

as activity increases and aircraft reports (hitherto a rarity here) start to displace the others, as they have in the Arctic. Before many years, it is possible that the greater part of sea ice observation will be by satellite, and the volume of data will further greatly increase. None of this, of course, lessens the value of the information about the past presented here—quite the contrary. For the rest of the Southern Ocean, we rely still on the U.S. Navy Hydrographic Office's atlas (1957) (reviewed in *Journal of Glaciology*, Vol. 3, No. 27, 1960, p. 659-60)—an excellent compilation, but with the disadvantages inherent in an isopleth method of presentation. As more observations are recorded, the sector diagram method could be extended to cover other parts of the Southern Ocean.

The reader will by now be aware that critical comment on Heap's method is not to be expected from this reviewer, who must admit to having played some part in its formulation, and who will therefore not go beyond saying that he can think of no better method, and is delighted to see how effectively it has been applied to this area. The detailed working out, which includes introduction of a number of improvements and necessary modifications, has been carried out with extraordinary application, accuracy and patience, and it may surprise some to know that it is entirely the work of one man, unaided by any team of assistants. The Admiralty Hydrographic Department have made an excellent job of the printing. Criticism of their contribution may be restricted to two small points: absence of any pagination can be irritating, and binding in limp covers makes a work of this bulk (certainly the weightiest work on sea ice) difficult to handle. The price, which is fixed by the Stationery Office rather than the Admiralty, is excessively high; not that the work is not worth it, but it may deter many, and not only individuals, from finding out how good the work is.

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REFERENCES

- Swithinbank, C. W. M. 1960. *Ice atlas of Arctic Canada*. Ottawa, Defence Research Board.
 U.S. Navy. Hydrographic Office. 1957. *Oceanographic atlas of the polar seas. Part 1. Antarctic*. Washington, D.C., Hydrographic Office. (H.O. Pub. No. 705.)

Spitsbergen: southern Ny Friesland. 1:125,000. [London], Royal Geographical Society, 1962. 10s. 6d.

THIS map has been compiled following surveys during a series of Cambridge Spitsbergen Expeditions between the years 1949 and 1958 under the direction of W. B. Harland and D. Masson-Smith. It is the first medium-scale map of much of the heart of Vestspitsbergen, incorporating in part details from a number of earlier charts and maps. The visual impression of the map is very pleasing. While clearly portraying the major features of the topography it also includes a wealth of detail; nunataks, ice margins, moraines, alluvial flats, mud-flats and huts are easily identifiable. Trigonometrical stations and the relative reliability of mapped features are indicated. Included on the map margin are a location map, triangulation diagram and a list of 181 new place-names used on the map. A minor criticism concerns the key, from which one or two symbols seem to have been omitted.

A paper by Harland and Masson-Smith (1962) describes in detail how the map was surveyed in the field and later compiled in Cambridge. It is fully documented and includes lists of previously published maps which overlap the area.

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REFERENCE

- Harland, W. B., and Masson-Smith, D. 1962. Cambridge survey of central Vestspitsbergen. *Geographical Journal*, Vol. 128, Pt. 1, p. 58-70.

W. A. BENTLEY and W. J. HUMPHREYS. *Snow crystals*. New York, Dover Publications, Inc.; London, Constable and Co., 1962. 266 p., illus. \$2.95, 24s.

THE exquisite beauty of snow crystals, seen in the classical elegance of the simple geometrical