than centrifuging may be developed for the purpose of separating the cellular elements of the blood from the fluid portion. There are many uses for blood and many uses for each of the elements of blood. The existence of war increases the urgency for solution of this problem. . . .

"The fields of pharmacology and physiology are of such direct application to the work of the anesthetist that the point need not be especially illustrated. . . . The study of languages requires the attention of the anesthetist. Obviously, in scientific writing, many of the same words are adopted by users of different languages, but it is of great importance to the reader of scientific articles that the author should have had at his command a sufficient choice of words that his meaning may be exactly expressed and that, if his article is translated into another tongue, it will not suffer thereby. By mathematicians many fundamental contributions had been made, usually through physics; however, the mathematician is indispensable in the correlation of data that are gathered not only in the course of experimentation but also in clinical application of anesthetic preparations." Bibliography—11 references.

J. C. M. C.

BARKER, N. W.; NYGAARD, K. K.; WALTERS, WALTMAN, AND PRIESTLEY, J. T.: *A Statistical Study of Postoperative Venous Thrombosis and Pulmonary Embolism. I. Incidence in Various Types of Operations.* Proc. Staff Meet., Mayo Clin. **15**: 769–773 (Dec. 4) 1940.

"This is the first of a series of statistical studies of postoperative venous thrombosis and pulmonary embolism. The data were obtained from the records of all cases of these complications noted at the Clinic during a thirteen year period. The group of cases studied includes those in which there was a clinical diagnosis of thrombophlebitis or pulmonary embolism, cases of fatal pulmonary embolism (in 84 per cent of which the clinical diagnosis was confirmed or established by necropsy) and cases in which nonfatal pulmonary embolism or ante mortem venous thrombosis or thrombophlebitis was discovered only at necropsy. The total number of these cases of thrombosis with or without embolism and of embolism with or without evidence of other thrombosis was 1,665. The incidence of fatal pulmonary embolism is probably quite accurate but it is recognized that the recorded incidence of nonfatal pulmonary embolism and of thrombosis in this study is less than the actual incidence of these complications inasmuch as subclinical thrombosis and embolism are known to occur in a certain number of cases. . . .

"A statistical study of the incidence of postoperative venous thrombosis and pulmonary embolism in various types of operations indicates that these complications are more common following types of laparotomy in which operations on the female pelvic organs are done, in which there may be injury to or ligation of branches of the iliac veins; that they are more common in operations of long duration and of great magnitude, in which considerable tissue is removed and in which there is likely to be a greater amount of tissue injury, and that they are more common in patients with carcinoma and in conditions in which there is infection. We do not wish to minimize the seriousness of postoperative venous thrombosis and pulmonary embolism. However, it must be noted that, taking all operations together, the incidence in our series is only about 1 per cent.; that even following splenectomy, in which the complication of venous thrombosis or pulmonary embolism is most frequent, it is only approximately 5 per cent., and that the highest incidence of

fatal pulmonary embolism following any type of operation is only 0.77 per cent. The actual differences between the incidence in various types of operations are comparatively small. Any program for preventive treatment of postoperative thrombosis and embolism must take into consideration the fact that the incidence of these complications is small even in operations such as splenectomy, hysterectomy and resections of the stomach or bowel, and of necessity such a program must be used in several thousand consecutive cases before its effectiveness can be truly evaluated."

J. C. M. C.

RIPPY, E. L.: *Perforating Gunshot Wounds of the Abdomen; an Analytic Study and Statistical Review of Two Hundred and Ninety-two Cases.* J. A. M. A. **115**: 1760–1765 (Nov. 23) 1940.

"This paper is based on a study of 292 cases of gunshot wounds of the abdomen with visceral perforations which occurred in Nashville, Tenn., during the period of 1923–1939. Of the 24 cases in which exploration was not done there were 23 deaths, or a mortality of 95.8 per cent. However, of 268 cases in which exploration was done there were 166 deaths, or a mortality of 61.9 per cent. . . . This study shows convincingly that the amount of hemorrhage is the greatest individual factor in the mortality irrespective of the organ damaged. . . . Ninety-nine (30.4 per cent.) of the 292 patients were given transfusions for from one to ten times, which affords a sufficient number of cases to study the value of this procedure. . . . In the total it was found that of the 99 given transfusions the mortality was 63.5 per cent.; in the 123 not given transfusions the mortality was 71.5 per cent. Thus in those who received blood the mortality was 8 per cent. lower than in those not receiving blood. . . .

"Ether was the anesthetic of choice as it gave the required relaxation not associated with very much shock. Spinal anesthesia was only occasionally used, as it causes too much drop in the blood pressure, which is often already at a dangerously low level. Another practical objection to spinal anesthesia is the fact that it may cause contraction of the intestine, forcing more of the intestinal contents out into the abdominal cavity. Local and gas anesthesia did not give the proper relaxation and made it necessary for the operator to fight the intestine, causing further shock and squeezing more material out into the peritoneal cavity. Ether was used in 244 cases, with a mortality of 61 per cent.; in the remaining 24 cases in which local, gas or spinal anesthesia was used the clinical notes were insufficient for accurate statistical analysis. Paradoxical as it may seem, the mortality decreased in inverse proportion to the length of the operation." Bibliography—6 references.

J. C. M. C.

RAVITCH, M. M.: *The Blood Bank of the Johns Hopkins Hospital.* J. A. M. A. **115**: 171–178 (July 20) 1940.

"In the early part of 1939 the work of the Cook County Hospital in Chicago led to the establishment here of a blood bank suited to our purposes and the bank was opened in March. After a period of several months a combination of circumstances, some to be detailed later, led to the necessity for the adoption of new rules and for a reorganization. The difficulties which arose and the measures taken to obviate them are of some interest. The horizontal disposition of the hospital units (built on the old 'pavilion' plan instead of the modern, vertical, skyscraper plan) presented physical diffi-