

most instances an endotracheal tube, this technique plays no role in weaning in status asthmaticus, in the opinion of this author." This has not been the experience of the majority of physicians involved with mechanical ventilation of patients with status asthmaticus. There is no mention of the need for an indwelling arterial cannula, the use of Swan-Ganz catheters, the role of chest physiotherapy, and the concomitant use of bronchodilators with mechanical ventilation. Only 13 references are cited, and most of the classic papers on this subject have not been included. The chapter on "complications" by T. A. Sullivan and K. H. Kilburn includes a section on "locked-lung," an anachronistic term that merely describes intense bronchospasm and secretion throughout the airways. Neither the use of neuromuscular blocking drugs and intravenous catecholamines for relief of potentially fatal airway obstruction nor the hazard of barotrauma is mentioned. In my opinion, the one sentence devoted to barotrauma in the entire chapter is incorrect: "Although both pneumothorax and pneumomediastinum have been attributed to positive pressure breathing via endotracheal tubes, pressure rupture of the lungs is rare and its danger is overemphasized." Quite to the contrary, in our experience the incidence of barotrauma is approximately 15 per cent in children (Wood DW, et al: *J. Allergy* 42:261, 1968).

Fortunately, at no place were recommendations made for the use of general inhalation anesthesia or bronchoscopy in treatment of status asthmaticus. Thankfully, these dangerous and ineffective means of therapy for this disorder have finally passed into history.

Despite a few drawbacks for the reader whose primary interest is in anesthesia and intensive respiratory care, the book serves as a well-organized encyclopedia, for the most part authoritative and well written. It will certainly be a valuable addition to the library of any anesthesia department and an important text for those anesthesiologists involved in intensive respiratory therapy.

JOHN J. DOWNES, M.D.  
*Department of Anesthesia  
The Children's Hospital of Philadelphia  
34th Street and Civic Center Boulevard  
Philadelphia, Pennsylvania 19104*

**Physiology of the Heart.** By A. M. KATZ. New York, Raven Press, 1977. Pages: 450. Price: \$24.50.

A little girl was given a book about penguins. When asked how she liked it, she replied, "It told me an awful lot more about penguins than I really wanted to know." Such may be the anesthesiologist's impression when first scanning this new book by Dr. Katz.

*Physiology of the Heart* was to have been written in concert by father and son, Louis N. and Arnold M. Katz. In the event, written after the death of his greatly revered father, it is a beautiful memorial from a devoted and talented son. The book is handsome, amply illustrated, and of comfortable size, but the composition of the text makes difficult reading for the usual anesthesiologist. It opens simply enough, describing the gross structure of the heart and relating that structure in a refreshing way to the functions demanded of the heart. Almost immediately, the reader is carried pell-mell into the microstructure and ultrastructure of the heart. Without pause for breath, one is cascaded into the biochemistry and biophysics of the heart. Such intense discussion of minute detail may discourage many readers, though the author tries to retain a common touch by

using clever devices to simplify a concept. For example, the rabbit's short fast sprint and the long sustained run of the hare to escape are compared to explain the different energetics of "white" and "red" muscle.

In his preface, the author anticipates our questioning the importance of energetics and chemistry of contraction and the electrical potentials at myocardial cell surfaces. He answers without apology: "Virtually every important physiological, pharmacological, or pathological change in cardiac function arises from alterations in the physical and chemical processes that are responsible for the heartbeat."

If the reader will accept several conditions, important knowledge will be gained by pursuing the book. The conditions are as follows: this is a textbook for graduate students; comprehension may be difficult, though the text is heavily cross-referenced; arbitrary judgment is used to resolve conflicting observations and ideas; this is not a clinical cardiology text; the bibliographies are, by the author's statement, "intentionally brief."

Pleasure from reading this incredibly informative book is derived from more than intellectual pursuit. There is the refreshing use of simple analogies to explain difficult ideas; falling dominoes to explain determinants of conduction velocity. There is astounding understatement: "a single drug can exhibit both antiarrhythmic and (fatal) arrhythmic action." There is pragmatism in the correlation of heart sounds in valvular disease with hemodynamic abnormality. The section "Regulation of Myocardial Contractility," highly speculative in some instances, confuses the reader with the many complex mechanisms for conversion and delivery of energy sources to the myocardial cell. One is amazed and fascinated by the almost infinite provisions for continuing function under myriad adverse circumstances, and by the checks and balances that provide control.

If one wants to understand penguins, this is not the source. If one wants to know in intimate detail the ultrastructure, biochemistry and biophysics of the heart, this book is recommended.

MARION A. CARNES, M.D.  
*Department of Anesthesiology  
University of California, Davis  
School of Medicine  
Davis, California 95616*

**Allied Health Education: 2.** EDITED BY J. HAMBURG. Lexington, The University Press of Kentucky, 1977. Pages: 190. Price: \$7.50.

This volume is the second in a series devoted to Allied Health Education and comprises ten presentations by authors with varied interests. A few of the articles are quite general and deal with such problems as new regulations (federal government) and educational requirements, but most deal with the educational programs of specific Allied Health professional groups. The latter presentations will be of limited interest to the practicing anesthesiologist. Rhoten's and Gravenstein's article on University education, although based on experiences with the anesthesiologist's assistant, makes a strong case for building the training of Allied Health personnel on a sound liberal arts academic base, along with necessary background in mathematics, sciences and language skills. The authors point out that the university education is especially necessary for such Allied Health students as may desire further training for an advanced degree in medicine or science. They illustrate their article with the program for the anesthesiologist's assistant designed at Case Western University.

Cohen discusses a dual effect of regulations in which initial licensure (certification) protects the public regarding the compe-