other words, this book is intended for the instruction of students who are already convinced that genetics is an interesting subject and who wish to get a professional insight into its theoretical foundations. It is probably too difficult for any but the most inspired beginners.

Volume II is devoted to population genetics, a subject in which the author has long had a special interest. The first chapter deals with the mathematics of genetically stable populations under panmictic and assortative systems of mating. The second analyzes the roles of selection, mutation and migration, and chance fluctuation as causes of changes in gene frequency, the treatment closely following that of Sewall Wright. The third and final chapter contains a summing up of the neo-Darwinian view of evolution and a discussion of the genetic definition of species. The presentation is lucid and careful throughout.

Each chapter in both volumes is followed by a list of selected references. It is to be hoped that the third volume will contain an index.

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Analytic Geometry. Edward S. Smith, Meyer Salkover, and Howard K. Justice. Wiley, New York; Chapman & Hall, London, ed. 2, 1954. xiii + 306 pp. Illus. $4.

A statement in the preface indicates that the following changes of the first edition have been made in this edition: (i) revised problems; (ii) new articles on analytic proofs of geometric theorems and on cylindrical and spherical coordinates; (iii) improved treatment of the angle between two lines, excluded values, asymptotes, bisector of an angle, tangent to a circle, radical axes, and parametric form of the equations of a line; and (iv) a four-place table of trigonometric functions, with angles in radians and degrees.

This book constitutes a very thorough treatment of all the topics usually found in analytic geometry courses. Following the treatment of the straight-line and conic sections in type forms, space is devoted to the general equation of the second degree, tangents and normals, transcendental curves, polar coordinates, parametric equations and empirical equations. There follows a section in "Solid analytic geometry," which treats the line, plane, locus problems, and the quadric surfaces in type forms. If sufficient time can be allowed to do the textbook in its entirety, much time could be saved in the calculus courses by making it unnecessary to review, or to give for the first time, topics that are well covered here. A well-rounded course of shorter duration can be selected from the book without loss of continuity. Any student who continues in mathematics beyond the course in analytic geometry will find this to be an excellent reference.

Two chapters seem worthy of particular mention. One is given to a careful description of the intersection of a cone by a plane. The relation of the position of the interesecting plane to the definitions of the conic sections as loci is shown by careful drawings and explanations. The chapter on empirical equations is concerned with fitting curves to given sets of data and emphasizes the straight-line formula, the power law, the exponential law, and the parabola.

The book contains a large number of exercises of varying degrees of difficulty. Nearly all the exercises are geometric, and one might hope for some applications to problems arising in the physical sciences and engineering. Explanatory drawings are plentiful and carefully made. The format is pleasing, important formulas are in boldface type, and theorems and statements of particular emphasis are in italics.

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Heterocyclic Compounds with Indole and Carbazole Systems. Ward C. Sumpter and F. M. Miller. vol. VIII of *The Chemistry of Heterocyclic Compounds.* Arnold Weissberger, Ed. Interscience, New York–London, 1954. xii + 307 pp. Single copy, $10; subscription, $9.

In this monograph the authors have undertaken "to present a thorough and comprehensive treatment of the methods of preparation, the properties, and the reactions of these compounds without attempting to duplicate the coverage of Beilstein (or of Elsevier's *Encyclopedia* when completed) by listing every compound." The result is a volume that lacks the completeness of its predecessors, but it does enable one to gain a background of information quickly.

The volume suffers from inadequate editing with respect to style, nomenclature, typographical errors, and organization of material, as the following random examples show. Page 61, "Indolenines of the type of 2,3,3-trimethylindolenine yield dimers on treatment with Grignard reagents, [335] the compound behaving as though it had the formula I." Page 54, "2-Methylindolemagnesium bromide reacts similarly . . . while 3-methylindolylmagnesium bromide gives. . . . On page 80, line 2, a sentence begins without capitalization and on line 8 of page 81 an "of" is omitted. On page 31, the arsonic acids derived from indoles are found under the heading "Halogen derivatives of indole." Fortunately, these errors are for the most part annoying rather than misleading.

The strength of the volume is in Chapter VIII, a 90-page discussion that brings together a mass of material on the many and varied naturally occurring products that contain an indole nucleus.

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