

15 advantages listed, *i.e.*, "Asphyxia of the child is absent." The use of local anesthesia will not guarantee absence of asphyxia in the infant, since the three main causes, decreased uterine blood flow, compression of the cord, and placental separation, are generally unrelated to anesthesia. Biochemical studies of mother and infant during local anesthesia for cesarean section are obviously needed to confirm this point. Epidermal and intravenous anesthesia are not discussed, nor is the use of relaxants or hypnosis.

Bryant summarizes maternal complications and mortality following cesarean section. Anesthesia ties with embolism as the fourth cause of death. Thirty-eight deaths occurred, representing an unstated number of deliveries, collected from articles by 28 different authors. His hope for an "ideal anesthetic agent" is shared by all of us, but will not be attained until all patients are alike.

Hesseltine analyzes the risk to the fetus from delivery by cesarean section. He discusses the route of anesthesia thoughtfully, and concludes that local and spinal anesthesia probably have a slight advantage over inhalation anesthesia. He stresses, very properly, the great care needed to avoid the delivery of a premature infant by elective cesarean section.

Riva suggests lightening of inhalation anesthesia just before uterine incision in order to permit the uterus to contract. One wonders if his patients are being carried in unnecessarily deep planes.

It would be well for anesthesiologists to read all of these chapters in order to be aware of the current thought of obstetricians on this important subject.

VIRGINIA APGAR, M.D.

Measurement of Subjective Responses. Quantitative Effects of Drugs. By HENRY K. BEECHER, M.D., Henry Isaiah Dorr Professor of Research in Anaesthesia, Harvard University, Boston, Mass. Cloth. \$12.75. Pp. 494 with 77 tables. New York, Oxford University Press, 1959.

This book was written by a man who is one of the authorities in the field, and well known to anesthesiologists. He brings together his

own work and that of others, emphasizing the importance of careful design of experiments, quantitative evaluation, and avoidance of the pitfalls which make many reports unreliable. Much of the book is devoted to studies on man, making the results of direct value in clinical practice.

The book is divided into two sections. One is devoted to the evaluation of types of pain, methods of measuring pain, and determination of the effect of drugs on pain sensation. Among the interesting subjects discussed are the difficulty of defining pain, differences between pain of pathological origin and that produced experimentally, and the importance of subjective response, psychic reaction, and significance to the individual. The various methods of producing pain experimentally, and the organs involved, are discussed. They are evaluated as to reproducibility and usefulness for experimental work. A chapter is devoted to the pain threshold, and there are several chapters devoted to analgesic agents, drug interactions, other factors which modify the pain threshold, and placebos and placebo reactors.

The extensive study of pain in the first section of the book serves as the prototype for the second section, in which other subjective states are considered. It is the author's aim to show that quantitative studies are possible, and will yield valuable information, in such areas as mental clouding, sedation, euphoria, anxiety, nausea and pruritus. Since many drugs are administered for the purpose of altering subjective responses, and additional drugs of this type are being introduced in large numbers, quantitative and reliable studies are urgently needed.

A chapter on statistical problems was written by Frederick Mosteller, Professor of Mathematical Statistics at Harvard University. In a brief discussion of experimental design and evaluation of data, he points out how to avoid common errors and arrive at statistically valid results.

This well-written work is comprehensive and detailed. More than 1,000 references are cited, making it easy for the reader to pursue his interests by obtaining the source material. Good paper and clear print make the volume attractive as well as useful.

This book is valuable for all physicians, and has special usefulness for anesthesiologists. For those who wish to engage in research work in this area, it is essential.

JAY J. JACOBY, M.D.

Physiology of Cardiac Surgery. Hypothermia, Extracorporeal Circulation and Extracorporeal Cooling. By FRANK GOLLAN, M.D., Assistant Director of Professional Services for Research, Veterans Administration Hospital, Nashville, Tennessee. Cloth. \$4.50. Pp. 96, with 18 illustrations. Charles C Thomas, Publisher, Springfield, Illinois; Blackwell Scientific Publications, Ltd., Oxford, England, and Ryerson Press, Toronto, Canada, 1959.

An essay or an oration may be informative, thought provoking, stimulating or merely entertaining. This essay, The Beaumont Lecture of the Wayne County Medical Society, is all four. Dr. Gollan discusses three of the most controversial physiologic problems of cardiac surgery, namely, hypothermia, extracorporeal circulation and extracorporeal cooling. His discussion is not a review of the published material on these subjects, although he builds his discussion on the observations of more than 160 articles, dating back to the early 19th Century. He does not attempt to evaluate or suggest applications of presently available equipment for medical or surgical purposes, but does place present applications in their historical perspectives and presents an interpretation of current controversies. This leads the author to suggest many areas that are fertile fields for investigation.

The author's apparent familiarity with the subject matter and his skillful use of the English language combine to make this treatise both delightful and entertaining, as well as informative. The thoughtful clinician cannot help but profit from a perusal of this beautifully organized essay.

WILLIAM O. MCQUISTON, M.D.

A Manual of Reflection Oximetry: and Some Other Applications of Reflection Photometry. By W. G. ZIJLSTRA, M.D., Department of Physiology, University of Groningen. First Edition. Paper. \$4.75. Pp. 125

with 86 figures and 11 tables. Publisher: Koninklijke Van Gorcum & Comp. N.V., Assen, Netherlands, 1958.

Anesthesiology has entered upon a phase in which monitoring of vital signs and data is becoming of increasing importance. Whether this surge of interest will improve the welfare of the patient in the operating room is a moot point. There are those who say that the diversion of attention away from the patient and toward mechanical and electronic gadgets is a retrograde step, while others indicate that progress such as this is inevitable and we should improve our knowledge and position in the medical world by absorbing all we can about monitoring aids.

The latter group will enjoy and appreciate this concise review and description of photoelectric methods whereby it is possible to observe from moment to moment the arterial oxygen saturation of patients under different circumstances, including the state of anesthesia. To this reviewer, most of the book was understandable, although the mathematical formulas and equations in one or two sections were beyond his ken.

It has always been my impression, corroborated by a little experience several years ago, that oximetry essentially is a research tool: that the sensitivity of the apparatus, the rather prolonged standardization required, and the number of variables within the patient that had to be taken into consideration prevented this technique from assuming clinical usefulness in the operating room, as one achieves, for example, with an electrocardiographic apparatus.

However, after perusing this manual, it may be that this impression is no longer correct. In the final chapter, which is concerned with applications of the method, there are some excellent illustrations showing the direct, clinical application of oximetry. For those who wish to delve into this relatively new, but obviously developing, method of monitoring, this little volume will make interesting reading.

C. R. STEPHEN, M.D.

Handbook of Circulation. Analysis and Compilation. By PHILIP L. ALTMAN. Edited by DOROTHY S. DITTMER and RU-