

that encourages thought and comparison with other nervous systems. Another attractive aspect of the book is the effort that is made to delineate the link between neuronal organization and behaviour.

There are some gaps, however. For example, the coverage of the visual system seems unreasonably brief given that this is one of the areas in neuroscience where we are closest to establishing a fusion of structure and function. Is this a reaction to the over-representation of the visual system in other texts?

Although Erasmus Darwin, amateur meteorologist, physician and poet, is well known as the author of *Zoonomia*, I did not realize that he was also responsible for the over stimulation theory of pain. Delightful tidbits of information such as this abound in David Ottoson's scholarly and very readable *Physiology of the Nervous System*. In approach the book is rather old-fashioned, with a strong historical content, and there is an abundance of clinical information for medical students; but it is thorough and generally up to date with few obvious inaccuracies, and should encourage interest in the subject.

On the debit side, much of the information is organized in a way that necessitates reading a large part of the book to grasp such primary topics as motor control, somaesthesia and pain. I suspect that this will not endear it to weaker souls amongst the hard-pressed medical students seeking to keep aboard the daily treadmill of lectures and tutorials. Nonetheless, for those prepared to work with its format the book has much to offer and is likely to be retained for reference.

Most neuroanatomical texts at the undergraduate level tend to concentrate on the organization of tracts and the gross morphology of the brain at the expense of any detailed treatment of its cellular organization. This is unfortunate; our growing appreciation of the function of the nervous system requires an understanding of the patterns of its synaptic connectivity. This need has been anticipated by the editor of *The Structural Basis of Neurobiology*.

This book is derived from parts of the latest edition of another textbook, *Histology: Cell and Tissue Biology* (see p.121 for review). Two sections from the original work, "The Cell" and "Nervous Tissue", are included together with a new account of the special sense organs. Whilst it does not cover any really new ground, the book provides a thorough background to neurocytology and certainly achieves the editor's objectives. It is a pity that the opportunity was not taken to update the section on nervous tissue in light of some of the issues raised by current functional and neurohistochemical studies; but perhaps the next edition will see to that. □

Adam M. Sillito is a Professor in the Department of Physiology at University College, Cardiff.

Past psychology

P.E. Bryant

A History of Western Psychology.

By David J. Murray.
Prentice-Hall: 1983. Pp.428.
\$35.05, £24.65.

STUDENTS of psychology tend to be fascinated only by the most recent theory or experiment. Everything that went before is rapidly discarded and even despised. There are a number of reasons for this easy contempt for the past. One is that there have been many blind alleys in psychology. But perhaps the most pressing reason for the general unpopularity of courses on the history of psychology is that it is so forbiddingly complex. There cannot have been a subject about which so much has been written from so many points of view.

A mere glance at David Murray's account of psychology's precursors is enough to show that. He starts with pre-Socratic philosophy, gives a fair account of Plato and Aristotle and their immediate successors, has some interesting things to say about the Middle Ages and early Christianity, and then settles comfortably

into his stride with the familiar giants — Locke, Hume, Descartes, Leibniz and Spinoza. Not until half-way through the book does he reach the emergence of empirical psychology at the end of the nineteenth century, and even then he has much to say about psychologists such as James who did no experiments.

The book, then, is really about the history of ideas in psychology. It gives a fair and clear, though often necessarily hurried account of them, and will be a great help to anyone who wants to follow the many different currents of thought that led to the modern conception of the subject.

There are a few weaknesses. The author does not make many connections, though several call out to be explained. For example, what is the point of talking about Kant without describing the great influence that he had on psychologists such as Piaget? And why juxtapose accounts of gestalt psychology and behaviourism without also describing the formidable struggle between these two violently opposed schools of thought — a struggle which is relevant to a number of psychology's current concerns? □

P.E. Bryant is Watts Professor of Experimental Psychology at the University of Oxford.

Ideas of cognition

K. Stenning

Thinking, Problem Solving, Cognition.

By Richard E. Mayer.
W. H. Freeman: 1983. Pp.426.
Hbk \$27.95, £25.95; pbk \$14.50, £16.95.

Learning and Memory.

By Donald A. Norman.
W. H. Freeman: 1982. Pp.129.
Hbk \$16.95, £15.95; pbk \$8.95, £7.95.

The Psychology of Cognition, 2nd Edn.

By Gillian Cohen.
Academic: 1983. Pp.277. Hbk £17, \$32;
pbk £8.50, \$16.

THE problem of choosing a textbook for a course in cognitive psychology is classified, as at least the first two of these books would tell us, as one with ill-defined initial state and ill-defined goal state. However, our three authors' protocols allow us to reconstruct a good deal of their diverse conceptions of what the problem might be.

Mayer conceives of it as a problem of surveying a space — namely, experimental psychological research on the higher mental processes — and therefore requiring an organizing principle, that of history. As a surveyor he is fairly comprehensive but the history is of a peculiarly narrative kind. The twin poles of association and gestalt are used to introduce the topic, with deference to the ancestors' beliefs that they were two mutually exclusive theories of mind. They are, apparently, superseded by a cringe-

worthy construction "meaning theory" which seems later to be somehow distinct from "schema theory" but neither seems well enough defined for students to judge the issue for themselves. Mayer is best where the field is best organized, worst where it leans most heavily on related intellectual endeavours such as logic. It is the fate of the surveyor to reflect the object of survey.

Norman sees the problem as one of reminiscence — in pursuit of research past — and who could blame the reminiscence for belonging mainly to its pursuer? What searcher in memory's vault would be lured towards the comprehensive? Here is a highly personal conception of a subject that might well raise, for the beginner, some of the important questions of the field, and so much the better for omitting a too-hasty attempt to provide the details of the answers. If students were to be required to develop much sensitivity to theoretical alternatives, they would need to be referred elsewhere, outside Norman's own texts perhaps — a favour he immodestly declines them.

Where better to turn than to Gillian Cohen's primer on debate — the thinking students' guide to the study of thinking? She begins with an account of the rules and principles — the organizing issues — and then pursues them through several well-chosen areas of cognitive psychology with a merciless eye for all those psychological theories which pass each other by without the much-heralded clash of armour. She eschews comprehensiveness in favour of including far more — an idea of how the