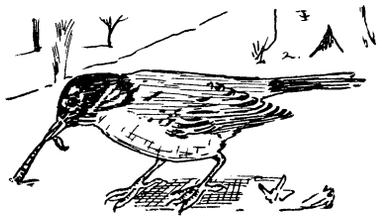
ECOLOGY

NATURE RAMBLINGS by Frank Thone



Solar Flight Dispatching

ROBINS are optimistically shouting their heads off, out in the orchard. Redwinged blackbirds came a while ago, and bluebirds and orioles will soon be here, with all the rest of the feathered choir. A fever of nest-building will be over the land, and a clamor of singing will make the early air tremble.

Bird migrations, bird songs, bird nest-building, are all governed by the same monarch of the skies that rules the coming of the spring flowers and the leafing-out of the trees: the sun. Through the increase in vegetation, and the consequent possible increase in numbers of insects, the sun supplies food for the birds and their insatiably hungry young ones. Through the same growth of leaves, better concealment of their nests is afforded. Even most of the hardy fowl that remain in our woods the year round, in cheerful defiance of winter, usually wait for spring before they undertake the serious business of mating and rearing families.

But the action of the sun upon the birds is much more direct than the furnishing of food and safety. Birds react directly to the increasing length of day in spring. Many experiments during recent years, with birds in cages given artificially controlled periods of light and darkness, indicate that the desire to migrate, the tendency to sing, and the urge toward mating, can be brought on at will by giving the birds increasingly long "days" even before the natural beginning of spring outdoors.

Prof. F. D. Rowan of the University of Alberta has found what appears to be a direct connection between mating and the migrating impulses in birds. He captured a number of young juncoes, hardy little winter birds that do not mind the snow. To some of them he gave artificially lengthened "days," leaving the others with the naturally short winter days of Canada. When released, the "short-day" birds continued to hang about the laboratory, showing no desire to migrate. The "long-day" birds went away, presumably stimulated into precocious migration. And when comparative laboratory studies were made on sample birds from the two classes, it was found that the sex glands of the "long-day" birds were enlarged and active, while those of the "short-day" birds were still in the smaller, quiescent winter condition.

Science News Letter, April 15, 1933

GEOLOGY

Polar Regions May Warm In Recovery From Last Ice Age

EVEN THOSE portions of the earth not covered by ice during glacial periods are indirectly influenced by the ice sheet. One of the rare instances where these influences could be detected was described by Prof. Wm. Morris Davis, visiting professor of geology from Harvard University in an address in Pasadena, Calif.

The unusual locality was the Santa Monica mountains which rise out of the ocean immediately west of Los Angeles. There the effects of three successive glacial periods are visible. During these the sea receded and the steep cliffs which it wore from the mountains were left to be softened and filled in by land deposits. Meanwhile the land was rising, so that after the glacier withdrew the sea could not reach its old shore-line and consequently made new sharp cliffs at a lower level. This process was repeated twice.

It is estimated that during a glacial period the sea level may sink thirty feet or more. Since the water removed from the sea forms ice on the continents and since these cover only about one-fifth of the earth's surface, the ice layer must attain an average thickness of several hundred feet, even if it is spread over half the earth. The present sheet over Greenland is thousands of feet thick.

It is well known about how fast the land is rising in California; so from the difference in level between successive cliffs estimates can be made of the elapsed time between glaciers and since the last one. It turns out that the last one was quite recent in comparison with the interval between glacial periods. Prof. Davis suggested that this may indicate that the earth will get warmer before it starts to cool again prior to the next glacier. The ice caps in the polar regions may disappear entirely and the poles may become useful and inhabited places.

Even though the average temperature of the earth need drop only about five degrees below the present average to bring on a glacial period, the consequent change in climate may be enormous. If the earth warms up enough to melt all glaciers now existing a remarkable change in climate all over the world would probably result. The advantage to science would be incalculable if we could take observations and make explorations in comfort in the polar regions.

Science News Letter, April 15, 1933

PHYSIOLOGY

Blood Gives No Clue To Tooth Decay in Pregnancy

THE AMOUNT of bone- and tooth-building calcium and phosphorus in the blood has no direct relation to the condition of the expectant mother's teeth during pregnancy, Drs. J. W. Mull and F. M. Kinney of the Maternity Hospital and School of Dentistry, Western Reserve University, have found. They were seeking an explanation of the tooth decay often associated with pregnancy, which gave rise to the old saying, "A tooth for every child."

The amount of calcium in the blood varies with the seasons, being lowest during the months January to May, the Cleveland investigators reported at the meeting at Cincinnati of the Federation of American Societies for Experimental Biology. The calcium content of the blood is also influenced by pregnancy. But the vast majority, 49 of 54 cases, showing dental decay during pregnancy had normal blood calcium.

Phosphorus, another important bone- and tooth-builder, showed no seasonal variations and very little change during pregnancy.

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