Chapter 18 ("Miscellaneous Abnormal Electrocardiographic Patterns") is of practical importance to anesthesiologists but is somewhat selective. This section could be expanded to include more discussion of drug effects on the ECG. The major electrolyte imbalances are included and adequately dealt with. Chapter 19, which deals with cardiac pacing and defibrillation, should have included more discussion of pacemaker failure, its causes, and recognition and management of it. Chapter 20 ("An Introduction to Spatial Vectorcardiography") will be of minimal interest to most anesthesiologists, but serves as a good introduction to spatial vectorcardiography.

The self-study section on interpretation of the ECG is particularly valuable as a review. Separation of the practice ECGs from the author's own interpretation would have better served this purpose. The first appendix summarizes principal features of the normal ECG and more common abnormalities; the second appendix provides a guide to the evaluation of ECG abnormalities. The appendices are excellent summaries of material covered in the text. The references could be expanded and updated, particularly for the reader who wishes to pursue further the subject of electrocardiography. More emphasis should be on current books, monographs, and reviews, with less emphasis on outdated original articles.

Overall, I was impressed with the conciseness and clarity of presentation. The material is well organized, and the quality of the illustrations is excellent. This book will appeal primarily to undergraduate and postgraduate physicians and to practitioners requiring a basic review of the subject. It fills the void between simplified primers and more sophisticated texts on the subject.

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**Biofeedback–Principles and Practice for Clinicians.** EDITED BY JOHN V. BASMAJIAN. Baltimore, Williams and Wilkins, 1979. Pages: 282. Price: $29.00.

This volume consists of 21 chapters by authors with both clinical and research expertise in various areas of biofeedback. As stated by its editor, the purpose of this volume is to present the state of the art in biofeedback application.

Specific biofeedback strategies in the treatment of headache syndromes, muscle spasms, muscle reeducation problems, spasticity, cardiovascular dysfunction, and various psychosomatic disorders (insomnia and phobias) are included in this comprehensive review, but it is not a step-by-step cookbook for teaching biofeedback applications. A particular strength of the volume is its integration of research and clinical knowledge, as evidenced by the excellent review of the anatomic and physiologic background of biofeedback (chapter 2). Similarly, the systematic and thorough descriptions of the treatment of spasticity (chapter 6) and total-hand rehabilitation (chapter 4) combine clinical experience and research data in presenting the current biofeedback techniques applicable to these muscular disorders. Most of the chapters are generously accompanied by references to technical articles and by bibliographies, facilitating the reader's acquisition of more specific and complete biofeedback techniques.

An additional strength of this volume is that it does *not* proselytize biofeedback, but provides a "cautious, optimistic review of clinical biofeedback which is both scientifically correct and ethical." Appropriately, the final chapter is titled "Research and Feedback in Clinical Practice: A Commentary on Responsible Biofeedback Therapy," and the need for continued research and scientific inquiry in the relatively new area of biofeedback application is stressed. Most of the chapters cite contraindications as well as indications for specific biofeedback applications, and concise reference to efficacious biofeedback strategies generates a refreshing style, as indicated by the following quotations:

> Frontal EMG feedback is an effective procedure for the alleviation or the elimination of muscle contraction (tension) headache [p 138].

> Our experience and that of other researchers has been that EMG feedback from the masseter muscle or frontal (forehead) region improves patient ability to recognize and stop bruxism [p. 191].

> The frequency range used for EMG feedback work is typically from 100–1000 hertz [p. 270].

These statements are generally backed by a series of references and research findings, and the reader is encouraged to draw his or her own conclusions based on the data presented.

As would be anticipated in a comprehensive volume, there are occasional overly optimistic references to biofeedback's efficacy. Specifically, the statements that biofeedback technology offers promise in the treatment of low back pain or spasmodic torticollis occur in the absence of controlled studies demonstrating this. This is not entirely the fault of the authors, since the state of the art in some biofeedback areas remains based on clinical case reports.

Whereas these deficiencies are minor, there is one major drawback of this volume that could have been avoided. This occurs in the review of psychosomatic disorders (chapter 14). The primary problem with this chapter is its reliance on a narrow, conceptual framework—specifically, a psychoanalytic one—in defining psychosomatic illness. While this does not necessarily present major problems in an individual case (for example, conversion reaction paralysis is a documented entity, and biofeedback can provide information to the patient that there is no organic basis for paralysis), this framework does not adequately explain many of the psychosomatic disorders related to muscle conditioning, anxiety-induced spasms, and conditioned avoidance parameters (*e.g.*, hypertension specific facial tics, and phobias). Furthermore, this chapter provides the least scientific evidence for statements made about the connection between biofeedback and psychosomatic disorders, and I would have found it useful for the authors to review more thoroughly the specific biofeedback applications to psychosomatic disorders, as has been done elsewhere (*cf.*, Schwartz, 1977). However, this deficit is partially replenished by a stimulating presentation of the issues of the diagnosis and patient selection for different biofeedback modalities (chapter 13), and by a thorough review and description of general relaxation techniques used in the clinical setting (chapter 8).

In conclusion, this volume represents a cross section of the current state of the art in biofeedback technology. Despite some of the shortcomings and deficiencies to be expected in any volume dealing with a relatively new scientific area, this book is timely and useful in providing a review of the area of clinical biofeedback application. Furthermore, Basmajian includes chapters on all aspects of the application of biofeedback, from anatomy and instrumentation to psychotherapy and ethical considerations. In this volume, the health care professional will find a review and detailed explanation of the applications for biofeedback technology that provide sufficient knowledge to make appropriate referrals, as

well as providing guidelines and reference material to initiate approximate biofeedback applications in his or her practice.

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**Advances in Shock Research.** Volume 1. By A. M. LEFER, T. M. SABA, and L. M. MELA. New York, Alan R. Liss, 1979. Pages: 285. Price: $30.00.

**Advances in Shock Research.** Volume 2. By W. SCHUMER, J. J. SPITZER, and B. E. MARSHALL. New York, Alan R. Liss, 1979. Pages: 298. Price: $30.00.

This two-volume set presents a selected group of papers presented at the First Annual Conference on Shock, June 1978. How the presentations at the conference were solicited and screened or who selected which papers for presentation is not clear. Presumably the distinguished editors, Drs. Lefer, Saba, and Mela (volume 1), and Drs. Schumer, Spitzer, and Marshall (volume 2) were the catalysts. In all such publications, the advantage is compilation between sets of hard covers, but the disadvantage of less refereeing. The other advantage of developing a total picture within each frame is missing from the present series. Many times, pertinent discussion of formal discourses recorded on the floor helps but, alas, this is also absent from the volumes.

Volume 1 starts with a historical and personal review of cardiovascular function in circulatory shock by Dr. Richard Lillehei, and then the papers are grouped in subsections. Fourteen chapters on hypovolemic shock include the only chapter, "Enflurane Alters the Response to Hemorrhage" contributed by an anesthesiologist, D. Longnecker. The other two major sections are titled "Hypoxia and Ischemia and Cardiogenic and Splanchic Ischemic Shock." A final unrelated, but interesting, review of support in trauma research is presented by Emilie Black, NIH, whose strong and gracious efforts we all acknowledge.

Volume 2 continues in the same format to encompass "the newer concepts of pathophysiology and treatment of endotoxemia, sepsis, and trauma shock." "Recent" would have been a better word than "newer," for there is little new.

The introduction by H. B. Stoner, Medical Research Council Trauma Unit, Manchester, U. K., is delightfully intriguing and to the point. It is, perhaps, the best section and is certainly the one most worth reading. He writes, "I go to Physiological Congresses and I am always disturbed to find that the "shock" sessions are the worst. Indeed the work reported is often so bad that it is hardly worth attending. So much of the work merits the contempt it attracts from more "regular scientists."

I believe Dr. Stoner's evaluation of previous "shock" sessions was not altered by the papers published from this session. These were no major breakthroughs in the mechanism, progression, or therapeutic implications. The methods of research were refined, but the "shock models," except for one using a pony, were routine in their conception and application. The sections never become a composite but remain, as published, a jigsaw puzzle with more missing pieces then interlocking segments.

Only one group from our discipline contributes to each volume. Whether this reflects a lack of excitement or a scarcity of representation is not evident, although I suspect the former. That most anesthesiologists are no longer interested in shock is evident from our own literature as well. The volumes are poorly proofread, with many typographical mistakes, errors in reference numbering, and other minor annoyances.

In summary, I believe the books should be borrowed from a library for reading by those specifically interested in the state of research in shock as represented at the meeting.

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**Review of Medical Physiology.** Ninth edition. By WILLIAM F. GANONG. Los Altos, California, Lange Medical Publications, 1979 Pages: 618. Price: $14.00.

Dr. Ganong has adequately fulfilled his intentions of providing a concise summary of mammalian and, particularly, of human physiology that medical students and others can supplement with readings in current texts, monographs, and reviews. The text has withstood the test of time and is now in its ninth edition with translations into 12 languages.

A great value of the book is the relative ease with which a reader can find any particular area of interest. Few words are wasted, yet explanations are remarkably complete with ample well-arranged illustrations, figures and tables, and a list of pertinent references after each section. Printed in easy-to-read type, this text continues to be an up-to-date, concise, convenient, and admirably clear reference manual.

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**Mechanisms of Airways Obstruction in Human Respiratory Disease.** [Proceedings of the International Symposium, South Africa, 1978.] By M. A. DEKOCK, J. A. NADEL and C. M. LEWIS. Rotterdam, A. A. Balkema, 1979. Pages: 413. Price: 45.00.

This book is the compilation of the proceedings of the International Symposium on the Mechanisms of Airways Obstruction in Human Respiratory Disease held at the University of Stellenbosch, South Africa, in March 1978. The conference took place under the sponsorship of the South African Medical Research Council, and the book is published by that organization. Of a total of 40 participants, 24 were overseas visitors and constituted an impressive panel of internationally recognized clinical and basic researchers in the area of obstructive pulmonary disease.

The stated aim of the Symposium and publication is to create an overview of current medical knowledge and research interests among a multidisciplinary group of investigators working in the many areas of airway obstruction. In the opening address, the divergent pathways of current investigation and the heterogeneous nature of the etiologies and pathophysiologies is emphasized; therefore, it is no surprise that the book falls short of its objective of being a comprehensive review of current knowledge.

The book consists of 29 30-minute papers on a wide range of subjects involving the anatomy, pathophysiology, pharmacology, epidemiology, and clinical features of emphysema, chronic bronchitis, and asthma. Each is well written and well referenced, and the interspersing of eight discussion sessions lends some degree