omitted: Kosower's Z values, the von Richter reaction, the isokinetic relationship, reactions of isonitriles, and the question of *ortho* : *para* ratio in aromatic nucleophilic substitution.

Despite these shortcomings, Hine's second edition is the leading book in its field, both as a graduate level textbook and a reference work.

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Introductory Textbook

Elements of Probability and Statistics. Frank L. Wolf. McGraw-Hill, New York, 1962. xv + 322 pp. $7.50.

This book, intended for use in an introductory course in probability and statistics, presupposes that the reader has had only high school algebra. Logarithms are outside its scope, and the author devotes space to the elementary notions of set algebra (using Venn diagrams without naming them as such), the meaning of an exponent, the use of the summation notation, the reading of algebraic expressions involving subscripts, the pronunciation of the Greek letters used, significant digits, and inequalities and absolute values. The reader is, however, presumed to be familiar with Euclidean geometry and the process of interpolation, and he is presumed to be well enough acquainted with physical principles to appreciate the interpretation of variance as a moment of inertia.

The book does provide a good elementary introduction to the vocabulary of probability and statistics and to the computation and use of the, by now, classical formulas of statistical theory.

The author states on page 165 that up to that point, with the exception of Problem 7-40 (dealing with the Poisson distribution) and the problems based on this distribution, he has restricted attention to experiments that have a finite number of possible outcomes; this is not completely correct—for example, Problem 7-30 and Problem 7-83.

The book contains a bibliography of 22 items, including ten paperback books, an index, and tables of square roots, binomial distribution (both individual terms and cumulative), random digits, cumulative normal distribution, chi-square distribution, F-distribution, and Student's t-distribution.

Overall, the book gives the impression of careful preparation and proofreading. I found surprisingly few misprints. I enjoyed the sense of humor manifested by the limericks the author uses to introduce some of the sections, his comment about the word scedastic, the imaginary dialogue between two characters, and his recommendation that the reader refer to Halmos's book on measure theory.

I believe the book will be a good text for classroom use at the level for which it is intended. For students with a better mathematical background, there are other books available, better designed for their needs.

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New Books

Mathematics, Physical Sciences, and Engineering

Clouds, Rain, and Rainmaking. B. J. Mason. Cambridge Univ. Press, New York, 1962. 145 pp. Illus. Paper, $1.95; cloth, $4.50.

Collection of Problems in Physical Chemistry. Jiri Bares, Cestmir Cerny, Vojtech Fried, and Jiri Pick. Translated by Helena Watney. Pergamon, London; Addison-Wesley, Reading, Mass., 1962. 626 pp. Illus. $9.75.

Decomposition of Austenite by Diffusional Processes. Proceedings of a symposium, Philadelphia, October 1960. V. F. Zackay and H. I. Aaronson, Eds. Interscience (Wiley), New York, 1962. 632 pp. Illus. $35.

Dynamics of Atmospheric Entry. Robert Clifton Duncan. McGraw-Hill, New York, 1962. 317 pp. Illus. $12.50.

Earth, Sea, and Air. Jerome Spar. 159 pp. Illus. Paper, $1.75; cloth, $2.95.

Elementary Solid State Physics. Charles Kittel. Wiley, New York, 1962. 351 pp. Illus. $8.75.

An Introduction to the Chemistry of Complex Compounds. Aleksander Abramovich Grinberg. Translated from ed. 2 (1951) by J. Rovtar Leach. D. H. Busch and R. F. Trimble, Jr., Eds. Pergamon, London; Addison-Wesley, Reading, Mass., 1962. 384 pp. Illus.

Introduction to Ligand Field Theory. Carl J. Ballhausen. McGraw-Hill, New York, 1962. 307 pp. Illus. $11.75.

An Introduction to Mathematical Machine Theory. Seymour Ginsburg. Addison-Wesley, Reading, Mass., 1962. 157 pp. Illus. $15.

Linear Active Network Theory. Louis de Pian. Prentice-Hall, Englewood Cliffs, N.J., 1962. 552 pp. Illus. Trade ed., $16; text ed., $12.

Linear Electric Circuits. Z. Hennyey. Translated from the Hungarian by N. Izsak. Pergamon, London; Addison-Wesley, Reading, Mass., 1962. 330 pp. Illus.

Magnetostatic Principles in Ferromagnetism. vol. 1. William Fuller Brown, Jr. North-Holland, Amsterdam; Interscience (Wiley), New York, 1962. 214 pp. Illus. $7.75.

Metals Reference Book. vols. 1 and 2. Colin J. Smithells. Butterworth, Washington, D.C., ed. 3, 1962. 600 pp. Illus. $32.50.

Noise and Fluctuations. An introduction. D. K. C. MacDonald. Wiley, New York, 1962. 126 pp. Illus. $6.50.

Nuclear Graphite. R. E. Nightingale, Ed. Academic Press, New York, 1962. 559 pp. Illus. $15.80.

Ordinary Differential Equations. L. S. Pontryagin. Translated from the Russian by Leonas Kacinskas and Walter B. Counts. Addison-Wesley, Reading, Mass., 1962. 304 pp. Illus. $7.50.

Permanent Magnets and Magnetism. Theory, materials, design, manufacture, and applications. D. Hadfield, Ed. Iliffe, London; Wiley, New York, 1962. 568 pp. Illus. $16.50.

Physics and Chemistry of Electronic Technology. Harry L. Van Velzer. McGraw-Hill, New York, 1962. 384 pp. Illus. $10.

Programming and Utilization of Research Reactors. vol. 1. Symposium, Vienna, October 1961. Academic Press, New York, 1962. 344 pp. Illus. $9.

Reactor Handbook. vol. 3, pt. B, *Shielding.* Everitt P. Blizard and Lorraine S. Abbott, Eds. Interscience (Wiley), New York, ed. 2, 1962. 303 pp. Illus. $9.

Recent Progress in the Chemistry of Natural and Synthetic Colouring Matters. T. S. Gore, B. S. Joshi, S. V. Sunthankar, and B. D. Tilak, Eds. Academic Press, New York, 1962. 686 pp. Illus. $24.

Semiconductor and Conventional Strain Gages. Mills Dean and Richard D. Douglas, Eds. Academic Press, New York, 1962. 402 pp. Illus. $15.

A Sophisticate's Primer of Relativity. P. W. Bridgman. Wesleyan Univ. Press, Middletown, Conn., 1962. 199 pp. Illus. $4.50.

Space Age Astronomy. Symposium, California Institute of Technology, August 1961. Armin J. Deutsch and Wolfgang B. Klemperer, Eds. Academic Press, New York, 1962. 552 pp. Illus. $16.50.

Statistical and Inductive Probabilities. Hugues Leblanc. Prentice-Hall, Englewood Cliffs, N.J., 1962. 160 pp. Illus. Trade ed., $6.65; text ed., $5.

Strange World of the Moon. An inquiry into its physical features and the possibility of life. V. A. Firsoff. Science Editions, New York, 1962 (reprint). 236 pp. Illus. Paper, $1.65.

Surface Phenomena in Metals and Alloys. V. K. Semenchenko. Translated from the Russian by N. G. Anderson. R. Kennedy, Ed. Pergamon, London; Addison-Wesley, Reading, Mass., 1962. 486 pp. Illus. $14.75.

Theory and Applications of Ultraviolet Spectroscopy. H. H. Jaffe and Milton Orchin. Wiley, New York, 1962, 639 pp. Illus. $15.

Transformations of Surfaces. Luther Pfahler Eisenhart. Chelsea, New York, 1962. 390 pp. Illus. $4.95.