Chromatographic Reviews. Progress in chromatography, electrophoresis, and related methods. vol. 1. Michael Lederer, Ed. Elsevier, Amsterdam, Netherlands, 1959 (order from Van Nostrand, Princeton, N.J.). ix + 276 pp. Illus. $8.75.

Those who recall, for example, the search for specific precipitants for each of the 20-odd amino acids in protein hydrolyzates, or the innumerable fractional crystallizations required for the separation of the rare earths, appreciate the revolution in biological and inorganic chemistry that chromatography has brought about. This is a book that reports progress in that revolution, a book that could equally well be described as a monograph, a bound volume of a journal, or a supplement to the widely used *Chromatography* by Lederer and Lederer. Of the nine chapters, four have been translated from the French or German in which they appeared in the *Journal of Chromatography*. Reio's chapter on new equipment for recording chromatograms and its application to phenol derivatives represents original work. The longest chapter is a translation of Neher's monograph on the chromatography of sterols and related compounds. Other chapters deal with the chromatography of the curare alkaloids, chloroplast and anthocyanin pigments, and inorganic phosphorous compounds. Demole describes the preparation of films on glass for use in adsorption chromatography, and two chapters are devoted to electrophoresis.

Much of the work refers to paper chromatography, but results with columns and with disperse, solid phases other than cellulose are reviewed in some instances. In their discussion of solvent systems all of the contributors utilize the concept of polarity, but the discussion is presented in such general terms that the selection of the most suitable system for a given mixture remains largely empirical. Less frequently an attempt is made to relate the structure of the material being chromatographed to its R_f or R_s value. Although chromatography is useful in structure determinations, all authors agree that this technique must be supplemented by one or more of the classical procedures of organic chemistry.

The review of high-voltage electrophoresis by its originator, Michl, will doubtless help to overcome the lag in the use of this method. One marvels at the separation of the amino acids that are obtained when the mixing effect of diffusion is minimized by the use of steep potential gradients. Included in this chapter are data on other materials of biological interest. From the results reported by Chemla, it appears that the failure of Kendall to separate the lithium isotopes by electrophoresis was due to the insensitivity of the method of isotopic analysis that he used in this pioneer work. The mobility differences of many of the isotopic ions are now known, however, and it is of interest to note that these differences are less for the hydrated ions in aqueous media than for the same ions in fused salts.

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Trigonometric Series. vols. 1 and 2. A. Zygmund. Cambridge University Press, New York, ed. 2, 1959. xii + 383 pp.; vii + 354 pp. $15 per volume; $27.50 per set.

The first edition of this treatise appeared in the collection *Monografie Matematyczne* in Warsaw in 1935. The young, brilliant author was professor at the Polish university of Wilno. The book was accepted right away as the standard text in the field. It was reprinted in New York after the war, when the Polish edition became unavailable. (Zygmund has been in this country since 1940, at the University of Chicago since 1947). In a way it is fitting that the new edition should be published by the Cambridge University Press, for much of the theory stems from Cambridge, and much of the preparation of the manuscript of both editions was done while the author was a visitor there. It is only a pity that publication of such a magnum opus cannot be supported by a subvention that would bring the price within the budget of the average American mathematician.

In the revision, the single volume has become two. The first volume contains most of the material of the original edition, greatly expanded and brought up to date. A considerable part of the second volume is completely new. The treatise is likely to maintain its role as the standard text in the field for another couple of decades. It is essentially classical mathematics at its best. It deals with trigonometric series and the many contacts which this theory has with real and complex variables. It is not concerned with modern harmonic analysis, and there is no mention of group characters. The author, in his preface, calls attention to the fact that the theory of trigonometric series has been a source of new ideas for analysts during the last two centuries, and he adds that it is likely to be so in years to come. I heartily agree.

A list of the contents will give the reader of this review a notion of the wealth of material included in the treatise. There are nine chapters in volume 1: (i) Trigonometric series and Fourier series. Auxiliary results; (ii) Fourier coefficients. Elementary theorems on the convergence of $S[f]$ and $\tilde{S}[f]$; (iii) Summability of Fourier series; (iv) Classes of functions and Fourier series; (v) Special trigonometric series; (vi) The absolute convergence of trigonometric series; (vii) Complex methods in Fourier series; (viii) Divergence of Fourier series; (ix) Riemann's theory of trigonometric series. There are eight chapters in volume 2: (i) Trigonometric interpolation; (ii) Differentiation of series. Generalized derivatives; (iii) Interpolation of linear operations. More about Fourier coefficients; (iv) Convergence and summability almost everywhere; (v) More about complex methods; (vi) Applications of the Littlewood-Paley function to Fourier series; (vii) Fourier integrals; (viii) A topic in multiple Fourier series. Historical notes and an excellent bibliography complete the volume.

The printing and format are first rate.

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Population: An International Dilemma. A summary of the proceedings of the conference committee on population problems, 1956–1957. Frederick Osborn. Population Council, New York, 1958. ix + 97 pp.

This modest volume summarizes discussions held over a period of 2 years by a committee set up by the trustees of the Population Council. The purpose of these discussions was to explore the nature of the population crisis and to attempt to define steps which might be taken to resolve it. Discussants ranged from statisticians to clergymen, from the director of an institution concerned with international education to the author of a book on the depletion of resources.

Frederick Osborn, director of the