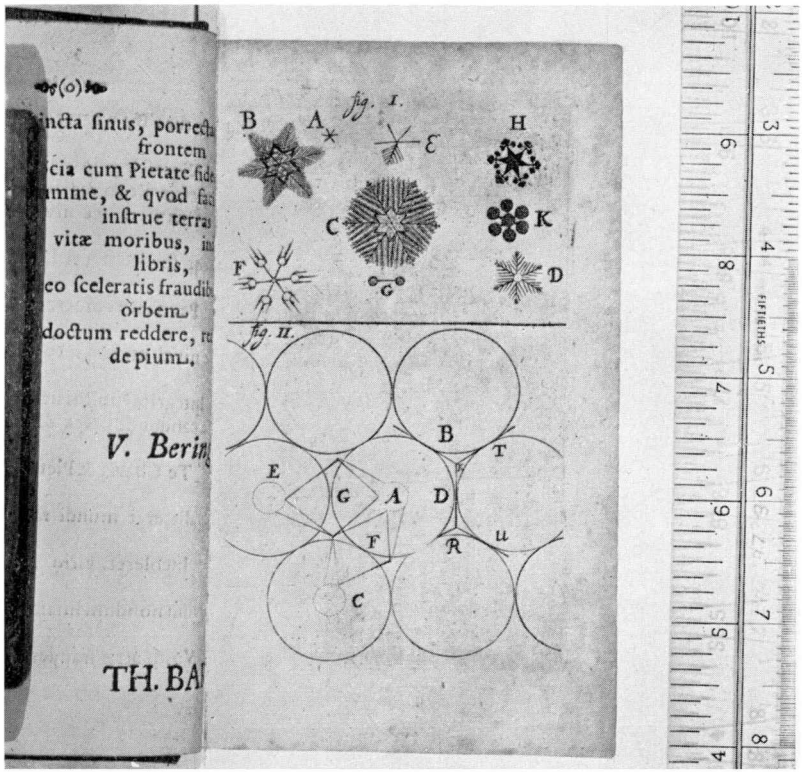
EARLY DISCOVERERS

VII

In a book written by his brother Thomas and devoted mainly to the medical purposes for which snow could be usefully employed, Erasmus Bartholinus added an Appendix on the form of snow crystals which he delineated with remarkable observation of detail in the illustration, Fig. I, shown below. The appendix is entitled *De Figura nivis Dissertatio.* In the section *Demonstratio figurae hexagonae favorum* this reference to honeycombs (favorum) is clearly carried further in the section *Nix figuram rotundam accipit primo*, which is illustrated by his Fig. II.



The main point of interest of this work is its date, 1661. Robert Boyle's *Essay on Gems*, 1672, has been claimed as "the first scientific contribution in the history of crystallography." However, Robert Hooke's *Micrographia*, 1665 (*Journal of Glaciology*, Vol. 1, No. 10, 1951, p. 576), and the work cited above, both anticipate Boyle if they are accepted as scientific contributions to the subject.

Messrs. William H. Robinson Ltd. of Pall Mall, through whose courtesy we have been allowed to inspect this book, write in their catalogue " . . . the present tract is certainly scientific and is eleven years earlier than Boyle's." It goes on to say: "The author shows that snow assumes certain definite shapes . . . and speculates on the causes of the phenomenon. He quotes Descartes, Kepler and others. A few years later he became famous as the discoverer of the total refraction of iceland spar."

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Fig. 3. First day of floating ice, 15 October 1949. Circular ice pans with marginal ridges of ice fragments near observation point, 0·8 km. west of Beaver. See text p. 488–95

Fig. 4. Yukon side channel near observation point, 24 October 1949. Overflow of ice by water rising through cracks is due to slight rise in river level

Fig. 5. Yukon side channel following rise in river level caused by jam of floating ice in main channel on 25 October 1949. Cf. with Figs. 4 and 6

Fig. 6. Side channel, 26 October 1949; drop in river level followed adjustment to flow under ice-cover in main channel. Grounded ice and debris stranded on beach by rise of 25 October

Fig. 7. Side channel of Yukon River at observation point 0·8 km. west of Beaver, 17 April 1950. Snow cover 30–50 cm. deep

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Fig. 8. Yukon side channel at observation point, 5 May 1950. Water collects along margins of ice sheet as river rises, lifting ice in mid-channel

Fig. 9. Side channel at observation point, 13 May 1950. Ice sheet is nearly separated from shore by open lead. Cf. with Figs. 7, 8, 10 and 11

Fig. 10. Yukon side channel at 14.00 hr., 14 May 1950. Large ice pans moving downriver about 4 hours after ice break-up

Fig. 11. Ice-choked side channel of Yukon River at observation point 17.00 hr., 14 May 1950. Channel is packed with smaller ice pans that had travelled farther and were more broken than those in Fig. 10

Fig. 12. Low concentration of ice pans near observation point, 16 May 1950. River was about 30 cm. lower than when it was choked with ice

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