buctoo of 1965 from the city described by Miner in 1940. In this new paperback edition of a book originally published in 1953, Miner has attempted to cope with the new data and with the many changes by the addition of a sentence or a paragraph or by the use of footnotes. The bulk of the text remains as he originally wrote it; it has a curiously archaic character as a result.

His book will always have its value because it is one of the few existing studies of African cities, or of Islamic cities, or of nonindustrial cities based on trade. Unfortunately it fails to give any idea of the political organization of the city. Its focus is on custom rather than on the structure of social life.

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Organic Chemistry

Dictionary of Organic Compounds. vols. 1–5 and First Supplement. J. R. A. Pollock, R. Stevens, and G. Harris, Eds. Oxford University Press, New York (vols. 1–5, ed. 4, 1965; 3346 pp.; First Supplement, 1965, 213 pp.). Illus. $280.

The new *Dictionary of Organic Compounds* is the fourth edition of a dictionary designed to present in brief the "constitution and physical, chemical and other properties of the principal carbon compounds and their derivatives, together with relevant literature references." Although some may think that preparing a new edition of a dictionary involves only minor additions and corrections, this new edition is about 40 percent larger than its predecessor; redrawing the structural formulas and adoption of the internationally accepted rules of nomenclature that were recently developed have required almost a complete recasting of the text. With one exception (that of inserting the year of publication in front of the volume or page number in references), there is a reasonable acceptance of the citation system used by *Chemical Abstracts*. This work should prove to be most useful in the establishment and proper description of the more important organic compounds.

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History of Genetics

Genetik: Grundlagen Ergebnisse und Probleme in Einzeldarstellungen. vol. 1, *Kurze Geschichte der Genetik bis zur Wiederentdeckung der Vererbungsregeln Gregor Mendels.* Hans Stubbe. Fischer, Jena, Germany, ed. 2, 1965. xvi + 272 pp. Illus. MDN 21.

It is a sign of the widening interest in the origins of genetics that the first brief comprehensive account of its history before 1900 has already reached a second edition. The monograph was first published in 1963 as volume 1 of the series "Genetik: Grundlagen, Ergebnisse and Probleme in Einzeldarstellungen." The policy of publishing separate monographic treatments of different aspects of genetics, because smaller restricted publications can be more readily kept up to date by revision, is thus justified by the first volume of the series.

The first edition was an excellent and succinct account of the work of Mendel and of his predecessors beginning with the first domesticators of plants and animals. The first chapters were devoted to ideas about reproduction and heredity as found in the works of the Greek and Roman writers of antiquity and of scientists and observers of the Middle Ages. The beginning of a new era in the 18th century was noted in the controversy concerning preformation and epigenesis and especially in the botanical discoveries of the late 17th and in the 18th century (by Camerarius, Linnaeus, and Kölreuter). Some 40 pages (now expanded to 60) were devoted to the plant breeders and theorists of evolution in the 19th century, including Mendel, and were followed by an excellent chapter on the origin of variations and the mutation theory. The latter well-documented account served to replace the earlier book by Stubbe which, because many of the printed copies were lost during World War II, has not been generally available. The last chapters, about a fifth of the text, were devoted to the great cytological discoveries of the 19th century, to Weismann and the germ plasm theory, to the rediscoveries of Mendel's laws, and to the first conceptions of a chromosome theory of heredity.

The second edition is an improvement and expansion of the first. Forty pages have been added to the text, including a 12-page facsimile of Mendel's letter of 3 July 1870 to Carl von Naegeli (the holograph has not been published previously), and 115 titles added to the already extensive bibliography. Proper attention has now been paid to Karl Pearson's contributions (1900 to 1909) to the theory of Mendelian equilibrium and to Fisher's critique of Mendel's theory. Among the other new names is that of Count Giorgio Gallesio (1772 to 1839) whose works on plant breeding, especially of citrus, were well known to Darwin. As pointed out by Martini (1961), Gallesio used the expression "dominating" in his "Teoria della riproduzione vegetale" in 1816, some 10 years before the earliest use of the concept of dominance ascribed by Roberts to Sageret (1826).

A valuable feature of the book is the brief biographical notices of most of the chief actors in the history of genetics up to and including the "rediscoverers" of 1900. Most of these notices are accompanied by portraits.

This book can be placed beside *Plant Hybridization Before Mendel* (H. E. Roberts, 1929) and *Vererbungswissenschaft* (Alfred Barthelmess, 1952) as an initial work on the history of genetics. It is more comprehensive than either of these with respect to the central ideas of genetics before 1900, and it will have a wider appeal to students of genetics and of the history of science.

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The Danish Cancer Registry

Statistical Studies of the Aetiology of Malignant Neoplasms. vol. 1, *Review and Results* (xvi + 543 pp.); vol. 2, *Basic Tables: Denmark, 1943–57* (iv + 319 pp.). Johannes Clemmesen. Munksgaard, Copenhagen, 1965. Illus. Kr 160.

The Danish Cancer Registry, which was organized in 1942, has the advantages provided by full access to information on death certificates and to mortality data. These volumes, an outgrowth of the Registry's fine work over the years, contain a description of the Registry and its mode of work.

Volume 1, *Review and Results*, consists of chapters that deal with various types of cancer and a review of the

recent literature as well as of some of the earlier papers on the subjects. Abstracts and some statistical tables are given from the selected works. Each section includes a portion of the Danish data on that particular subject and gives appropriate references to more detailed tables in the companion volume 2, *Basic Tables,* which is intended for those who are interested in the demography of cancer.

The review volume consists mostly of demographic studies that bear on the etiology of cancer. It is a veritable gold mine of autopsy statistics relating to cancer, the prevalence of the disease, mortality statistics in general, and morbidity statistics. A particularly useful section on aspects of genetics and statistics includes pedigree studies and cancer studies in twins. The various types of cancer are then discussed, and data, arranged according to sites of the lesions, are presented. Etiologic factors are considered in relation to the different types of tumors. Data on the most important types of cancer are presented in graph form. Extensive statistical data from the scientific literature are presented and compared with new data from Denmark. The latter would have been more readily useful had they been given more consideration in the text.

The one criticism that might be made is that the choice of published material for reference seems somewhat spotty. However, the mass of publications on cancer is so great that one must be highly selective in citing references.

Clemmesen has rendered a great service to those interested in cancer statistics and has clearly demonstrated the value of a comprehensive cancer registry.

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Symposium on Teaching Genetics

Teaching Genetics in School and University. C. D. Darlington and A. D. Bradshaw, Ed. Oliver and Boyd, London; Philosophical Library, New York, 1964. x + 121 pp. Illus. $7.50.

For the teacher of genetics, the main values of this small book, which is composed of the contributions to a symposium held in England (and asserted by the editors in their introduction to have aroused great interest) and some additional notes, are in the concise statements by experts on particular kinds of genetic material about how their materials can be used in teaching laboratories. For example, in a section on bacteria and bacteriophages, Clowes outlines "some simple experiments with bacteria and phage which can be carried out with a minimum apparatus, and which are illustrative either of general genetic concepts or of principles so far novel to these systems, but which are likely to have far-reaching implications." Basic apparatus is listed, and brief directions are given for genetic fine structure analysis, mapping with multisite mutants, and studying complementation, spontaneous mutation, chemical mutagenesis, and oriented genetic transfer.

Bevan gives the principles of transduction in bacteria and experimental procedures for its demonstration. Pateman describes genetic studies with *Neurospora, Aspergillus,* and *Sordaria* and, with Woods, outlines the use of yeast for teaching practical genetics. A general statement on a course in biometrical genetics, by Jinks, precedes Thoday's practical exercise in quantitative genetics, using counts of chaetae in four stocks of *Drosophila.* Falconer identifies uses for mice in demonstrating segregation, factor interactions, and developmental genetics. Rees, Lewis and John, and Wylie, in successive notes, describe teaching cytology, demonstrating chromosome behavior, and material for practical cytology. There is a brief chapter by Ockey on peripheral blood cultures of human chromosomes and a note on human blood groups by Mourant.

Darlington's description of his "genetic garden," illustrating the origins of species, breeding systems, mutation, variegation, and graft-hybrids, as well as multipurpose plants, is of considerable interest. There are brief notes that list seedling characteristics in several plants and illustrate leaf markings in white clover, the latter providing useful material for demonstration of multiple allelic series, and an attractive note by Pusey on cyanogenesis in white clover, a system that through simple biochemical tests relates genes to enzymes controlled by two different loci and is adaptable to studies of population samples from different sites.

Three teaching projects with *Antirrhinum* are outlined by Bradshaw, and a *Drosophila* population cage for class experiments is described by Whittington. A model of a bivalent at metaphase I of meiosis, useful in "practical examinations," is described briefly by Whittington.

A list of sources of materials with an index of addresses, practically all in the British Isles, identification of two good chromosome films, and a brief list of books on the teaching of genetics are also provided. Two chapters, one on genetics teaching in the universities (which deals mainly with the problems of whether or not there should be a genetics department and, if so, how it should be oriented) and another on genetics in schools, are of some interest but probably of less relevance in the American context. Although it would be difficult to defend the assertion, made on the dust jacket, that all this is "indispensable for those who wish to teach more accurately, more vividly, and—more easily," many teachers of laboratory courses in genetics may find material of interest in this book.

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Mathematics

Theory of Functions of a Complex Variable. vol. 1. A. I. Markushevich. Translated from the Russian by Richard A. Silverman. Prentice-Hall, Englewood Cliffs, N.J., 1965. xvi + 459 pp. Illus. $16.

In many ways this is a good book for the beginner in complex function theory. With the exception of some chapter introductions that are loosely connected and vague, it is well written. The material is aimed at the student who has completed a standard course in advanced calculus.

The main body of each chapter is thorough, and the chapters are sprinkled with many well-chosen and completely worked examples. At the end of each chapter there is a section of well-selected problems. The author attempts to be rigorous, but at the same time he attempts to give the reader an