

## DENTISTRY

## Nation's Growing Sweet Tooth Menaces Teeth

► IF OUR national sweet tooth grows much bigger, we may not have any natural teeth left for enjoying sweets.

This dim outlook comes from the American Dental Association in Chicago. It is inspired by a report that the annual wholesale candy bill of the American people is about a billion dollars.

"Strangely enough, the nation's dental bill, last year, totaled much the same amount," comments the editor of the *Journal of the American Dental Association* (Dec.).

Last year retail candy sales are reported to have reached a record breaking consumption per capita of about \$10.72, or 64% more than the \$6.55 spent per capita for dental care during the same period. Maybe, says the dental editor, the difference between the annual candy expenditure and that for dental care accounts for the fact that "cavities occur in children's teeth six times as rapidly as they are repaired."

Science News Letter, December 13, 1952

## ENTOMOLOGY

## Foreign Leafhopper Gets North American Foothold

► AN UNDESIRABLE alien, the European leafhopper, has established itself in North America, Dr. Herbert H. Ross, entomologist of the Illinois Natural History Survey, Urbana, has discovered.

Dr. Ross found eight male and five female European leafhoppers in an insect collection from British Columbia. Although common in Europe, where it feeds on a variety of shrubs and trees, this leafhopper, *Erythroneura flammigera*, has never before been reported in North America.

A near relation, the North American leafhopper, spreads a deadly elm disease, phloem necrosis. Dr. Ross said he expects the newcomer may spread through much of Canada and northern United States.

Science News Letter, December 13, 1952

## INVENTION

## Radio-Set Altimeter Aids Plane Landings

► ACCURATE READINGS of an airplane's altitude over the ground level of an airport can be automatically set into the plane's altimeter through use of an invention now patented.

Most altitude indicators in planes work on the principle of the barometer and indicate height from sea level, not taking into account the rise of the ground underneath. However, if the height of the ground is accurately known, it can be—and often is—put into the altimeter by hand. The control tower tells the pilot the airport's altitude by radio.

However, it is pointed out, this allows for mistakes. The inventor, John H. Andresen, Jr., Port Washington, N. Y., has invented a method of automatically sending the atmospheric pressure at airport ground level directly to the barometric altimeter in the plane. The information is sent over a fixed FM frequency. Variations in the atmospheric pressure are sent by automatically varying the audio frequency being broadcast. A servometer in the altimeter picks up this information and translates it into an accurate reading for the pilot. The signal is automatically cut off as the pilot leaves the airport.

Mr. Andresen assigned his patent, number 2,618,976, to the Kollsman Instrument Corp., Elmhurst, N. Y.

Science News Letter, December 13, 1952

## PLANT PATHOLOGY

## Look for Key to Virus Puzzle in Tobacco Leaves

► WHY TOBACCO mosaic viruses act one way in a small, tender leaf and differently in a larger, older leaf is being investigated for clues concerning how viruses work by Drs. Morris Cohen, Albert Siegel and Samuel G. Wildman.

Their study has revealed that if a small, young tobacco leaf is inoculated with two strains of virus, the strains become competitors. In the ensuing "battle," one strain tends to propagate much more rapidly and to predominate throughout the plant.

In a mature tobacco leaf, something else happens. When the two strains are introduced into the large leaf, they coexist peacefully. Both propagate equally well.

Why this should be so may furnish much insight into the virus problem, the University of California at Los Angeles researchers say.

Science News Letter, December 13, 1952

## RADIOLOGY

## Double X-Rays Diagnose Asthma

► A NEW method of X-ray examination in bronchial asthma is announced by six Spanish physicians in the *Journal of the American Medical Association* (Nov. 29).

The method, briefly, consists of taking two X-ray pictures, one when the patient is taking as deep a breath as possible and the other when he has forced all the breath out of his lungs. By putting one picture on top of the other, the doctors can get a record of the expansion of the diaphragm, the ribs and the collar bones.

The "pump-like" and other kinds of breathing of asthma patients shows clearly and quickly, enabling the doctor to adapt treatment to the patient's particular condition.

Physicians reporting the new method are Drs. C. Jimenez Diaz, C. Albert, V. L. Barantes, F. Lahoz, L. Salgado and C. Lahoz, all of the University of Madrid, Spain.

Science News Letter, December 13, 1952

# IN SCIENCE

## PHYSICS

## Atomic Particles Born of Few Billion Electron Volts

► THE MYSTERY of the nature and origin of some of the fundamental particles of the universe, called mesons, will be pursued more hopefully as the result of discovery by a group of Naval Research Laboratory physicists in Washington that heavy mesons can originate in atomic collisions of relatively low energies.

The energies are low for those scientists who study cosmic rays in which the birth of these mesons is detected. Heavy mesons of 1,270 and 500 times the mass of the electron have been found in interactions of only a few billions of electron-volt energy. Heretofore, mesons have been associated with happenings in which many more "bev's," as the scientists call them, are involved.

This new research, reported by Drs. D. T. King, Nathan Seeman and Maurice M. Shapiro to the American Physical Society, raises the hope that the particles can be created in future atomic accelerators and studied more closely.

Such research is aimed at understanding the composition of the atomic nucleus, or heart, which contains the energy of the universe.

Science News Letter, December 13, 1952

## GERONTOLOGY

## Operations Are Safe For 80-Year Oldsters

► "THE ELDERLY patient, 80 years or over, need not be permitted to die because he is thought too old to withstand surgery," Dr. Sidney E. Ziffren of the State University of Iowa College of Medicine, Iowa City, declared at the meeting of the American Medical Association in Denver.

"A 10-year study at the State University of Iowa Hospitals in Iowa City proves that the oldster, when properly prepared and carefully managed, can withstand almost any surgical procedure. These operations add several years of active life," he said.

Life-span studies show that 80-year-olds have almost six years life expectancy, while those at 90 have more than three years, Dr. Ziffren pointed out.

Of 429 very old patients who underwent 477 operations during the 10-year period, only 65 died. Some of these deaths could not have been prevented even by operations at a younger age, Dr. Ziffren said.

The most common causes of death in the group studied were pneumonia, blood clot in the lung, heart failure and peritonitis, or inflammation of the membrane lining the abdominal wall.

Science News Letter, December 13, 1952

# E FIELDS

## BIOCHEMISTRY

### Pituitary Hormone Is Made Radioactive

► ONE OF the many hormones produced by the pituitary, the so-called master gland of the body, has now been tagged with a radioactive isotope chemical.

The isotope is radioactive sulfur. The hormone tagged with it is the one that stimulates the thyroid gland in the neck. Now that the hormone can be labeled and traced through the body, scientists hope to learn much more of how it acts.

First to succeed in thus labeling the thyrotropic hormone are Drs. Martin Sonenberg, William L. Money and Rulon W. Rawson of Sloan-Kettering Institute, Memorial Center, and Dr. Albert S. Keston of New York University-Bellevue Medical Center, New York.

Science News Letter, December 13, 1952

## METEOROLOGY

### Cold Christmas Is Forecast

► A COLD Christmas is predicted for most of the nation. "Below seasonal normals" is what the Extended Forecast Section of the Weather Bureau says most of the country may expect until the end of the year. Exceptions are the northern tier of states extending eastward from the Dakotas, and Florida.

These areas are predicted to have usual or slightly above usual temperatures.

The southern half of the nation can expect more rain and snow than usual in December. The snow line will probably extend from the Texas Panhandle to North Carolina. The northern half of the country will receive about normal amounts of rain and snow.

Science News Letter, December 13, 1952

## SURGERY

### Surgery Removes Hip Joint, Patients Walk

► THE ENTIRE hip joint, the major part of the pelvis and the entire tie arch of the pelvis can now be removed surgically. Four cases in which such massive defects were created to cure other conditions are reported by Dr. Paul R. Lipscomb of the Mayo Clinic, Rochester, Minn. They are the first four such operations on record.

In two cases, the operations were done for osteomyelitis which had been present for 15 and 11 years respectively. In both cases, the disease was cured and the patients were able to walk, run and jump normally, and to work, in one case as repair-

man for a city water department and in the other as a farmer.

The other two cases were operated on because of tumors. The tumors have not yet recurred 54 and 17 months, respectively, after the operation. Both these patients are able to walk, although one still uses crutches but with more and more weight on the gradually strengthening leg.

The patients who had the entire tie arch of the pelvis removed have not suffered any low back pain. From this experience Dr. Lipscomb says:

"The probabilities are that sacroiliac sprain or strain as a cause of low back pain is extremely rare and perhaps nonexistent."

Removing the major portion of the pelvis with its muscles and the entire hip joint may in some cases, Dr. Lipscomb says, be preferable to amputation of the entire leg from the abdomen and pelvis.

Science News Letter, December 13, 1952

## PHYSICS

### Mattress Measures Relaxation in Sleep

► TO MEASURE comfort and quality of sleep, science has now devised a standard "universal test mattress" that can detect and record the distribution of the weight of a contented sleeper.

As explained to the American Physical Society meeting in St. Louis, the new experimental mattress has many individual rubber bellows instead of springs. When each bellows is compressed, the increase in pressure is measured by a gauge which records the change in volume.

Norman L. Taylor and T. Smith Taylor of the U. S. Testing Company, Hoboken, N. J., in their experiments vary the softness and hardness of each section of the mattress to give the experimental sleeper maximum relaxation.

Science News Letter, December 13, 1952

## VITAL STATISTICS

### More Men TB Victims Now, Reversing Past

► A REVERSAL of sexes affected by tuberculosis has taken place. The white plague now is claiming more new victims among men than women, whereas in the past tuberculosis particularly affected women.

This finding is reported by Drs. Robert J. Anderson and Herbert I. Sauer of the U. S. Public Health Service.

Their study of TB cases reported in the United States in 1949-1951 also shows that tuberculosis is hitting the older age groups now, instead of the younger ages as formerly.

For 1951 there were approximately 118,500 newly reported cases of the disease, compared to 136,000 in 1947 and 1948. Although new cases dropped only 13% from 1947 to 1951, deaths from tuberculosis fell by about 35%.

Science News Letter, December 13, 1952

## VETERINARY MEDICINE

### Foot and Mouth Disease Stamped Out in Canada

► FOOT AND MOUTH disease that has killed Canadian cattle since February seems to have been stamped out.

The U. S. Department of Agriculture has announced that, barring new outbreaks, Canadian beef will be allowed entry into the United States after March 1, 1953.

Vigorous measures of isolation and slaughter of infected cattle kept the highly infectious disease from spreading through Canada and into the United States. A rigid quarantine against Canadian livestock protected U.S. cattle, although at one time an outbreak occurred only 50 miles from the border.

This highly fatal disease is endemic and always present in most of the world. The United States, Australia, New Zealand, Central America and the West Indies are the only large areas free from foot and mouth disease.

It is especially troublesome in Europe, where an estimated loss of \$600,000,000 in livestock has been caused by foot and mouth disease during the last 18 months.

An outbreak of foot and mouth disease in Mexico in 1946 caused a quarantine of Mexican beef to the United States that only ended this September, when the disease was officially declared eradicated. The United States spent over \$100,000,000 cooperatively with Mexico to stamp out the disease there.

Science News Letter, December 13, 1952

## MEDICINE

### Better Doctors Expected From School Experiments

► BETTER DOCTORS are expected from experiments in medical education now under way in a number of medical schools. The experiments are designed to find ways of getting a better balance between specialized and general medicine, and to train young doctors to understand their patients as well as to know the latest scientific methods of diagnosing and treating disease.

To aid in these studies, the Commonwealth Fund appropriated almost two million dollars in the last fiscal year. About \$400,000 was appropriated for medical research.

Grants planned to improve further the training of doctors are described in the annual report of the Fund. Among them is a new grant to the University of Tennessee to support a family general practice clinic, in which students already partly trained by specialists have an opportunity to work under the supervision of general physicians and under conditions like those prevailing in private practice in that state; and also a grant to a special clinic at the Peter Bent Brigham Hospital, Boston, to strengthen the psychiatric part of comprehensive care for women with gynecological difficulties.

Science News Letter, December 13, 1952