ICE CORE DRILLING. EDITED BY JOHN F. SPLETTSTOESSER. *Lincoln, Nebraska: University of Nebraska Press, 1976. 11 x 8½ inches, soft cover, 200 pages, illustrated. $7.95.*

There are, of course, many good reasons for wanting to obtain ice cores from glaciers, but with the recent upsurge of interest in climatic change studies, and the discovery that deep ice cores can yield information about ancient climatic changes, this publication is indeed a timely one. It essentially contains papers presented at a symposium on ice core drilling held in Lincoln, Nebraska on 28-30 August, 1974. Only two of the sixteen papers and one abstract have been published elsewhere, and another paper (not presented at the symposium) was included because of its direct relevance to the subject.

A wide variety of drill types (designed for different ice depths and temperatures) are described in the volume, so that the practising field glaciologist is able to obtain a good review of the state of the art, at least up to 1974. The order of the papers (alphabetical by first author) is rather distracting. For instance, a centrally located paper by M. Mellor and P. V. Sellman, *General Considerations for Drill System Design*, should logically be the first paper, and an adjacent paper by C. C. Langway, Jr., *The Polar Ice Core Storage Facility at USA CRREL*, last, with the remainder of the technical papers grouped in some order between them. However, these cosmetic effects may be overlooked, as the volume was printed "in the interests of timeliness and economy..." and the alphabetical ordering of articles may just be one reflection of these facts.

Three of the articles do not actually deal with coring. K. Philberth's paper, *The Thermal Probe Deep Drilling Method by EGIG in 1968 at Station Jarl Joset, Central Greenland*, describes the very ingenious, but now well-known, remote probe which is, itself, non-retrievable. The abstract by A. Higashi and H. Shoji, *Mechanical Properties of Antarctic Deep Core Ice*, contains information which might be useful for future deep coring operations, as well as theoretical studies. The paper by W. D. Harrison and B. Kamb, *Drilling to Observe Subglacial Conditions and Sliding Motion*, provides a discussion of current methods for penetrating debris-laden ice to the bed of the glacier in order to observe or monitor the processes taking place there. Each of these papers is interesting in its own right and may have peripheral relevance to some future ice core drilling.

The international nature of the participation in ice core drilling operations is shown by the authorship of the above, and by the remaining papers. I. G. Bird expounds on *Thermal Ice Drilling: Australian Developments and Experience* in the Antarctic; F. Gillet, D. Donnou and G. Ricou of France describe *A New Electrothermal Drill for Coring in Ice*; B. Lyle Hansen of the United States gives a prospectus on *Deep Core Drilling in the East Antarctic Ice Sheet;* Roger leB. Hooke describes two versions of the *University of Minnesota Ice Drill*; S. J. Johnsen of Denmark describes shallow snow sampling devices developed for stable isotope studies in *Near-surface Snow Sampling Devices*; Ye. S. Korotkevich and B. B. Kudryashov of the U.S.S.R., expound on *Ice Sheet Drilling by Soviet Antarctic Expeditions*, using electro-thermal and electro-mechanical core drills; W. S. B. Paterson of Canada describes in *Thermal Core Drilling in Ice Caps in Arctic Canada* the programme carried out by the Polar Continental Shelf Project on Devon Island; J. H. Rand of the United States Army Cold Regions Research and Engineering Laboratory (CRREL) gives some details of the new *USA CRREL Shallow* (100-metre electro-mechanical core) *Drill;* Heinrich Rufli, Bernhard Stauffer and Hans Oeschger of Switzerland, in their paper *Lightweight 50-Meter Core Drill for Firn and Ice*, present details of a similar drill, which now (in 1976) has been modified and tested to handle holes up to 100 metres in depth. This latter type of drill is in great demand and at least one other country (Denmark) has built and operated a similar device. Yusio Suzuki of Japan gives details of *Deep Core Drilling by Japanese Antarctic Expeditions* using thermal and electro drills (the latter is the same as the electro-mechanical drill). Philip L. Hodge of the United States expounds on *Solid Nose and Coring Thermal Drills for Temperate Ice*, and Pall Theodorsson covers *Thermal and Mechanical Drilling in Temperate Ice in Icelandic Glaciers.* In most cases, adequate details of the drill design are presented in very generalized drawings.

The volume is attractively presented in large format, enabling handy insertion of supporting material, and there is sufficient space on most pages on which to make additional notes updating articles, or for providing dimensions on drawings that are missing.

It is a very welcome addition to the field glaciologist's bookshelf and, because of rapid developments in ice drill technology, it is likely to be followed closely by others of its kind.

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