DENTISTRY

Fluorine Reduces Caries

The addition of fluorine to the water supply has resulted in reducing tooth decay. Yet little is known about the causes of decay or diseases of the gums.

➤ EXPERIMENTS in adding fluorine to the public water supply have already "shown a definite trend toward a beneficial effect" in reducing tooth decay, Dr. H. T. Dean, director of the government's National Institute of Dental Research, declared.

The Institute has been adding fluorine to the Grand Rapids, Mich., water system for the past five years and will continue to do so for five years more.

"One part per million of fluorine, when it occurs naturally in water, is associated with from 50% to 65% reduction in the prevalence of dental decay among the people who use that water," declared Dr. Dean.

The Grand Rapids experiment, he continued, is to find out whether the same results can be obtained by adding fluorine artificially to the public water supply.

Dr. Dean spoke as guest of Watson Davis, director of Science Service, on the nationwide Columbia network.

If the trend in Grand Rapids continues for another year or so, "we can feel pretty sure that we've found a practical and economical method for reducing—not entirely preventing but considerably reducing—dental decay in large population groups," Dr. Dean said.

The National Institute of Dental Research is a part of the U. S. Public Health Service and the Federal Security Agency.

Pointing out that our population between the ages of 35 and 60 will increase by 15 million between 1940 and 1980, Dr. Dean called for increased research on periodontal disease, the disease that attacks the gums. As serious as tooth decay, he said, it accounts for most of the teeth that people lose after they're 35 years old.

Very little is known about the causes of either tooth decay or disease of the gums, and very little money is being spent to find out about them.

"The trouble is," said Dr. Dean, "we're spending much less than a penny on dental research for every dollar we pay to the dentist. We're devoting, actually, about a million dollars a year to dental research in this country as compared with $900,000,000 for dental care."

In that research, he went on, "we're going to have to integrate our dental research workers very closely with workers in the biological and physical sciences. We can't divorce the mouth from the rest of the body, or from any of the factors of nature that affect the body."

Dr. Dean explained that in the Dental Institute, located at Bethesda, Md., half the research workers are dental officers of the Public Health Service, and the other half are scientists with Ph.D. degrees in the basic sciences.

Science News Letter, February 11, 1950

MEDICINE

ACTH Fights Blindness

➤ ACTH, the anti-arthritis hormone from the pituitary gland, is now entering the fight against blindness.

Cautiously, because the work is still in a very preliminary stage, two New York eye specialist physicians report trials of the drug in a few cases of iritis, choroiditis and uveitis, inflammatory conditions within the eye.

The effects in these eye disease cases parallel those in rheumatoid arthritis. The patients get better while under treatment. When the drug is stopped, the eye trouble comes back.

The results show the drug "deserves further investigation" in these eye conditions, the eye specialists, Drs. John M. McLean and Daniel M. Gordon, of New York Hospital-Cornell Medical Center, state in their report to the Association for Research in Ophthalmology.

The particular eye diseases for which they have tried ACTH are inflammatory conditions akin to the inflammatory conditions in rheumatic joints and in rheumatic fever. They reported on only six cases but are continuing their research with ACTH. They have not yet done any work with cortisone, the adrenal gland hormone which was the first of the two now famous anti-arthritis drugs.

Science News Letter, February 11, 1950

ENGINEERING

Radio Sleuth Detects Powerline Trouble

➤ AN automatic radio sleuth is now in use which tracks down trouble on high voltage power lines in seconds, the electrical engineers were told by Robert W. Hughes and Nelson Weintraub of Federal Telecommunication Laboratories. The system employs pulse time modulation radio relays and prints at a terminal station the time, and location within 600 feet, of high voltage faults that occur anywhere on the line.

The development of this fault-finding system was credited to T. W. Stringfield and R. F. Stevens of the Bonneville Power Administration. The actual equipment was designed and built by Federal Telecommunication Laboratories.

Science News Letter, February 11, 1950

Words in Science— SYMMETRIC-ASYMMETRIC

➤ WHEN the parts of a whole are balanced in respect to size, shape or position on opposite sides of a center, the object is said to be symmetrical.

One of the uses of the term in mathematics covers the arrangement of points so that a set of lines joining the points together is divided into equal parts by a line, a plane or a point.

In zoology, symmetry is the arrangement of the parts of animal bodies in relation to a central axis. Jellyfishes are an example of sea animals with radial symmetry. Some one-celled animals are asymmetrical, or not symmetrical. In pronouncing asymmetrical, the accent is on the first and third syllables.

Science News Letter, February 11, 1950