blue in the same cell. He tells in brief form the exact method of handling silver impregnation *in the dark,* a crucial point of DaFano's technique that nobody ever seems to tell except DaFano.

Sections of fluorescence microscopy and smear preparations are excellent. There is a valuable appendix, giving formulas of fixatives and stains, refractive indices of various agents, saturation solutions of reagents, and solubility of dyes. The index is very good.

The table of contents serves as a kind of index that is cross-referenced with the final index. This book ought to gain wide popularity with investigators, technicians, and students. Many new procedures are described and old ones are refreshed. The author should try his expert hand at simplifying the use of phase contrast microscopy and microincineration in future editions.

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Chemical Physiology of Contraction in Body and Heart Muscle. A. Szent-Györgyi. Academic Press, New York, 1953. 135 pp. Illus. $4.80.

For the nonspecialist, this book contains both a very readable and a very personal account of recent researches into the mechanisms of muscle contraction. In many ways Szent-Györgyi's book serves as an object lesson in what is to be expected, as present-day experimental biology continues its advances. The way the muscle proteins actin and myosin interact continues to become a more and more complex subject. At the same time, the membrane emerges as a more and more concrete entity, and a good part of this short book is devoted to the description of effects that must be ascribed to membranes. The problems of muscle physiology thus appear to be divided into: a physicochemical study of muscle proteins, the membrane, and the nature of the conection between membrane processes and contraction. The author has something to say about all these problems, and while many of the suggestions advanced are quite speculative, others are certainly the best that can be done in the way of interpretation at present.

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Sample Survey Methods and Theory, Vols. I and II. Morris H. Hansen, William N. Hurwitz, and William G. Madow. Wiley, New York; Chapman & Hall, London, 1953. Vol. I, 638 pp., $8. Vol. II, 332 pp., $7.

The appearance of the two volumes on *Sample Survey Methods and Theory* fulfills a long-felt need in the field of sampling theory and application.

The authors have spent more than a decade in the development of sampling theory and its application to actual survey problems. The scope of the surveys conducted under their direction has probably been the most comprehensive ever conducted by any government or private organization. As a consequence, these books are not merely a restatement of theory and methods already published but are comprehensive discussions of real survey problems, alternative methods of solution, and the fundamental thinking processes that lead to new designs. The separation of the work into two volumes, *Methods and Applications* and *Theory,* enables the reader who is not concerned with development of theory to use the first volume. Anyone concerned primarily with theory and its development can concentrate on the second volume.

One of the principal features of these volumes is the method of presentation. Problems are presented in the same manner in which they evolved for the authors, available data are examined, and the questions asked are "How do we proceed to design a sample survey which can be conducted at minimum cost for a given error?" or "How do we plan a survey that can be designed for a given cost with a minimum error?" The various possible solutions are discussed and the most appropriate one is indicated.

In addition, the practitioner is given numerous rules of thumb which can be used in making a number of decisions in the design of sample surveys. These two volumes will probably be classics in the field of sampling for many years to come and are a must for any person who is involved in the conduct or analysis of any survey.

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Elements of Statistics. H. C. Fryer. Wiley, New York; Chapman & Hall, London, 1954. viii + 262 pp. Illus. $4.75.

This little book is well bound and printed on good paper. It reflects the author's training and his years of experience in teaching and consultation at Kansas Experiment Station. It has benefited by passing through processed versions before going into print. It is not a book planned for experimenters in need of help in design and analysis but rather a textbook for students in probability, elementary statistical methods, and sampling. The preface states that college algebra is a prerequisite for courses based on the text.

A brief chapter on the history of the subject is followed by a chapter on summarizing data, central tendencies and dispersion, which includes calculation of the standard deviation. Chapters follow on elementary probability and on binomial and normal distributions. The uses of confidence limits and chi-square tests are shown as well as the ideas of alternate hypotheses and quality control. These ideas are further developed in the next chapter on sampling normal populations, which includes a brief discussion of central limit theorem and non-normal data. The concluding chapter is on linear regression and correlation, including rank correlation. A number of numerical