

shapes and the delicate tracery of the more intricate forms, has long been recognized and recorded by the scientist, the artist, and the industrial designer. The modes of formation and growth of the snow crystal have exercised some of the greatest scientific minds. I have been studying Kepler's absorbing essay on "The six-cornered snowflake" which has just been translated into English for the first time. Writing this in 1611, as a Christmas present for his Patron, Kepler puts forward six alternative theories to explain the hexagonal symmetry of the snow crystal, only to reject them all and leave the problem to future generations. It is still with us! For, although much has been learned in recent years about the factors that control the shape and development of the snow crystal, some important details still elude us. But if, at times, we feel a little discouraged, we have only to look at some of the many beautiful photographs of our subject to receive inspiration and encouragement. The most outstanding collection of micro-photographs from the artistic point of view, is undoubtedly that built up over 50 years by W. A. Bentley. Taken in Vermont, in the early days of photography, out of doors, in sub-freezing temperatures, these pictures have never been surpassed. In 1931, the American Meteorological Society had the happy idea of gathering together a permanent collection of Bentley's work. Accompanied by a brief text, written by W. J. Humphreys, they were published by McGraw-Hill in one of the most handsome of scientific books ever printed. It contained more than 2,000 beautiful pictures of snow crystals, no two being exactly alike.

In recent years, this classic work has become virtually unobtainable, and it is therefore with great pleasure that I welcome this excellent reprint by the Dover Press. It is an exact, unabridged copy of the original, printed on high-quality paper in a glossy paper cover at a remarkably low price. The publishers deserve much credit for making this beautiful book available to a wide audience.

B. J. MASON

W. D. KINGERY, *ed.* *Ice and snow; properties, processes, and applications: proceedings of a conference held at the Massachusetts Institute of Technology, February 12-16, 1962.* Cambridge, Mass., The M.I.T. Press, 1963. xv, 684 p., illus. \$16.

A GLANCE at the spine of the dust-cover or the binding of this book suggests that it is a work on snow and ice written by W. D. Kingery. This is not the case; he is the editor of a collection of 46 papers by workers of international repute, presented by invitation to a conference originally entitled "Engineering Glaciology" and sponsored jointly by the U.S. Air Force Cambridge Research Laboratories and the U.S. Naval Civil Engineering Laboratory.

The papers are grouped under six main headings: ice properties, glacier flow, solidification phenomena and sea ice, bearing capacity of sea ice, snow properties, and ablation. Within each heading there are papers of high quality on a wide variety of topics—even wider than the headings suggest. Many of the papers have a strong engineering or utilitarian flavour (for example there is one on the construction of sea ice platforms and another on ice reinforcement), but there are also several on basic physics, such as the Eshelby-Schoeck viscous dislocation damping mechanism applied to the steady-state creep of ice, and studies of ice etching and dislocation etch pits. As a whole the volume is probably outstanding for the number of contributions on sea ice. Details of some of the papers are given in "Glaciological literature" in this *Journal* (Vol. 5, No. 37, 1964).

The book is produced by a photo-litho process; the general layout, which is consistent and clear, and the good quality of the diagrams and photographs, are a credit to the editor and the publisher, but at some cost to the purchaser. It will annoy some authors to find, and many busy readers to learn, that the abstracts have been deleted from the texts. None of the conference discussions are included.

The book will find a useful place in the library of any snow and ice specialist, or of anyone concerned with engineering operations in that field.

W. H. WARD