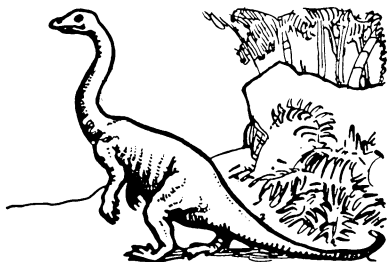


PHYSIOLOGY
NATURE RAMBLINGS
by Frank Thome



You Have Dinosaur's Bones

ISN'T it odd, how all of us are built of second-hand materials!

Man and all the lower animals are chemically very much alike in flesh and blood and bones. Even down to such lowly levels as oysters and worms this chemical kinship runs unbroken. Of devourer and devoured, even more intimately than of man and wife, can it be declared, "They two shall become one flesh."

Were it not for this transferability of materials from one organism to another, animal life could not exist. For although plants can make their own body-materials out of the raw inorganic stuffs of earth and water and air, animals must depend wholly and ultimately on plants for their building materials.

But let it not be thought that the eaters are only exploiters, with no usefulness at all in the world. If there were no animals, no fungi, no decay-bacteria, a few generations of higher plants would have all the life-necessary minerals locked up in their own bodies, and even this kind of life would have to

cease through sheer lack of anything to turn into more plant bodies. By breaking the built-up plant stuffs, the eating, destroying organisms eventually return everything to the dust and the air, so that new cycles of life can be always starting up.

Among the materials on which the closest natural economy has to be exercised are the phosphates, that form a considerable part of our bones and are necessary for the proper functioning of flesh and blood as well. More cultivated land suffers from lack of phosphates than from any other fertilizer deficiency, it is claimed.

Although the phosphate lack of farm land is met increasingly through the use of mineral phosphates from very ancient rock deposits, bone meal is still used to a considerable extent. And in nature the renewal of soil phosphates is taken care of entirely through the decay of bones and shells and other phosphate-containing animal and plant tissues.

It is highly probable that every phosphate molecule in the soil has been used over and over again, by long successions of animate life through the millions of years of geologic time. It is a fascinating speculation, to think of the procession of owners a given bit of phosphate in your fingertip-bone may have had: proterozoic ameba; paleozoic trilobite, fish, and amphibian; mesozoic saurian and primitive mammal; tertiary behemoths and pre-human primates; and most recently perhaps some of our own human forebears. You are the sum of all the ages: not merely dinosaur hash from the Jurassic, but also a nice Devonian kettle of fish!

Science News Letter, November 14, 1936

Shrimp may migrate as far as 200 miles, scientists have learned by tagging them.

RADIO
 November 17, 5:15 p.m., E.S.T.
A CENTURY OF INVENTION—
 Thomas Midgley, Jr., Chairman, Executive Committee, Centennial Celebration of the American Patent System.
 November 24, 5:15 p.m., E.S.T.
LIGNIN—ENIGMA OF THE FOREST
 —Carlile P. Winslow, Director of the U. S. Forest Products Laboratory.
 In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.

ENTOMOLOGY

New "Farthest South" For European Corn Borer

A NEW "farthest south" has been reached by the European corn borer during the 1936 season, when the destructive larvae appeared in fields of mainland Virginia, which has hitherto been exempt from their invasion.

Although the borer did not extend the western boundary of its territory beyond last year's lines in Michigan and Indiana, its numbers along this boundary increased markedly, and entomologists of the U. S. Department of Agriculture feel considerable concern. This insect thrives best and carries on its invasion most successfully during wet weather, they explain. That it has been able to hold its own territorially and increase in numbers during a season of extreme drought is indication that it is ready to push westward rapidly next year if the season is more nearly normal.

Science News Letter, November 14, 1936

PHYSICS

Simulated Lightning Studied in Glass Tubes

ELECTRICAL impulses of 124,000 volts are racing up and down 32-foot long glass tubes at the University of Virginia in studies which scientists believe reveal new knowledge of the nature of lightning. Prof. J. W. Beams and Drs. L. B. Snoddy and J. R. Dietrich reported to the meeting of the American Physical Society that the phenomenon they have been studying "is similar to that usually observed in the lightning flash."

The electrical potentials were timed as they passed along the glass tubes with varying pressures of air present in the tubes. Velocities equal to nine-tenths the velocity of light were observed. Highest value obtained was 430,000,000,000 centimeters per second, which is about 167,000 miles an hour.

Science News Letter, November 14, 1936

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