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† WHY THE WEATHER †

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HOW POLLEN RECORDS CLIMATE

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In many parts of the temperate zone lakes left in the wake of the retreating glaciers in the declining stage of the last glacial period were gradually filled with accumulations of plant material and thus converted into bogs. In these bogs are found some interesting records of the climatic variations that have occurred in their vicinity during the past ten thousand years and more.

Most of the mucky substance below the surface of the bogs is decayed beyond recognition, but myriads of tiny pollen grains that were blown into the lakes at various times from surrounding vegetation are so well preserved that the species to which each belongs can be identified under the microscope.

With the aid of a special boring tool samples are taken from different depths in a bog. Examination of the pollen found in these specimens shows the types of vegetation that grew from age to age in the vicinity, and each type of vegetation implies the prevalence of a certain type of climate at the time of its growth. Predominance of the northern pines, for example, indicates a cool dry climate; spruce and fir point to a cool and humid one. Hardwoods grew when rainfall was abundant; grasses replaced trees when rain was scanty. The rate at which a bog formed can be roughly estimated, and thus approximate dates can be assigned to the periods when the different kinds of climate prevailed.

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