

but there have been only a very few successes in this new field so far. Ewert and Guthrie both cover them, but all too briefly. To create a larger body of knowledge, each has padded the relevant data with selected bits of physiology, psychology, sociology and ethology. Thus students will be able to learn from either of these books, but only if they also receive lectures and extensive reading assignments, and if they already have a good background in basic neurophysiology. Both books are lavishly and attractively illustrated; Ewert's, in particular, is well-endowed with clear diagrams, many of which are original, in two colours. Each represents good value for money.

Unfortunately, the uninitiated reader is very likely to suffer from a severe attack of

mental indigestion because of the highly condensed treatments of diverse sets of data. The budding researcher will still have to make a critical choice within some traditional discipline before being able to practise neuroethology, and will be forced to face the difficult decision as to whether to go with backbones, or a "squishy" or "crunchy" invertebrate. In effect, this is a choice between going for cellular detail now, or for the prestige and significance automatically associated with vertebrate animals, but which at present show few signs of yielding the information needed for understanding at the level of nerve cells and circuits. □

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Strong-minded neuroscience

Maria Fitzgerald

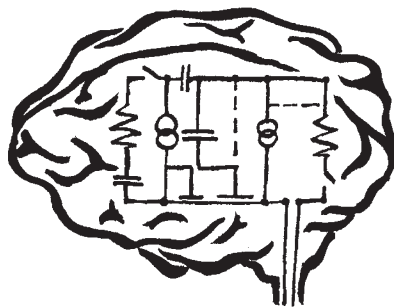
Principles of Neural Science. Edited by Eric R. Kandel and James H. Schwartz. Pp.731. Hbk ISBN 0-7131-4405-X; pbk ISBN 0-7131-4406-8. (Elsevier/North-Holland/Edward Arnold: 1981.) Hbk £45, \$60; pbk £25.50, \$32.50.

NEUROSCIENCE is one of the most rapidly expanding branches of biology today; the task of putting together a comprehensive textbook on the subject is therefore becoming increasingly difficult. Such a book should inform clearly and accurately of the basic scientific facts while giving a balanced account of newer, less substantiated work. Ideally it should also convey the excitement of new ideas and the importance of future research. *Principles of Neural Science* fulfills all of these requirements. It is an excellent book, fun to read yet informative and accurate — a combination rare in scientific literature.

The editors believe that it is implicit in most neuroscientists' thinking that "all behaviour is an expression of neural activity". The task, therefore, of the neuroscientist is to explain how the brain and its cells function and so to understand behaviour. This view is the underlying theme of the whole book and it contributes greatly to its strength. It results in a great emphasis on behaviour, from simple spinal reflexes to the neural basis of emotions. It also results in a strong emphasis on disease and mental illness. After all, if behaviour is a reflection of brain function, then disorders of affective and cognitive functions must result from disturbances of the brain, and much can be learnt from them. Some may disagree with this philosophy and thus with the framework of the book; nevertheless they will still find the contents useful and stimulating.

All of the expected chapters are there, from cellular membranes to motor control,

plus good, up-to-date sections on topics such as sleep, ageing and CNS development. In each section, the relevant regional anatomy is surveyed, which is especially useful in discussions of the brainstem and the limbic system. At the end of the book there are several excellent appendices on brain fluids, neuro-ophthalmology and electrical circuit theory with set questions to work through.



Of course there are shortcomings. Neurochemistry, one of the most challenging branches of neuroscience, is inadequately covered. The basic, classical information is there but neuropeptides, for example, get only cursory attention. The autonomic nervous system is mentioned now and again but should certainly have had its own chapter. The index is so short as to be practically useless, although in compensation the chapters are clearly divided by straightforward subheadings. These are in the American style of a statement of fact; some are refreshing in this cautious age, some irritating. My particular favourite, arbitrarily used in the chapter on diseases of neuromuscular transmission, is: "Unsolved problems remain". □

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Childish thoughts

Albert Jonas

Foundations of Developmental Psychology. By R.C. LaBarba. Pp.545. ISBN 0-12-432350-2. (Academic Press: 1981.) \$20.75, £13.20. *Developmental Psychology*, 3rd Edn. By R.M. Liebert and R. Wicks-Nelson. ISBN 0-13-208256-X. Pp.665. (Prentice-Hall: 1981.) \$21.95, £16.45.

I DO NOT know how many students enroll in introductory courses in child psychology each year, but the number must be vast. Apparently, every publisher of textbooks feels that it is worthwhile to produce a new book, or at least a new edition of an old one, every two or three years in an attempt to attract part of this huge market. Something like 80 to 100 introductory child psychology textbooks are currently available. This competition has resulted in some specialization of books, as well as a great deal of homogeneity in the content and organization within each type of book.

Ten years ago, many leading texts tried to do everything. They were organized by age, beginning with prenatal development and infancy, and describing the child up to adolescence. In addition, within each age section, topics such as perceptual and social development were discussed. The writing style of many of these books has always reminded me of a sequence of 3" x 5" note cards.

In recent years, specialization has led to the creation of a great many texts that do little to introduce students to the scientific discipline of child psychology; rather, their goal is to give the prospective parent or teacher a picture of what the average child is like at each stage of development and to provide information of practical use. At the opposite end of the continuum, we have LaBarba's *Foundations of Developmental Psychology*. This book is a scholarly and historical introduction to the theoretical issues that have guided developmental researchers. It presents empirical studies primarily to illustrate issues and concepts, and makes little attempt to give the reader a picture of what behaviour to expect from a newborn child or to describe the average two-year-old.

The book is organized topically, with a heavy emphasis on biological areas such as genetics and human behavioural embryology. The behaviour of the neonate apparently is not of sufficient interest to the author to merit inclusion. Very little space is given to the development of sensory and perceptual processes; there is no mention, for example, of any sensory modality other than vision.

Unlike most introductory books, LaBarba's presents theoretical and empirical work not as fact but as the focus of argument with the opposing point of view. This may confuse and depress students, although it does convey the state of the art.