemistry and metabolism of brain gangliosides. A lot of information is provided on the participation of enzymes in these various complex reactions. Techniques for isolation of brain subcellular structure including synaptosomal plasma membrane by differential centrifugation are discussed. This could well have been placed before the interesting account of glycoproteins of synaptosomal plasma membrane found in the first section.

The final part of the book deals with the chemical pathology and diagnosis of lipid and mucopolysaccharide storage diseases. Much original data is provided, mostly on the rare storage diseases.

Although there are obvious advantages in publication of papers presented at a conference this may be detracted from by delay in production and by the uneven quality and lack of editing of contributions. In addition, it is almost impossible to maintain continuity and prevent overlap of subject matter, so that although research workers already familiar with the field will find a book of this type useful the general reader may be confused. For these reasons perhaps publishers would consider producing cheap paper-back editions instead of printing durable and expensive books which frequently largely duplicate material found in journals.

A. N. DAVISON

NEUROLOGICAL UROLOGY By Ernest Bors and A. Estin Comarr. (Pp. 454; illustrated; £9.50.) Karger: Basel. 1971.

The authors are well known for their contributions to the management of patients with spinal injury based on their experience at the Long Beach Spinal Centre, California, Dr. Comarr succeeding Dr. Bors on the latter's retirement. It is particularly appropriate that they have chosen to write upon disorders of the urinary tract as many of their studies have been related to problems of micturition. The authors have made their text of more general interest by going beyond the paraplegic situation by considering urinary disorders in a wide range of neurological diseases. The book is divided into two parts: the first deals with basic concepts of anatomy and physiology, and the second details the investigation of urinary tract disorders, their classification and their management. It concludes with a very full bibliography extending to 94 pages of references.

There is a wealth of information in this book, but the problem is how to get at it as there is no index. This extraordinary omission causes the reader to rely upon the arrangement of the sections and the way they are detailed at the beginning of the text.