the book makes no concessions to weakness. Other accounts of the modern work on algebraic geometry at least begin by considering something which looks familiar; varieties are defined by a system of equations, and the only generalization on classical theory is that the coefficients are chosen from a general field instead of as complex numbers. Not so with this book. Here the whole subject is conceived of as a development of the theory of fields, and the geometry appears only as an interpretation; indeed, the chapter in which geometrical ideas are first introduced is significantly entitled "The Geometric Language." Because of the austere form in which the subject is presented and because the presentation is extremely condensed, theorem following theorem in a seemingly endless procession, it is to be feared that many useful recruits to this kind of geometry will be frightened off rather than attracted.

Indeed, the expert will not find it easy going and may easily miss much of value on a first reading. But, if he keeps returning to it, he will realize more and more how much of importance, not only for the purposes of the volume but for wider applications, is crowded into brief statements and proofs. As readers become more and more familiar with the work, it will come to be recognized for what it is—one of the real landmarks in the literature of algebraic geometry.

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Probit analysis: a statistical treatment of the sigmoid response curve. D. J. Finney. Cambridge, Engl.: at the Univ. Press; New York: Macmillan, 1947. Pp. xiii + 256. $3.75.

This little book draws together developments of recent years in the dosage-mortality field, including the author's own important contributions. The format is clear and attractive.

Beginning with definition of biological assay, all-or-none and graded responses, the treatment discusses frequency distribution of tolerance (or susceptibility) among individuals of a biological population. The approximate "normalization" following transformation of concentration values to logarithms, and the binomial distribution of percentages responding, are taken up next. The change of percentages of population affected to *probits* or standard deviation values brings a normal curve into linear form. From regression thus simplified, the concentration (ED_{50}) required to affect 50%, or some other proportion of the population, can be estimated. Materials can thus readily be compared as to potency. Other past and present methods, with history of dosage-effect studies since Fechner, are touched upon.

Mathematical treatment of weighting, estimation, comparison, and tests of significance is outlined. The maximum likelihood solution, giving some gain in efficiency, is described. Adjustments for natural mortality, with approximate and exact solutions, are discussed. Under "factorial experiments" the author takes up multiple-regression analysis with two or more introduced causes of variation, such as exposure time and concentration of poisons. A valuable chapter on joint action of mixtures is included, with tests for similar action and synergism. Miscellaneous problems are discussed, especially Parker-Rhodes' suggestion of using a fractional power of dosage, which may give normality in some cases. The text closes with notes on possibility of applications to some cases of graded response. Appendices include convenient computational methods, technical discussion of derivations, a bibliography, and statistical tables.

The discussions are well illustrated throughout with arithmetic calculations. Rapid graphic solutions, and design of experiments, are touched upon but not elaborated. The frequent failure to secure complete linearity or normality is also touched upon; it does not invalidate the methods outlined. The mathematical bases of methods are well presented. On the whole, the book is an extremely useful source of information.

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Scientific Book Register

HAYNES, B. C. *Techniques of observing the weather.* New York: John Wiley; London: Chapman & Hall, 1947. Pp. xvi + 272. (Illustrated.) $4.00.

HUBBS, CARL L., and LAGLER, KARL F. *Fishes of the Great Lakes region.* Bloomfield Hills, Mich.: Cranbrook Institute of Science, 1947. Pp. xi + 184. (Illustrated.)

KARRER, PAUL. *Organic chemistry.* (3rd Engl. ed., trans. by A. J. Mee.) New York-Amsterdam-London-Brussels: Elsevier, 1947. Pp. xx + 957. $8.50.

KIRK, RAYMOND E., and OTHMER, DONALD F. (Eds.) *Encyclopedia of chemical technology.* (Vol. 1, A to Anthrimides.) New York: Interscience, 1947. Pp. xxiv + 982. (Illustrated.) $20.00.

LOW, R. CRANSTON, and DODDS, T. C. *Atlas of bacteriology.* Baltimore: Williams and Wilkins, 1947. Pp. vii + 168 plates. $8.50.

ODGERS, MERLE M. *Alexander Dallas Bache: scientist and educator, 1806–1867.* Philadelphia: Univ. Pennsylvania Press, 1947. Pp. vii + 223. $2.75.

ROBERTS, ARTHUR. (Ed.) *Radar beacons.* (Massachusetts Institute of Technology Radiation Laboratory Series.) New York-London: McGraw-Hill, 1947. Pp. xx + 489. (Illustrated.) $6.00.

SWANTON, JOHN R. *The Wineland voyages.* (Smithsonian Miscellaneous Collections, Vol. 107, No. 12, Publ. 3906.) Washington, D. C.: Smithsonian Institution, 1947. Pp. 81. $.50.

WHITTAKER, ROLAND M. *Rudiments of chemistry: the chemist's view of the nature of matter.* New York: Ronald, 1947. Pp. x + 310. (Illustrated.) $3.00.