



All Fish Is Diatoms

THAT all flesh is grass, we are constantly being assured both by moralists who like to quote Scripture and by physiologists who want to keep us well reminded of the interdependence or animal and plant kingdoms.

And it is true enough, that the roast smoking on the table was originally grass, just as the bread we shall consume with it is made from the seeds of other grass. But come next Friday, and the grass-produced flesh is replaced by a *pièce de résistance* that is not made of grass. Fish harks back to an ultimate vegetable origin no less than flesh, but it is in debt to an entirely different class of plants.

The "pastures of the sea" are made up mainly of diatoms, which are one-celled plants that can be perceived by the naked eye when millions of them are concentrated together, making the water green and scummy-looking. In their normal distribution they cannot be seen at all without the aid of a compound microscope.

But they do exist in the ocean in uncountable billions, and there are no waters anywhere on the globe that are without them. There are hundreds of species, some of them of rare beauty. In most places they form the dominant vegetable part of the drifting life-complex of the sea, for convenience called "plankton" by ocean-studying scientists. Sometimes that dominance is upset temporarily by other one-celled plants or animals, but for the most part the diatoms rule.

And they are eaten in their uncountable billions by all manner of little sea animals: gobbled by flea-sized relatives of crab and lobster, snatched by sea worms, strained out of the water by oysters and clams. We in our turn eat the oysters and (*Turn to Page 175*)

PUBLIC HEALTH

# Poor Health Record For 1933 Indicated by Early Reports

THE GOOD HEALTH records for the United States and Canada maintained during the last few years will probably not be continued in 1933. Judging from the January death reports, the health outlook for the coming year is anything but promising, officials of the Metropolitan Life Insurance Company point out.

The January, 1933, death-rate of 10.8 per thousand is the highest recorded for the first month of any year since 1929, and with the exception of 1929 it is the highest for more than a decade.

Influenza and pneumonia were responsible for nearly one-fifth of all the deaths during January, 1933, the company's figures showed. In addition, deaths from cancer, diabetes, cerebral hemorrhage, heart disease and suicides increased sharply over the deaths from these causes a year ago.

The death-rate for diabetes reached a new high figure in January, 1933, which has never been even closely approached in any month of any preceding year. This is thought to be the result of the influenza epidemic. Diabetics who become victims of influenza are frequently without sufficient resistance to withstand both diseases, the report explained, and their deaths occur during the influenza outbreaks instead of later.

"A number of years have made excellent health records despite bad begin-

nings," the company's officials recalled in their report.

The year 1929, which started with a bad influenza outbreak was given as a conspicuous example.

"Nevertheless health conditions from now on will need to be exceptionally good to counterbalance the January setback and to establish a record for the year at or near the remarkably low mortality figure for 1932."

*Science News Letter, March 18, 1933*

A poultry disease known as range paralysis, the cause of which is unknown, is taking increasingly heavy toll in Ohio poultry flocks.

A stroke of lightning completely stripped the bark off a big willow oak tree at the Government agricultural farm near Washington, last summer.

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clams, so that in this case the cycle from diatom to man is very short.

But in most cases it takes a little longer. The tiny relatives of crab and lobster, and the other diatom-eating animals, are eaten by other and larger animals: small fish, squid, etc. These become the prey of still larger swimming traps. After three or four or half-a-dozen such reincarnations, the diatoms at last reach our tables, in the form of codfish or halibut or flounder or mackerel or tuna. But whatever the disguise, the origin is the same.

All fish is diatoms.

*Science News Letter, March 18, 1933*

**PALEOBOTANY**

**Trees Still Petrifying In Yellowstone Park**

**T**REE STUMPS now undergoing the process of petrification are an interesting sight in the Upper Geyser Basin, in Yellowstone National Park.

On the north side of Old Faithful there are at least six or eight stumps in which the wood-fibers have been found to contain a large amount of silica. Evidently this silica is being deposited at intervals from the geyser water, according to Park Naturalist C. Max Bauer. The petrification of the stumps is a very slow process.

The Yellowstone already has an interesting display of fossil forests located over extensive areas in the northern part of the park. These, however, are the result of successive outbreaks of volcanic activity in the past. What happened in these cases apparently was that a standing forest was engulfed in great clouds of volcanic dust until the trees were completely buried. Water seeped through this dust and into the buried trees, carrying with it silica from the volcanic ash. The woody structure of the trees was dissolved and the silica deposited in its place. The trees thus became fossilized.

Long afterwards, when the volcanic activity had quieted and sufficient soil had accumulated on top of the buried trees, another forest grew, only to meet the same fate. This happened again and again.

Today, at Specimen Ridge in the northeast portion of the park, trained observers can distinguish in some places a succession of these forests, twelve in number, one above the other.

*Science News Letter, March 18, 1933*

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