The Pocket Guide to Wild Flowers

By David McClintock and R. S. R. Fitter, assisted by Francis Rose. Pp. xii+340+112 plates. (London: William Collins, Sons and Co., Ltd., 1956.) 25*s*. net.

THERE seems to be no limit to the spate of popular books on the English flora and it is with a feeling of irritation that one picks up the latest of them, a book "designed to enable *anyone* without botanical knowledge, to identify " A perusal of the book turns the pessimist into an enthusiast because this is not just another book on wild flowers. It is something that makes a very serious attempt to justify the publisher's note on the jacket and the authors may be said to have succeeded admirably.

This then is a book which can be recommended to anyone who takes an interest in the countryside, for the very numerous keys and hints, couched in simple language, *will* enable anyone to run down their plant with comparative ease. The book is richly illustrated with plates in colour and with numerous line drawings. It has an index to popular names and one to the Latin names. It is altogether an excellent work which the reviewer wishes had been available when he was a boy. N. L. BOR

An Introduction to the Botany of Tropical Crops

By Leslie S. Cobley. Pp. xv+357+82 plates. (London: Longmans, Green and Co., Ltd., 1956.) 37*s*. 6*d*. net.

IN this useful book the author has given an account of the botany of the main and subsidiary tropical crops, illustrated by many good photographs and diagrammatic line drawings. The extensive and varied subject-matter, in twelve chapters, includes the cereal crops, sugar cane, fibres, oil seeds, leguminous crops, starch storage crops, spices, beverages, drug plants, cultivated fruits, vegetable crops, rubber and essential oil crops, together with selected bibliographies and an index of botanical names. In all, more than one hundred and fifty different useful species are described. The scope of the treatment may be indicated by noting that, among the essential oil crops, fourteen different sources are described; rubber is described from eight sources; fibres from twelve sources; and so on. This book is a commendable undertaking, and the author may be congratulated on having provided a wide circle of readers with a concise, interesting and readable introduction to the botany of tropical crops. C. W. WARDLAW

Integral Functions

By Dr. M. L. Cartwright. (Cambridge Tracts in Mathematics and Mathematical Physics, No. 44.) Pp. viii+135. (Cambridge: At the University Press, 1956.) 18*s*. net.

THE theory of functions which are of finite order in an angle, to which Dr. Cartwright has herself made many contributions, is here collected into a single volume. The first chapters give the machinery required, such as various maximum modulus theorems and the powerful Nevanlinna formula. The third chapter is a detailed study of the Phragmén–Lindelöf theorems and of the Phragmén–Lindelöf function $h(\theta)$, which, roughly, compares $\log|f|$ with r^{ρ}, where ρ is the order of the function. Chapter 4 defines the Lindelöf proximate order, and thus leads up to the possibility of obtaining very general results, discussed in full detail in Chapters 5 and 6, on the relations between the growth of a function and the distribution of its zeros. Chapter 7 deals with the lines of Julia, connected with the concept of exceptional values which a function cannot take, while perhaps the most interesting part of the final chapter is that which relates the exceptional values to the singular points of the Borel transform of the function. Dr. Cartwright's exposition shows classical specialized analysis at its best. T. A. A. BROADBENT

Irrational Numbers

By Prof. Ivan Niven. (Carus Mathematical Monograph, No. 11.) Pp. xii+164. (Buffalo, N.Y.: Mathematical Association of America, 1956. Distributed by John Wiley and Sons, Inc., New York; and Chapman and Hall, Ltd., London.) 24*s*. net.

PROF. NIVEN'S book carries on the high traditions of the Carus Monographs by providing a concise and illuminating account of an important topic. His title is slightly misleading, for he is concerned not with the definition and construction of irrational numbers but with their main properties, particularly those connected with number theory and Diophantine approximation. Pre-requisite knowledge is elementary, except in the later chapters, where some acquaintance with algebraic numbers and with function theory is expected. Typical results proved are: if r is rational, $\cos r$ is irrational; almost all real numbers are normal to every base, a normal number being one in which all blocks of digits of the same length occur with equal frequency; the theorem of Lindemann, which includes the transcendence of e and π as special cases; the Gelfond–Schneider theorem (1934), that if a and b are algebraic numbers, where a is neither zero nor unity and b is irrational, then a^b is transcendental. Since almost all real numbers are transcendental, this goes some way to removing the paradox that most of us, if asked for an example of a transcendental number, would find it hard to go beyond e or π; perhaps the stimulus of Niven's book will encourage someone to settle the character of Euler's constant.

Atlas Coeli 1950.0

By Antonin Bečvář. Pp. 111+16. (Praha: Nakladatelství Československé Akademie Věd, 1956.) 60 Kcs.

THIS convenient and very useful series of star charts, constructed under the supervision of the Director of the Rocky Lake (Skelnate Pleso) Observatory, was originally published in Prague in 1948. A reprinted edition, from duplicate negatives, was published in 1949 by the Sky Publishing Company, Cambridge, Massachusetts. The most obvious change in this new Prague edition of 1956 is the use of colour to mark the galactic and globular clusters, the planetary and extragalactic nebulæ and the bright and dark galactic clouds. The usefulness of the Atlas has also been increased by indicating the positions of radio-stars listed by Ryle, Smith and Elsmore (*Mon. Not. Roy. Astro. Soc.*, **119**, 110; 1950) and B. Y. Mills (*Austral. J. Sci. Res.*, **5**, 266; 1952). The manner in which the brightness, duplicity and variability of the stars brighter than visual magnitude 7·75 is indicated is the same as that in the previous editions, but the new charts contain not only the Bayer letters but also the Flamsteed numbers of the stars in each constellation. The sixteen $16\frac{1}{2}$ in. × 23 in. charts are bound in attractive, stiff covers and a plastic templet is supplied to facilitate accurate determination of the co-ordinates.