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? WHY THE WEATHER ? Mailed May 29, 1931

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AN ICE AGE WEATHER CALENDAR

When the ice sheets that covered vast areas of the temperate zones in the last great Ice Age -- the one that is not yet over -- gradually retreated poleward, they left interesting records behind them. The streams fed by the melting glaciers carried sediment into adjacent lakes; coarse in summer and fine in winter. In the clay banks that were once the beds of these lakes deposits of the two seasons are of different colors and are therefore easily distinguished. A vertical section through the bank shows annual bands like the annual rings seen in cross sections of tree trunks. These bands are known to geologists as "varves."

There is a marked difference in the thickness of the varves formed in successive years, presumably corresponding to difference in temperature prevailing during the years in question and a consequent difference in the amount of ice melted. Thus the varves furnish a record of ancient weather fluctuations. They also provide a means of dating Ice Age events, climatic and otherwise.

Corresponding series of thick and thin varves are found in widely separated localities. By matching series from different places and noting the relative positions of their lowest layers, the location occupied by the border of the ice in different years can be determined. In central Sweden there is a place where varves continued to be formed by the annual melting of winter snows after the ice sheets retreated down to modern times. It has proved possible to connect the series found here with the older series found in other regions around the Baltic, so that for that part of the world we have plausible "B. C." dates for the movements of the ice and for the warm and cold spells of Ice Age weather. Parts of Scandinavia were still locked in ice as recently as 7,000 B. C.

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