

GEOLOGY

Scientist Predicts Return Of Great Glaciers in 2000 Years

Evidence Points to Southward Movement of Deciduous Forests Which Marks Present Period as Interglacial

A RETURN of the great glaciers in 2,000 years or thereabouts is a reasonable expectation, according to Dr. O. Gunnar Erdtman of the University of Stockholm. Dr. Erdtman, who recently lectured at the University of Michigan en route from Alberta to Sweden, bases this statement on a comparison of the postglacial forest history of northern Europe with the forest histories of interglacial periods.

The course of forest history is traced by means of the microscopic fossil pollen deposited by wind in lakes and bogs, where it is preserved in sediment or peat. If the various layers of this material are removed in order and studied, the composition of the local forests at successive times can be ascertained. The kinds of tree pollen and their relative abundance furnish the clue.

An interglacial period is marked by the retreat northward of coniferous forests of fir, spruce and pine. This is accompanied by the development of a warm, generally dry climate and the advance of deciduous forests of oak, beech, etc., from the south. After a time these deciduous forests retreat southward, followed by the conifers, whose shift presages the return of ice.

Climate More Humid

The evidence so far secured by Dr. Erdtman in Scandinavia and the British Isles strongly suggests that a southward movement of the forests is under way. Certainly it is known to scientists in both Europe and America that the present climate is more humid, and probably cooler than was that of a few thousand years ago. It is also known that deciduous forests were more extensive in south-eastern Canada a few thousand years ago than they are today. On the basis of such facts it may not be unreasonable to regard the present period as properly interglacial rather than postglacial. Such a possibility is often mentioned by geologists on other grounds.

Dr. Erdtman has just completed several months as guest of the University of Alberta at Edmonton. During this

time he made extensive studies of the pollen being deposited today in the muskegs and lakes of the northern interior, to see how accurate a picture it presents of the existing forest. In this way it is hoped to learn how much dependence may be placed upon fossil pollen as an index to forests of the past. Dr. Erdtman has found the problem complicated by the fact that certain very abundant trees such as aspen and poplar have pollen which is not preserved. This is not likely to affect the general conclusions reached in Europe, however.

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ASTRONOMY

Exploding Prominence Photographed at Yerkes

By DR. E. B. FROST,

Director, Yerkes Observatory

THIS IS an unusual polar eruption photographed with the Rumford spectroheliograph of the Yerkes Observatory on August 6, by Dr. Edison Pettit of the Mount Wilson Observatory. The prominence had been observed repeatedly on August 3, 4 and 5, as it was passing around the western edge of the sun. On the morning of the sixth the prominence "blew up" and reached a height of 385,000 miles. At the stage shown in the picture the height was 290,000 miles. This picture was one of the 76 exposures made on that day.

Dr. Pettit is especially interested in the study of the sudden changes in the velocity of the outflow of calcium vapor, which occur as impulses without acceleration of the gaseous mass. They were investigated by him in the famous eruptive prominence of May 29, 1919.

During the period of the greatest activity of this eruptive prominence on August 6, exposures were made at intervals of about every three minutes. Meanwhile visual observations of the prominence were made by several observers with the spectrohelioscope, with the use of the scarlet line of hydrogen, known as Fraunhofer's C, in order to

note any marked differences between the appearance in calcium vapor (H line) and the hydrogen vapor.

During the summers of 1930 and 1931, Dr. Pettit spent a few weeks at the Yerkes Observatory in order to take advantage of the good conditions for solar work usually prevailing during this season.

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ENTOMOLOGY

Cockroaches Want it Cool If Surrounding Air is Dry

AN APPARATUS that measures temperatures preferred by cockroaches shows that the drier they are the cooler they like to be. In moist air they are content to be a little warmer.

Cockroaches lose about nine per cent. of their body weight a day, when they are in dry air at 86 degrees Fahrenheit. In four days they die. D. L. Gunn, zoologist at the University of Birmingham, has made these experiments. A German scientist found that beetles react in a similar way.

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THIRD OF A MILLION

Such is the approximate number in miles of the height of the erupted solar prominence when this photograph was taken at the Yerkes Observatory on August 6. Seventy-six exposures were made that day.