

In Vol. 2, not only has the text been enlarged and the presentation modernized, but also every detail has been thoroughly revised in the light of the great amount of research into the mineralogical and crystallographic sciences carried out since the last edition appeared. This is a book which needs no recommendation to mineralogists, and is likely to remain a standard work of reference for many years.

Dana's smaller "Manual of Mineralogy", intended for students, amateur collectors and mining geologists, has had an almost equally long and distinguished career, the first edition having appeared in 1848. The main changes in the latest edition are the inclusion of some introductory matter of a general character and the addition of a separate section on crystal chemistry.

FOOD SUPPLY AND CONSUMPTION IN GREAT BRITAIN

Britain's Food Supplies

By Dr. K. G. Fenelon. Pp. ix+212. (London: Methuen and Co., Ltd., 1952.) 15s. net.

ON three counts at least this is a useful and timely book. Since he was, for a while, director of statistics and intelligence at the Ministry of Food, Dr. K. G. Fenelon is well fitted to select the contents of the twenty-seven pages of tables, with which it closes; they are conveniently arranged for reference. The story of British war-time and post-war food problems, which consumes about half his space, is as concise and readable a description as one could find; it is the kind of thing that should be compulsory reading for all students of dietetics and catering. But flowing through the book (I am not sure how far Dr. Fenelon is aware of it) runs a strain of dramatic irony, as Britain's food position is traced from its eighteenth-century days of virtual self-sufficiency to the chronic crisis in which it is now involved.

Carefully studied with this in view, the work is a salutary one. The text is announced in the opening sentences: "Most countries produce the bulk of their own food. Only a very few import more than a third of their total food supply and among these Britain is outstanding as by far the largest buyer, taking before the Second World War no less than 40 per cent of the world's total trade in food and animal feeding stuffs". On the last page the narrative concludes with a quotation from Adam Smith; if Britain, says Smith, cannot achieve an all-round increase in productivity, then she will have to "endeavour to accommodate her future views and designs to the real mediocrity of her circumstances".

The interval between these sentences is filled with illustrative facts and figures. For more than fifty pages Dr. Fenelon reveals the slowly increasing dependence of Britain upon world food markets; incidentally, he shows the corresponding dependence of world food markets upon the British consumer. Thus, for example, "Britain was [before the Second World War] far and away the largest world buyer of meat and bacon, taking something like three-quarters of the world's export trade of some 2 million tons annually" (p. 50); or again, "Britain imported about four-fifths of the world's exports of butter and about half of those of cheese and eggs" (p. 51). But later comes the irony of shrinking supplies, and the gradual diversion of products. What of Australia? "Before the war, 70 per cent of the wheat crop was exported,

whereas in 1947-48 only 43 per cent went abroad. Australia's contribution to world food supplies will be a considerable factor during the next decade or so, but beyond that period it appears doubtful if there will be any large exportable surplus. During the last twenty years population has risen by over 2½ millions. . . ." (p. 142). And South Africa? "Meat was exported before the war from the Union and Southern Rhodesia, but Union meat exports have now ceased, and those from Rhodesia are likely to disappear before long. The chief reason is increased consumption per person and this is also the case with sugar and wheat. The Union now needs to import 40 per cent of its wheat and flour requirements . . ." (p. 144).

There are brief but useful chapters on the various international schemes and agencies for controlling or raising food production; and these, together with the survey of world food supplies and consumption-levels, serve to set the British position in its global context. The bibliography and the index are satisfactory.

F. LE GROS CLARK

OUTLINE OF RADIO ASTRONOMY

Radio Astronomy

By Prof. Bernard Lovell and Dr. J. A. Clegg. (Frontiers of Science Series.) Pp. 238+8 plates. (London: Chapman and Hall, Ltd., 1952.) 16s. net.

MAJOR advances in science often come about when a technique developed for one type of investigation is applied to another. Radio astronomy is an excellent example of this. During the past seven years the use of radio methods has revealed the presence of hitherto unsuspected meteor streams and has enabled the velocities of meteors to be measured; it has added considerably to our knowledge of the solar corona both under quiet and disturbed conditions; and it has revealed the existence of numerous 'radio stars' which emit strongly in the radio-frequency portion of the spectrum.

"Radio Astronomy", by A. C. B. Lovell and J. A. Clegg, gives an admirable and concise account of this new work. The book is in the series 'Frontiers of Science' edited by Prof. Lovell and admirably fulfils what is stated to be the aim of that series: "the filling of a gap in Scientific publications between the very elementary expositions and the specialist text books". By a remarkable feat of compression the authors have succeeded in presenting, in successive thirds of this small book: the essential ideas of positional astronomy and radar techniques; a most readable and instructive account of what has been achieved in the study of meteors by radio methods; and a summarizing account of the results achieved in the study of radio waves emitted by the sun and other bodies outside the earth. Anyone with a knowledge of physics to the standard of 'university entrance' will find the book most instructive and readable, and it will be especially useful to those working in other branches of physics and to anyone starting research in radio astronomy.

In a book on radio astronomy it is perhaps a little surprising to find so large a proportion devoted to the radio detection of meteors. This part, which deals with a field of knowledge in which the authors are themselves leaders, is most illuminating and stimulating, and is the best part of the book. The part on radio emission from extra-terrestrial bodies