

BIOLOGY

NATURE RAMBLINGS

by Frank Thone



Unknown Neighbors

WE ARE very persistent in reading human perceptions and human reactions into all manner of non-human creatures. God, we say, made man in his own image; but man insists on seeing *his* own image in everything animate.

Thus, we use every day such terms as "insect enemies" and "insect allies." By the former we mean insects that harm us in person or property; by the latter, insects that in one way or another attack these "enemies."

Yet it is highly doubtful whether any of these small animals are consciously either trying to harm us or to help us. Most of them do not even know that we exist, for the vision of most insects is quite imperfect. And even of those that see us clearly (as clearly as an insect can see anything), it is practically certain that they have no means of understanding who we are or what we signify in their lives. Our odor means simply "food" to a mosquito; our sudden movement signifies "danger, get out!" to a fly.

Of course, the great majority of insects which we classify as enemies or allies never get anywhere near a human being. They are born and fly, breed and die, as unconscious of our important selves as a Hottentot is of the Sphinx. We may help along the insects we favor, like ladybird beetles in citrus groves, or bees in a beehive. But they never see the *deus ex machina* who moves them where food is plentiful, or protects them from cold in the winter. Our ministrations to them are as much a part of the course of nature, so far as they are concerned, as weather is part of the course of nature for us.

Similarly, man may move across a potato field with a spraying machine, or swoop over a forest or cotton planta-

tion in a low-flying airplane releasing a cloud of dusty death like a plague-bringing god of an old heathen pantheon. The potato beetles, boll weevils, budworms or other pest merely devour the arsenic or the fluorine, feel the fatal touch of the rotenone or the nicotine, and so die. Why they perish, who should desire their death, is a thing beyond their knowledge. Indeed, so far as we have any way of judging, they are not even capable of asking, or of wondering what is the matter.

They live, and we live; our lives and deaths inter-react continually; yet between their world and ours there is a great gulf fixed. As yet, we have hardly put a toe on the first plank of a bridge of understanding, to cross it.

Science News Letter, March 27, 1937

DENTISTRY

Geography Gives Clue To Prevention of Tooth Decay

DENTISTS seeking ways to prevent caries or tooth decay took a lesson in geography at the meeting of the International Association for Dental Research.

Latitude, hardness of drinking water and nearness to mining regions all seem to have an effect on tooth decay, Dr. Clarence A. Mills, professor of experimental medicine at the University of Cincinnati, told the dentists.

The amount of tooth decay in American school children increases steadily throughout the United States as the distance from the tropics increases, Dr. Mills said. The increase is roughly 15 more decayed teeth per 100 children for each added degree of latitude, "or well over 200 per cent from Gulf to Canadian border."

Dr. Mills explains this as being due to the decreased amount of ultraviolet light reaching inhabitants of the more northern latitudes. The only exception to the increase of tooth decay toward the north is found in the northern Plains section, where the sunlight is more plentiful than in other northern regions of the country. The part played by ultraviolet light in stimulating development of strong bones and teeth has already been shown, Dr. Mills pointed out.

Hard water is good for the teeth, even though it makes dishwashing, laundering and other household chores more difficult and presents a serious problem to factories. Dr. Mills found almost 30 per cent more caries among the children of cities using river and

lake water than among those using water from wells or springs, even though the mean latitude of the two groups was the same. The reason for this, he believes, is the degree of hardness of the water. His data show that caries diminishes as hardness increases. Animal studies have already shown that the calcium and magnesium supply in the drinking water and food affect bone and tooth formation and tooth decay.

A high caries rate is found in mining regions in Pennsylvania and on down the Ohio River. This may be accounted for by the millions of tons of sulfuric acid which seep each year from the mines into Pennsylvania streams and on down the Ohio. Besides corroding boilers, metal pipes and river craft, Dr. Mills believes this acid may lead to tooth decay in persons drinking the water. Sulfuric acid will liberate calcium from bones and teeth in large amounts, studies on lead poisoning treatment have shown. This point and a possible relation between amount of tooth decay and amount of oxidized sulfur from coal combustion in the air of smoky cities need to be investigated further, Dr. Mills suggested.

Exploring geographers know that primitive people usually have good teeth until they come in contact with civilization, and that one of the first articles of trade brought to such peoples is salt. Laboratory scientists know that when animal diets contain large amounts of salt, calcium and phosphorus, important bone constituents, are excreted from the body in larger amounts. Recalling these two facts, Dr. Mills made a rough survey of salt use and tooth decay. He found that children and adults who salt their food heavily have more decayed teeth. He is planning more extensive studies on this possible causative factor in tooth decay.

A dental survey among school children made by the U. S. Public Health Service formed the basis and starting point of Dr. Mills' investigations of the relation of geography to tooth decay.

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RADIO

March 30, 3:30 p.m., E.S.T.

CLOTHES AND THE CHILD—Miss Ruth O'Brien of the U. S. Bureau of Home Economics.

April 6, 5:15 p.m., E.S.T.

KNIGHTS IN ARMOR—Steven V. Grancsay of the Metropolitan Museum of Art.

In the Science Service series of radio discussions led by Watson Davis, Director, over the Columbia Broadcasting System.