ferential nature of sympathetic outflow to different cardiac structures.

Clinical implications of these studies, and of studies on the differential nature of junctional tissues (explored by selective nodal perfusion), on the coronary circulation, on the electrical activity of the heart, and on experimental animals are stressed throughout the book. Disappointingly missing are discussions of diabetic autonomic neuropathy and orthostatic hypotension. These omissions, nevertheless, do not seriously detract from the overall value of the book to physicians, to physiologists, and to investigators in search of new data, fresh concepts, and provocative hypotheses.

SAMUEL VAISRUB, *Senior Editor,* Journal of the American Medical Association

MEMBRANE MORPHOLOGY OF THE VERTEBRATE NERVOUS SYSTEM. *A Study with Freeze-Etch Technique. Progress in Brain Research, Volume 46.*

By C. Sandri, J. M. Van Buren, and K. Akert. Elsevier Scientific Publishing Company, Amsterdam and New York. $71.50. ix + 384 p.; ill.; subject index. 1977.

This volume is designed to serve as an annotated atlas of the freeze-etch morphology of the vertebrate nervous system for professional or serious students in neurobiology. After an initial brief introduction to the techniques of freeze-etching, the volume is divided into five major sections discussing the freeze-etch morphology of (1) the neural soma, (2) the neural processes, (3) the neural sheaths, (4) the neuroglia, and (5) the mesenchymal structures in the nervous system. The value of the book lies in the superb collection of nearly 200 photographs of freeze-etch preparations illustrating the morphology of the nervous system. These photographs are high-quality reproductions and are well selected to illustrate the structures described in the text. The value of the photographs is enhanced both by a lucid descriptive text and by the presentation of line drawings at the beginning of each major section to illustrate diagrammatically the morphology of the system described. This volume, while it is lucid and contains numerous references to the literature, would not be adequate as either a single textbook of the morphology of the nervous system, or as a textbook of freeze-etch methodologies. It does, however, admirably suit its designated purpose as an annotated atlas of the freeze-etch morphology of the nervous system and is to be recommended as such. In view of the large number and high quality of the micrographs, the book is reasonably priced.

ROBERT W. KENSLER, *Biology & Anatomy, State University of New York, Stony Brook*

SOUND PRODUCTION IN FISHES. *Benchmark Papers in Animal Behavior 9. A Benchmark Books Series.*

Edited by William N. Tavolga. Dowden, Hutchinson & Ross, Stroudsburg (Pennsylvania); distributed by John Wiley & Sons, New York. $30.00. xv + 363 p.; ill.; author citation and subject indexes. 1977.

This volume consists of 19 papers on fish sounds. Although I am philosophically lukewarm about the value of publications that consist of reprints of published papers, W. N. Tavolga has selected a series of outstanding papers. The book is made up of five parts (Review and Recent Advances; History and Early Descriptions; Mechanisms of Swim Bladder Sound Production; Biology; Communication) each of which is preceded by editor's comments. These comments are most useful in introducing and integrating the papers selected for inclusion. I endorse the papers selected, but feel that the inclusion of four papers by Tavolga and three by Winn (and coauthors) may be excessive; a selection from the papers by Moulton, Myrberg, Popper, Demski, and Dijkgraaf, among others, would have provided greater breadth.

I find the short section by Tavolga on recent advances to be an outstanding review and an excellent updating of the state of the art. The new material in this chapter is a commendable inclusion in the series of reprints of published papers. The selections appropriately end with Winn's classic report on the biological significance of fish sounds.

Tavolga has placed in one volume a series of papers and comments that summarize research on fish sounds. The book is a handy reference for those interested in sound production or in fish biology.

CLARK HUBBS, *Zoology, The University of Texas at Austin*

THE GERBIL IN BEHAVIORAL INVESTIGATIONS. *Mechanisms of Territoriality and Olfactory Communication. The Dan Danciger Publication Series.*

By Del Thiessen and Pauline Yahr. University of Texas Press, Austin. $20.00. xxi + 224 p.; ill.; index. 1977.

This book is essentially a detailed summary of the extensive experimental work on gerbil behavior carried out by the senior author and his associates over the last several years. An atlas of the gerbil brain is included. Perhaps investigators in other laboratories, where gerbil behavior is studied, will find it useful to have this body of work available in a single volume. In general, however, the book fills few needs that could not be met equally well by a set of reprints.

Theissen and Yahr unfortunately ignore the large literature on the concept of territoriality in mammals, and choose, rather like Humpty Dumpty, to use the word in their own unique way. Territorial behavior, one learns, includes . . . "all social activities restricted to living areas. Any behavior that is more likely to take place in a circumscribed living area than elsewhere is as much a part of territorial behavior as active defense" (p. xix). They thus broaden the definition until it is practically meaningless and create a great deal of

potential confusion by using an old and well established term in a novel fashion.

The authors are at their best when discussing their own interesting work. When they venture into subjects of a zoological or evolutionary nature, it becomes painfully obvious that they are not on their own territory.

KATHERINE RALLS, *Office of Zoological Research, National Zoological Park, Smithsonian Institution*

HEALTH SCIENCES

EQUALITIES AND INEQUALITIES IN HEALTH. *Proceedings of the Twelfth Annual Symposium of the Eugenics Society, London 1975.*

Edited by C. O. Carter and John Peel. Academic Press, London and New York. $10.50. x + 170 p.; ill.; author and subject indexes. 1976.

Unlike most published symposium proceedings, the pieces in this volume have a thematic entity. All are well written; the British are more skilled than we Americans are in writing terse medical prose.

The 12 contributions are on genetic, environmental, and social factors affecting health, including their comparisons among nations. Four papers stand out. The first, by Sir John Brotherston, deals with regional and social class differences in mortality and morbidity. The second, by Mildred Blaxter, presents possible reasons for health differences among social classes. Both authors conclude that fundamental changes are needed in the organization and structure of medical-care delivery. The article by D. M. Potts is incisive for its comments on health needs in underdeveloped countries. Medical services are not the sole need, since public health measures, more and better food, clean water, and sewage treatment are needed most. McKeown noted these same factors as being of prime importance in Great Britain's reduced mortality and morbidity during the past century. Finally, Donald Gould writes an enjoyable, hysterical polemic on disease generated by physicians.

Most of the other articles present useful data and descriptive material. Few of the data are placed in a context that permits their importance to be assessed. This is the main weakness of the volume. For example, Carter, in the first article, notes a total genetic disease rate of 20.4 per 1,000 population. What proportion of disease does this comprise? What is the cost of care for this affected population? What are the other impacts on the health care system? Few such questions are addressed.

BERNARD S. BLOOM, *The Leonard Davis Institute of Health Economics, University of Pennsylvania*

THE JOHNS HOPKINS ATLAS OF HUMAN FUNCTIONAL ANATOMY.

Original illustrations (with descriptive legends) by Leon Schlossberg; text edited by George D. Zuidema. The Johns Hopkins University Press, Baltimore. $16.50 (hardcover); $6.95 (paperback). xi + 108 p.; ill.; index. 1977.

Let's start with a little quantitative information. This book's 108 pages consist of 22 chapters, glossary and index, and 46 plates containing about 140 individual illustrations. Unlike other atlases, which present information either in systematic or regional organization, the chapters are almost randomly oriented. Chapters are at least one page long in text plus one plate, and go up to four-page texts plus 4 plates (brain). From the 65 pages of text, 17 (i.e., more than 1/6 of the whole) are blank; a glossary and an index deducts 10 more pages, so altogether there are only 38 pages of text — not much information. The editor failed to coordinate the efforts of the authors, so that unnecessary repetition further detracts from the text. The illustrations are technically very good although some are too small to be useful. The indexing is sometimes confusing and does not conform to the accepted terminology.

Writing an informative text of *functional anatomy* restricted to so few printed pages would test the ability of the most talented and experienced of educators. To put it in other words, *nobody* would be able to accomplish this task. It is no wonder, therefore, that the present collective of 22 distinguished authorities have failed to produce a useful book. For medical and dental students, the information given is inadequate; for allied health students, the text seems to be too compact to be digestible; for the busy physician, some chapters might be adequate for short review but most of them are not. So, here is a textbook which is neither exhaustive nor elementary, neither descriptive nor functional, neither systematic nor regional, "neither fish nor fowl." Altogether, this atlas cannot be recommended.

GABOR INKE, *Anatomical Sciences, State University of New York, Stony Brook*

BIOMEDICAL INSTRUMENTS: THEORY AND DESIGN.

By Walter Welkowitz and Sid Deutsch. Academic Press, New York. $19.50. xv + 279 p.; ill.; index. 1976.

This is designed as a textbook for a mixed undergraduate and graduate course. It covers the physical behavior of transducers, backs this up with a good mathematical analysis, and includes some practical designs. The orientation, which reflects the professional interests of the authors, is largely towards strain gauges, particularly those used in cardiac work. The blend between the theoretical analysis and the practical usage seems to be well chosen and students using the book will gain a good background for future work. Electrophysiology, however — particularly