analog tracers to dissect out metabolic pathways, thus permitting measurement of rates of specified metabolic reactions in vivo. To professionals the only regret will be that the publication date preceded the decisive experimental results obtained in Sokoloff’s laboratory in 1984, which lay to rest most of the recent criticisms of the technique.

The extension of these methods to humans only merits a final page or two in the monograph. No doubt this is because that aspect of the work has been taken up by Sokoloff’s pupils, so that an account based on first hand experience would not have been possible. However, if the book is to be about metabolic probes in man as well as experimental animals, a review of oxygen based techniques would have been welcome if only to compare and contrast the different approaches to similar metabolic problems. However, this does not detract from the value of the volume as a specific description of a particular technique and also an excellent general introduction to methods which are seeing direct application via positron tomography to metabolic measurement in man. It also serves as a reasonably up-to-date review of the principle scientific advances made as a result of its application to the investigation of physiological and functional questions in the experimental animal brain.

The monograph is a very personal account and thus all the more readable and enjoyable. The text is well presented, the illustrations clear and the book thoroughly good value for its modest price. I can recommend it without reservation.

RSJ FRACKOWIAK


One can have nothing but admiration for Dr Willis for having written this excellent book. In about 300 pages he has provided an invaluable summary of what is known about the “circuitry” of the nociceptive system. The emphasis is perhaps on anatomical aspects although physiological and pharmacological aspects are also fully considered. The order of presentation is logical, starting with peripheral nociceptors, then going on to afferent input into the dorsal horn, ascending nociceptive tracts and finally central transmission to thalamus and cerebral cortex. It should be added that the book does not deal with descending mechanisms of analgesia or descending pathways.

The subject matter is well arranged and presented, and most importantly, is thoughtfully and critically reviewed, and very up to date. Topics of current interest such as the issue of nociceptive afferent fibres in the ventral root, the effects in animals of capsaicin, the presence in the small dorsal root ganglion cells of neuropeptides relevant for nociceptive transmission, and microwaveurographic studies on humans, are all considered. Background aspects are not neglected, however, and Dr Willis introduces each chapter with a brief historical overview and concludes each chapter with a useful itemised summary. The book as a whole concludes with around 900 references. An area which unfortunately receives little attention is that of the autonomic nervous system, at least peripherally; there is increasing information on and interest in the role of the sympathetic nervous system on nociceptive mechanisms, and the second edition which will surely be called for could, with advantage, include this aspect.

The sub-title of the book is important. The author is not primarily concerned with clinical aspects of pain, but precisely with “the neural basis of nociceptive transmission”; he succeeds admirably. Unfortunately in times of financial stringency no reviewer can afford to ignore the cost of a book. The price is certainly high but not excessive for a well produced book which in invaluable if not essential for libraries to stock, even if expense deters many individuals from owning even if not consulting a copy.

DG SCHOTT


Over the past 2-3 years at least six new neurophysiology textbooks have appeared. Whoever buys them is a mystery. The medical students at whom they are directed have less money now, owing to the gradual decrease in the student grant, than they have ever had in the past. So, given this lack of money, I made a small open survey of a group of second year medical students. “If you were to buy one neurophysiology textbook this year,” I asked, “would you prefer a book containing far more facts than you need to know”—i.e. a reference book; or a book containing an easily understood survey of all the basic facts you need for this course—i.e. a course guide?”

Advantages were, of course, seen in each. A good course guide would make attendance at lectures redundant, and allow science students to lead the more relaxed life of, say, the history undergraduates. A good reference book would probably last longer, being of use throughout subsequent years and would certainly be more suitable for providing background reading. Superb examples of course guides are Open University publications for students who never attend lectures. Indeed, they explain the course far better than most lecturers in my experience. Basic Human Neurophysiology is in the tradition of a course guide. It has “evolved from class handouts used in teaching undergraduate and graduate neurophysiology at the University of Southern California School of Medicine over the past fifteen years.” It is well-written and entertaining. There is a limerick about Hubel and Wiesel, a quote from Hamlet on sleep and lots more jolly quips, including a description of the hemiplegic posture of Lon Cheney jr in “The Mummy”. Every chapter begins with a list of objectives, which are then treated with a companion list of questions (with answers) at the end. An additional feature which is used very well is the inclusion of examples of clinical case summaries to illustrate specific physiological points. However, the diagrams are not so good as in some other recent neurophysiology books, and, presumably because this is a course guide rather than a reference book, none is taken from original experiments.

There is a good case for leaving out original diagrams and experimental details in an introductory book such as this for the sake of clarity. But this is precisely where this textbook fails. It deals very well with the relevance of physiological facts to medicine. Yet little attention is paid to giving the reader a flavour of physiological experimentation. There are no details of how Hodgkin and Huxley or Hubel and Wiesel performed their experiments, or of the pioneering work of von Bekesy on the movement of the basilar membrane in the cochlea. Statements presented without such details are very easily accepted as truths. A textbook at this level should not encourage such blind acceptance of facts. Questioning the basis of knowledge is equally important as the application of facts in the clinic.

JOHN ROTHWELL

Book reviews
The Pain System. The Neural Basis of Nociceptive Transmission in the Mammalian Nervous System. *(Pain & Headache Series Vol 8).*

Dg Schott

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