

### An Introduction to the Theory of Numbers

By Prof. G. H. Hardy and Prof. E. M. Wright. Second edition. Pp. xvi + 408. (Oxford: Clarendon Press; London: Oxford University Press, 1945.) 25s. net.

**T**HIS book must be welcomed most warmly into the select class of Oxford books on pure mathematics which have reached a second edition. It obviously appeals to a large class of mathematical readers. One reason for this is clear. Any mathematician, not necessarily an expert in theory of numbers, can start almost anywhere in the book and turn over a few pages, and find a discussion of some problem which he can understand, and which is solved by elementary arguments in a comparatively short space; in spite of which it may have taken someone the best part of his life to solve it. It is sometimes objected that these problems are not important, and that they represent a sort of mathematical golf. This is largely a question of point of view. It may not be important to get little white balls into little round holes, but many people spend a great deal of time in doing so nevertheless.

Some substantial changes have been made in the text. The theory of quaternions has been rewritten, and now follows Hurwitz' method instead of Dickson's. The last chapter, on the geometry of numbers, has also been completely re-written in accordance with suggestions of Prof. Davenport. This is a popular subject just now owing to the activities of the 'Manchester school' of mathematicians, so that this chapter will be read with special interest.

E. C. T.

### The Population of Great Britain

Current Trends and Future Problems. By Mark Abrams. (Published by the London Press Exchange, Ltd.) Pp. 51. (London: George Allen and Unwin, Ltd., 1945.) 3s. 6d. net.

**T**HIS is the first of a series to be issued by the Research Department of the London Press Exchange as a contribution to the factual background of post-war problems affecting British industry and commerce. It adds little new to a much-discussed subject; but deserves attention because of the careful way in which the facts have been collected and the clear and attractive way in which they are presented. The causes of the decline in the birth-rate are discussed in a manner which would be wholly satisfactory to specialists and general readers, as are the remedies proposed by successive governments and independent observers. A useful appendix gives new vital statistics collected under the Population Statistics Act of 1938, and through them directs attention to the pattern of fertility in the latter half of 1938 and 1939.

### Roemer and the First Determination of the Velocity of Light

By I. Bernard Cohen. (History of Science Series, No. 1.) Pp. 64. (New York: Burndy Library, Inc., 1944.) 1 dollar.

**A**T a time when it was generally believed that light was propagated instantaneously, Roemer's observations on the first satellite of Jupiter convinced most contemporary men of science that the velocity of light was finite. Mr. Cohen surveys the earlier views on the subject, and describes the immediate background of Roemer's discovery. The reception accorded to the work is given in some detail. Roemer's

paper in the *Journal des Scavans* (1676), and its English translation in the *Philosophical Transactions* (1677), are reproduced in facsimile, together with a holograph manuscript of some of his observations, from which it is shown how he must have arrived at the high value of 22 minutes for the time taken by light to traverse the diameter of the earth's orbit. The last chapter gives a brief outline of Roemer's distinguished and varied later career, both as public official and as man of science.

This short but valuable study of Roemer first appeared in *Isis*, No. 84, April 1940, published in invaded Belgium. It was reprinted in the United States from one of the few surviving copies in September 1944, on the three hundredth anniversary of Roemer's birth. It will be welcomed as a concise and scholarly appreciation of a man who, though generally remembered only for a single important contribution to science, was one of the outstanding figures of his age.

G. R. NOAKES.

### Les éléments de la chimie

Par Georges Champotier. (Bibliothèque d'éducation par la science.) Pp. vi + 598. (Paris: Albin Michel, 1943.) n.p.

**T**HIS short treatise on theoretical and physical chemistry is marked by a clear and readable style and by a judicious choice of subjects. The introductory chapters contain an unusually careful exposition of the concepts of chemical species, mixture, compound and element. The determination of atomic weight follows that of molecular weight, and many similar examples of logical sequence are found in the book, which is conceived and executed in a philosophical spirit. Many quite difficult subjects are treated in a simple yet adequate manner, such as band spectra, bond formation, and nuclear physics and chemistry. The modern aspects are dealt with, but the fundamental subjects such as thermodynamics, electrochemistry and phase rule also receive adequate treatment. The whole forms an introduction to modern physical and theoretical chemistry which is both satisfying and interesting, and is in the best traditions of French scientific literature. There is no index, but a full table of contents. The paper and printing are good, and the binding attractive but rather weak.

### Modern Bird Study

By Ludlow Griscom. Pp. xi + 190 + 15 plates. (Cambridge, Mass.: Harvard University Press; London: Oxford University Press, 1945.) 14s. net.

**L**UDLOW GRISCOM is the chairman of the National Audubon Society of America and writes with a competence founded on thirty-seven years of experience in the field. His present book is the outgrowth of a series of eight lectures which were given at the Lowell Institute in January 1944, and can be clearly divided into two sections. The first half deals with the capacity, intelligence and adaptability of birds, as well as the general problem of migration, and would be intelligible to any ornithologist and/or bird-lover familiar with the English language. The second half deals with avian distribution throughout the Americas. One is impressed by Mr. Griscom's interest in and enthusiasm for his subject, but his work would command greater respect if, on occasion, his inductive powers had been used with the same force as his deductive.