

man is exploiting it further. Rudel and Martinez-Manauton show, in a consideration of antifertility agents, that estrogens alone, progestins alone, or a combination, simultaneously or sequentially, may provide effective oral contraception. Other chapters deal with antihypertensives, the thyroid, digitalis, and radiologic and radioactive agents.

Chemists will find biological background, pharmacologists will find chemical background, and clinicians will find both in these excellent volumes.

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Separation Techniques in Chemistry and Biochemistry.

Edited by ROY A. KELLER. Marcel Dekker, Inc., 95 Madison Ave., New York, NY 10016, 1967. xvi + 415 pp. 16 × 23 cm. Price \$12.75.

In June 1966, a symposium on analytical chemistry was held at the University of Alberta, Edmonton, Alberta, Canada. Separation techniques presented at the symposium have been collected in this single volume. Gas-liquid chromatography and thin-layer chromatography comprise a substantial portion of the separation techniques. Applications of GLC include adrenocortical steroids and protein amino acids, while TLC is represented by separations of *N*-substituted maleimides on alumina. One section of the book is devoted to criteria of identity and purity in chromatographic separations. Specialized topics in gas chromatography include ultra high pressure to 2000 atmospheres, indeterminate errors in the measurement of chromatographic peaks, behavior of pretreated silica gels, support-coated open tubular columns, and nonlinear distribution coefficients. A theoretical aspect of TLC is noted in a chapter on observed plate height.

Newer separation techniques discussed are continuous particle electrophoresis for fractionating and studying particles of biological interest, gel chromatography for separating molecules by means of solvent-swollen gels, and liquid chromatography. A comparison of mobile-phase peak dispersion in gas and liquid chromatography is offered in this volume.

Staff Review

Statistical Techniques for Collaborative Tests. By W. J. YOUNDEN. The Association of Official Analytical Chemists, Box 540, Benjamin Franklin Station, Washington, DC 20044, 1967. ix + 60 pp. 17 × 26 cm. Price \$2.00. Paperbound.

This brief paper-covered book sums up the ideas and experience of Dr. W. J. Youden, who recently retired from the National Bureau of Standards. It was written, not so much with the statistician in mind, but rather the nonstatistician or management-oriented chemist. Over the years, Dr. Youden has developed methods of presenting data

in tabular and graphic form, which, from a statistical sense, are readily understandable and usable by the bench chemist. Dr. Youden has repeatedly urged that collaborative tests be run using few tests per laboratory but many laboratories. This book sums up his thoughts on the subject.

One of the highlights of his discussion is that on "systematic error," *e.g.*, an inherent error in the analytical method. The average pharmaceutical laboratory talks about systematic error but seldom routinely evaluates quantitatively the degree to which it exists or creeps into the test over a period of time. The only time a chemist might detect he has added systematic error to a test is when he gets a bad lot of material to test, the formula of the product has been changed, he compares a series of past results on a control chart and finds them predominantly high or low, or when he is setting up a new test involving knowns and the results are uniformly high or low.

The reading of this book is a good review for the chemist, because, being written in lecture style, Dr. Youden takes the reader through a series of eight chapters and tells him what he should keep in mind during his everyday work in addition to the occasional collaborative testing he may do. This book is not a textbook on statistics nor is it meant to be such. It deals with the application of a limited set of statistical techniques and the inherent problems in their use. The logic and methodology contained herein could be used as the basis on which collaborative testing for official compendia and intra-industry test development is undertaken.

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NOTICES

Dictionary of Organic Compounds. Fourth Edition, Third Supplement. Oxford University Press, 200 Madison Ave., New York, NY 10016, 1967. 279 pp. 20 × 27 cm. Price \$28.00. [For a review of the *Dictionary* see *J. Pharm. Sci.*, **55**, 1635 (1966)].

Progress in Biophysics and Molecular Biology. Vol. 17. Edited by J. A. V. BUTLER and H. E. HUXLEY. Pergamon Press, Inc., 44-01 21st St., Long Island City, NY 11101, 1967. vii + 392 pp. 16 × 25.5 cm. Price \$18.50.

Submicro Methods of Organic Analysis. By Ronald Belcher. Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York, NY 10017, 1966. viii + 173 pp. 15 × 23 cm. Price \$10.00.

Chemical-Medical Abstracts. Section D, Endocrinology. Derwent Publications, Ltd., 128 Theobalds Road, London, W.C. 1, England, 1967. 24 × 29 cm. Paperbound. (Sample issue.)
