Hoffmann uses *Curculio* Linn. in the sense that *Hylobius* Germar is generally used. For the nut-weevils generally known as *Curculio* Linnaeus, 1758, he uses *Balaninus* Germar, 1817, apparently overlooking Latreille's 1810 designation of a species of nut-weevil as type of *Curculio*.

Hoffmann differs somewhat from the generally accepted plan of arrangement of higher categories of Curculionidae. In this volume, he recognizes the Cleoninae, Curculioninae, and Calandrinae as subfamilies. The last two are about equivalent to Hylobiinae and the old Curculioninae, respectively. He treats as tribes groups listed in the Junk catalog as subfamilies. An interesting compromise is the use of the tribal name Bariini instead of Barini or Baridiini, the former based on *Baris*, the latter on *Baridius*.

Although the arrangement of subfamilies and tribes does not detract from the main value of the book, it tends to obscure the relationships of the French weevil fauna to that of the remainder of the world, thus making this a local faunistic work.

Hoffmann has done a fine piece of work on this very large and difficult family of beetles. In view of the damage that imported weevils can cause in the United States, this volume should be very helpful to quarantine officials and others in recognizing weevils that are accidentally introduced from France and Europe. It is hoped that the final volume on this family will soon be published.

DAVID G. KISSINGER
Department of Entomology, University of Maryland

Chemical Methods of Blood Analysis. S. D. Balakhovskii and I. S. Balakhovskii. State Publishing House of Medical Literature, Moscow, U.S.S.R., ed. 3, 1953. 746 pp. Illus. (In Russian.)

This is a practical, well-illustrated laboratory manual carefully prepared by two outstanding Soviet clinical chemists. The procedures are clearly and logically presented and are followed by clinical interpretations. The sources of error in the various procedures are clearly indicated. All descriptions include precise presentations of methods of calculating the results and of comparing them with average standard values. The illustrations are technically excellent and include sufficient details so that a competent technician can easily comprehend and reproduce the instrumentation or procedures.

In general, the book includes descriptions of numerous modern methods of blood analysis, many of which are not available in clinical laboratory manuals or hematology handbooks. Some notable omissions, however, should be mentioned. There is no reference to flame photometry methods of analysis of sodium and potassium, and there is no utilization of chromatography.

The book as a whole is done unusually well and is beautifully organized. The index is good. The appendix includes 16 extensive tables containing laboratory data on various blood constituents in man as well as in many laboratory animals.

SAMUEL A. CORSON
Department of Physiology and Pharmacology, University of Arkansas School of Medicine

Fibrous Proteins and Their Biological Significance. Symposia of the Society for Experimental Biology, No. IX. Academic Press, New York, 1955. vi + 370 pp. Illus. + plates. $8.

Progress in knowledge of fibrous proteins has been phenomenally great in recent years, and many of the most exciting developments are discussed in detail in this valuable book, based on papers that were presented at a symposium in Leeds in September 1954.

The opening introductory review is appropriately by W. T. Astbury, who has probably done more than any other individual to advance our knowledge of fibrous proteins. F. Sanger gives an excellent discussion of the chemistry of simple proteins, with emphasis on the determination of end groups and of amino acid sequences, including several valuable tables. E. Chargaff gives a brief, but authoritative and provocative, discussion of deoxypentose nucleoproteins. Most of the other papers deal with two great classes of fibrous proteins—the collagens and the muscle proteins.

The structural chemistry of collagens is intensively discussed by R. S. Bear, by J. T. Randall and his collaborators, and by F. O. Schmitt, J. Gross, and J. H. Highberger; the metabolism of collagen is well treated by A. Neuberger; various aspects of the biology of collagens are considered by K. M. Rudall, by D. Carlström, by A. Engström and J. B. Finean, and by S. F. Jackson and R. H. Smith; and collagen diseases are discussed by J. H. Kellgren. The structure and functions of the muscle proteins are considered by K. Bailey and S. V. Perry, while J. Hanson and H. E. Huxley describe in detail their fascinating studies on the fine structure of muscle and its possible significance for contraction. B. R. Malcolm provides some observations on the infrared spectrum of muscle. H. H. Weber discusses the link between metabolism and motility of cells and muscles, with stress on the free energy released by the breakdown of adenosine triphosphate as the inferred source of the driving energy for these processes.

There are two excellent papers on flagella and cilia of bacteria and animals—one by W. T. Astbury, E. Beighton, and C. Weibull and the other by J. R. G. Bradfield. Only one paper, by J. B. Speakman, discusses keratin, and this paper is extremely interesting. In the last two contributions, D. Mazia discusses the organization of the mitotic apparatus and J. G. Gall discusses the amphibian oocyte nucleus.

The whole symposium is on a very high level, and the papers that were presented are indispensable to anyone who is seriously concerned with understanding the nature of the fibrous proteins and their functions in biology. The illustrations are numerous and excellent. The discussion reveals our ignorance of both the structures of collagen and the true molecular basis of cell motility and muscular contraction in spite of all the fascinating information that has been obtained. Recent studies by Rich and Crick [*Nature* **176**, 915 (1955)] and by Cowan, McGavin, and North [*Nature* **176**, 1062 (1955)] may represent major steps in the elucidation of the former problem. In any case, those who are still searching for the answers to such problems will find the material presented in this book indispensable.

JOHN T. EDSALL
Department of Biology, Harvard University

Dielectric Behavior and Structure. Dielectric constant and loss, dipole moment and molecular structure. Charles Phelps Smyth. McGraw-Hill, New York–London, 1955. x + 441 pp. Illus. $9.

The last two decades have been marked by rapid growth in both theoretical and experimental knowledge of dielectric behavior. As a result, the field of dielectrics has reached a point where it is no longer convenient to treat thoroughly both aspects in a single concise volume. Several authoritative textbooks have appeared recently in which major emphasis has been devoted to general foundations and theory. *Dielectric Behavior and Structure*, on the other hand, has been written primarily from the viewpoint of the experimentalist who is concerned with utilizing dielectric measurements to obtain specific information regarding the structure of liquids and solids and of individual molecules. In subject matter, it bears little resemblance to the author's earlier monograph. Progress during the intervening years, to which Smyth and his associates at Prince-