add considerably to knowledge not only of anesthetics but of the altered physiology of anesthetized patients.

With socioeconomic issues, Dr. Bunker seems to be at his best. He amasses significant statistics to show that virtually all operations in the United States are unnecessary, there are not enough anesthesiologists for these unnecessary operations, and that the best place in the world to have medical care is the United Kingdom. Each of these points is debatable, and all are still undergoing considerable revisionist thinking.

Particularly disturbing to me was the account of the first heart transplant at Stanford. Dr. Bunker implies that Dr. Shumway and his group were completely oblivious to the rights of the donor patient. This is manifestly unfair. Dr. Shumway pioneered the technique of orthotopic cardiac transplantation in animals fully ten years before it was applied to man. Whole-organ kidney and liver transplants in man were done for several years prior to the first known heart transplant. The problem for Dr. Shumway, as recognized by anyone conversant with the physiology of the human being, was that he had to transplant a heart that would beat. For ten years, Dr. Shumway had to wait until suitable criteria for brain death were evolved, promulgated and accepted. To imply that he had not considered the rights of the donor is, to say the least, erroneous.

Dr. Bunker seems to feel that there has been a continuous battle between surgeons and anesthesiologists. The final chapter of this book is entitled "The Taming of the Surgeon." The implications of the title are not completely borne out by the subsequent pages, but one is left with the feeling that now that the surgeon has been tamed and the anesthesiologist is captain of the ship, that all is well.

On the contrary, the battle, if there is one, is never won. To paraphrase from the Presidential Address of Dr. James V. Maloney to the Society of University Surgeons in February 1970, "The conflict between surgeon and anesthesiologist establishes the critical lines of tension in the operating room. Both specialties are inherently valuable. 'This tension will never be resolved and *never should be* resolved. Failure to accept this reality has led to a lot of nervous indigestion and unnecessary commotion.'" It is only because of this tension that the excellence desired by Dr. Ingelfinger and Dr. Bunker can be constantly renewed.

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Intentional Hemodilution. Volume 41. EDITED BY K. MESSMER AND H. SCHMID-SCHÖNBEIN. Basel, Switzerland, S. Karger AG, Medical & Scientific Publishers, 1975. Pages: 310. Price: $40.00.

This book presents the Proceedings of the Second International Symposium on Hemodilution, held in Bavaria in October 1974. It contains an approximately equal number of experimental and clinical papers, for which most of the data have been obtained since the First Symposium in 1971.

The book is divided into six sections: Blood Flow Distribution and Tissue Oxygenation; Oxygen Uptake during Hemodilution; Coagulation and Prevention of Thrombus Formation; Coronary Blood Flow and Cardiac Performance in Hemodilution; Extreme Hemodilution; and Clinical Hemodilution. Much of the work included has been performed in or influenced by Dr. Messmer's laboratory at the Institute for Surgical Research of the University of Munich, and reflects that group's great productivity. The balance of the contributors represent many countries and reflect the current state of the art regarding this ever-more-widely employed technique of intentionally induced acute anemia.

Twenty-four papers are included. They are largely concise, cogent, topical, and well referenced. Discussion of the presentations has been reproduced faithfully, and adds to the subject matter by defining nuances, limitations, and disagreements. The editors are to be congratulated both for the speed of their efforts and their competence. I recommend that the reading of this book should be performed *vis a tergo*, as Dr. Norman Matheson's summary of the Symposium constitutes a masterful introduction to the detailed content thereof.

Presentation of two points seems worthwhile to pique the curiosity of readers: First, there is remarkable disagreement regarding the implications of the various types of *in-vitro* measurement of blood viscosity. Whether cells or plasma constituents are primarily responsible for the rheologic properties of blood is even in dispute! Second, it is becoming apparent that the ultimate limits of tolerable hemodilution are set by the adequacy of myocardial function, in turn dependent upon myocardial oxygenation.

An obvious omission in the book is the lack of discussion of the role of the autonomic nervous system in the circulatory compensation to acute anemia. The increased clinical use of beta-adrenergic blockade requires that its effect on the response to an acute reduction in erythrocyte volume be defined.

Elective intra-anesthetic hemodilution during general, orthopedic, and non-cardiac thoracic surgery appears to have achieved greater popularity in Europe than in the United States. However, the logistical problems of blood procurement and the incidence of hepatitis attendant upon administration of homologous blood are problems not limited by national or continental barriers, and it is not unreasonable to expect that this technique will achieve greater acceptance in this country. It behooves the anesthetist to be aware of the consequences of acute anemia, and this volume is an effective vehicle for this purpose. The high cost

of the volume will prompt most readers to view it first in a reference library prior to purchase.

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Ear Acupuncture Therapy. BY A. M. NEHEMKIS AND B. R. SMITH. Long Beach, Alba Press, 1975. Pages: 150. Price: PNS.

It is the hope of the authors that this publication will help dispel some of the misunderstanding and confusion surrounding this ancient system of therapy; however, this treatise in no way performs that function. It is another book on acupuncture that displays charts, lists acupuncture points with their therapeutic uses, and draws meridians to explain how auriculotherapy, or ear acupuncture, works.

This book also goes into great detail concerning the anatomy of the ear, including its nervous, vascular and lymphatic supplies. However, this adds nothing to the physiologic understanding of ear acupuncture therapy.

Another disappointment is that experimental findings are discussed in some detail, but that no references are to be found in this publication. This appears to be a common deficiency of publications on acupuncture. We must continue to wait for an account of the pathophysiology of this ancient art.

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Review of Physiological Chemistry. 15th edition. EDITED BY H. A. HARPER. Los Altos, Lange Medical Publications, 1975. Pages: 570. Price: $10.00.

The intent of this book is to provide an introduction to biochemistry for use by physicians in preparation of various examinations. The result is a readable and concise introductory textbook. It emphasizes the biochemical functions of the organism without going into extensive detail about the chemical mechanisms of these processes. The chapter dealing with enzyme mechanisms and kinetics is especially well written, providing a concise picture of the basic thermodynamic principles of enzymic catalysis. One of the more practical aspects of the review is the extensive and current bibliography for each chapter, usually lacking in introductory texts.

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Anesthetic Problems

ANESTHESIA FOR DWARFS The authors have examined the experience gained from administration of 69 anesthetics to 29 patients of "pathological proportionate and disproportionate small stature." The anesthetic course was usually uneventful. Complications that did develop were similar to those found in patients of normal size undergoing similar anesthesia and operation. Two possible sources of difficulty were pointed out: (1) Subarachnoid and epidural anesthesia were used six times in the series of eight achondroplastic dwarfs. Although there were three instances of technical difficulty, no neurologic complication developed. However, achondroplastic dwarfs in the third and fourth decades of life often begin to have neurologic symptoms resulting from disproportion between the volumes of the spinal cord and the spinal canal. They are also prone to disc disease, severe thoracolumbar kyphosis, and foramen magnum insufficiency that may result in hemi- or quadriparesis. (2) In non-achondroplastic dwarfs there may be associated odontoid dysplasia. In the presence of atlantoaxial instability there is significant danger of cord compression. The authors advise obtaining x-rays of the cervical spine of any dwarf with a history of neurologic symptoms. If there is odontoid dysplasia, one must guard against neck flexion. (*Walts LF, Finerman G, Wyatt GM: Anesthesia for dwarfs and other patients of pathological small stature. Canad Anaesth Soc J 22: 703–709, 1975.*)