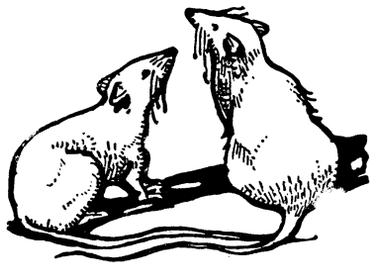
PHYSIOLOGY

NATURE RAMBLINGS by Frank Thone



Tellurium

SELENIUM, "moon-element," chemical relative of sulphur, has been convicted of serious harm to animals that have eaten plants grown on soil containing it, and at least the suspicion of causing like harm to human beings has been lodged against it.

Tellurium, another member of the same chemical cousinship, is known to occur in soils in some parts of the United States, so the question naturally arose, whether this element also had in it selenium-like potentialities of harm.

Report of comparative experiments on plants and animals with salts of selenium and tellurium is made by Alan L. Martin, of the botany department of Columbia University, in the current issue of the *American Journal of Botany*.

Mr. Martin grew series of plants in jars of water containing various concentrations of salts of both elements. Both proved injurious above certain threshold levels, but selenium caused far greater injury than tellurium at any given solution concentration. Sulphur, known to be able to inhibit the absorption of selenium by plants, seemed to have no such antagonism for tellurium. On the contrary, plants in tellurium solutions suffered more when sulphur was added.

The critical test came when plant food grown on soils to which 32 parts per million of tellurium and selenium, respectively, had been added were fed to rats. Food from the selenized soil sickened the rats very soon, and killed them within two weeks. Rats fed on food from the artificially tellurized soil, on the contrary, showed no particular ill effects. They did not grow quite so rapidly as "control" rats fed on a diet free from both selenium and tellurium, but their health remained apparently normal.

Science News Letter, May 22, 1937

PSYCHOLOGY

Fail to Recognize Voices After 5-Month Period

German Accent Does Not Help; Two Electric Circuits In Brain Described to Midwestern Psychology Meeting

THE chances are only 13 out of a hundred that a person would recognize an unfamiliar voice after an interval of five months, psychologists learned from a report of experiments conducted at Johns Hopkins University by Dr. Frances McGehee and presented to the Midwestern Psychological Association at Urbana, Ill.

Ability to identify voices positively, a controverted issue in many court cases and emphasized particularly by the evidence in the trial of Hauptmann for kidnapping the little Lindbergh baby, was tested by Dr. McGehee.

The persons tested, including a group of law students, listened to a voice behind a screen reading a selection of 56 words. Later they were required to pick out that voice from a group of five reading the same selection under the same circumstances. The time interval between the readings varied from one day to five months.

An unfamiliar voice was recognized by 83 per cent. of the listeners after two days. When two weeks had elapsed, memory for the voice decreased. After three months only 35 per cent. could pick it out; after five months only 13 per cent. could identify it correctly.

A foreign accent (German) did not aid the listeners in identifying the voice. In one of the experiments, a German student who had been in the United States only six months was used as the first speaker. After the time interval this voice was again heard with other voices, respectively Chinese, Greek, another German, and a Russian. The voice most frequently confused with the German voice was not the other German, but the Chinese.

The German accent was not always recognized as that; it was also called Japanese, Norwegian, Dutch, Jewish, Assyrian, Polish-Russian, Swedish, Russian with French influence, and Spanish.

"The reliability of court procedure in accepting testimony of positive identification of a defendant by his voice, in consideration of the length of time interval and the common fallibility of memory, would seem to be relatively low in the light of the present experiments," Dr. McGehee concluded.

Two Circuits in Brain

The brain has two more or less independent circuits of electrical activity. One deals with the rush of messages that flow from the senses to the brain and out again to the muscles. The other —undisturbed by this contact with the world of the senses—is the background which, with other parts of the nervous system, provides the stuff of consciousness itself.

This is the theory proposed by Drs. S. H. Bartley and Peter Heinbecker of the Washington University School of Medicine, St. Louis, as a result of their experiments with brain waves, those electrical impulses that can be led off direct from the brain.

Because it is impossible to isolate for study any single cell or nervous element in the live working brain, a new technique was devised by these investigators for observing their action indirectly.

Tiny needle electrodes, insulated except at the very tip, were placed in pairs at various depths of the brain's cortex. This outer shell of the brain, which contains a number of layers of cells and their tree-like connections, is of special