

WITTERUNG UND KLIMA IN MITTELEUROPA. HERMANN FLOHN. Forschungen zur Deutschen Landeskunde, Bd. 78. Stuttgart, S. Hirzel Verlag, 1954. 214 pages, 4 text-figures, 27 folding diagrams, 2 maps. D.M. 24.00.

GERMAN investigation of the climatology of Central Europe has long been justly celebrated. This new volume in a well-known series forms the second edition of a work which first appeared during the war, and was thus not easily available elsewhere. Coming as it does from the pen of one of the best known German meteorologists, it will therefore provide for many an indispensable up-to-date summary of a vast amount of vigorous research; it is moreover an exposition of the newer "dynamical" attitude in climatology, although paying proper attention to the place of the older assemblages of averages. Over many years German meteorologists have been much concerned with the problems of forecasting, or at least foreshadowing, an expectation of weather beyond two or three days; here the reader will find a compact and very thorough introduction to the doctrine of "broad-weather-situations" (*Grosswetterlagen*) and their development through the year, and to current inquiry into the factors governing the variations in the character of the seasons in Central Europe. The text is closely written and characteristically sound; references to the great German workers of the past abound; agreeable attention is paid, too, to the value of "folk-memory" expressed in weather lore. In a brief notice it is impossible to comment on the many enlivening features of an attractively-produced book whose arguments are illustrated with the aid of twenty-seven folding diagrams covering numerous aspects of Central European weather. This is not primarily a work for the pure glaciologist or glacier physicist; but those who know the Alps will find much to interest them in the summary of recent researches on foehn which, since Alemannic times, has indeed been an appropriate concern in those parts. The continued utility of the long-established mountain observatories (Zugspitze, Brocken, Schneekoppe) will also be noted by many who will recall that 1954 is the jubilee of the closing of the Ben Nevis Observatory.

GORDON MANLEY

SNOW CRYSTALS. UKICHIRO NAKAYA. Harvard University Press, 1954, 510 pages, 514 text-figures, 188 plates. \$10.00.

IN this book Professor Nakaya describes the researches on natural and artificial snow crystals carried out by himself and his colleagues during the last two decades. The material has, for the most part, been taken from papers already published, but the main feature of the book (and presumably the main reason for its publication) is the series of 1550 beautiful photographs of snow crystals. This collection is undoubtedly the finest in existence; the photographs have not been retouched or specially selected for perfect crystal symmetry, so that they are much more representative of natural crystals than, say, the famous collection of Bentley and Humphreys. Moreover, most of the photographs have been taken by oblique illumination allowing both surface and internal structure to be seen.

The first part of the book deals with observations on natural crystals, the physical properties of snow and the classification and frequency of occurrence of the various crystal forms. The second part is largely concerned with the author's experiments on artificial snow in which crystals have been grown in the laboratory under controlled conditions of temperature and supersaturation.

Most of the material is purely descriptive—there are no mathematics and few numbers. It is not for the crystal physicist seeking information on the structure and growth mechanism of ice crystals; it is a work of art rather than a scientific treatise. For this reason it should have a wide appeal beyond the confines of meteorology and crystal physics.

It is given to few scientists to amass such a beautiful collection of photographs, much less to have them printed on such a lavish scale. This is a handsome publication and a fitting memorial to Professor Nakaya's lifetime of devoted study in this field. The publishers are to be congratulated on undertaking what must have been a very costly publication, and in keeping the price so reasonable.

B. J. MASON