

portant materials. Two years ago Dr. Lavin made the first spectroscopic analysis ever done of an enzyme, pepsin.

In all, Dr. Lavin has investigated proteins both containing and deficient in aromatic amino acids and with varying concentrations of nucleic acid, problems which are virtually hopeless chemically. He has also examined the protein fraction of pneumococci, the causative agents of pneumonia.

Science News Letter, July 29, 1939

Predicts Sun Discoveries

IDENTIFICATION of three previously undetected molecules of matter, which can probably soon be found in the sun, was announced by Dr. H. G. Howell of University College, Southampton, England.

They are the oxides of iron, nickel and

cobalt, none of whose spectra has ever been reported heretofore.

If found in the sun, as Dr. Howell predicts, these will bring to 30 the number of molecules known to exist there and in all probability in all stars of a similar type. Several other molecular combinations thought most likely to be present have not yet been found, partly due to lack of laboratory data concerning them and partly because the properties of these molecules make detection exceptionally difficult.

The research was conducted with the spectrograph which analyzes the light given off by the molecules under examination. In investigating atoms, the strength of the spectral lines indicates their relative abundance but this phenomenon is not sufficiently trustworthy in the case of molecules, due to their peculiar properties.

Science News Letter, July 29, 1939

DENTISTRY

New Way of Using Toothbrush Introduced To Dentists

Scientist Says Back-and-Forth Brushing and Rotary Method Are Equally Harmful; Should Imitate Chewing

A NEW way of brushing teeth was introduced by Dr. T. Sidney Smith, of San Francisco, to the American Dental Association meeting in Milwaukee. Dr. Smith also stressed the importance of toothbrushing and of cooperation between dentist and patient in caring for the teeth.

"There is nothing more helpful in the daily care of the teeth and their investing tissues than the toothbrush when properly used," Dr. Smith declared. "At the same time, nothing has been so destructive of tooth structure by abrasion and has caused as much recession of investing tissues as stiff, ill-shaped brushes."

The child's way of brushing teeth horizontally back and forth and the rotary method are both harmful, according to Dr. Smith, because they cut grooves into the teeth in time. Slightly better, but not good enough, is the newer method of brushing away from the gums. This does no harm but neither does it do any good in Dr. Smith's opinion. He advises a method that follows the direction of the food in chewing.

"The main strokes of the bristles are guided upward over the upper teeth and

gums and downward over the lower; this is nature's way of cleansing and stimulating the tissues," Dr. Smith explained.

The brush he recommends is the plain old-fashioned one, of medium size, with small tufts of fine bristles arranged in four parallel rows and trimmed to an even length. Gentleness and time should be used, rather than force and speed, he indicated. He suggested that teeth, like dishes, should be cleaned after every use, but since this may not be practical, the bedtime cleansing is especially important because, he says, bacteria increase more rapidly in the mouth during sleep.

Science News Letter, July 29, 1939

Forecasting Life of Teeth

A MEASURING stick by which the longevity and future health of one's teeth can be forecast was proposed by Dr. Arthur L. Jensen, of the University of California.

Dr. Jensen's plan would allow dentists of the future, he believes, to answer the following questions: "What are your chances of outliving your teeth? Can your teeth last through life? Must you

go through life with tooth troubles? How long will your teeth last? What can be done to help you maintain a healthy mouth?"

The plan is based on individual measurement of the capacity of each tooth in the mouth and the tooth damage each person has sustained. From this is computed a "dental health capacity index" for the mouth as a whole. Dentists would pool information on many thousands of patients of the same age group who had the same kind of tooth troubles. In the course of years, a definite pattern of tooth history could be secured from which a person could know years in advance just what to expect.

Science News Letter, July 29, 1939

PHYSICS

New Device Traps Current in Lightning Bolts

ATOP the 42-story tower of the University of Pittsburgh's Cathedral of Learning is a spinning wheel that traps bolts of lightning, studies their electrical characteristics and then discharges them harmlessly through lightning arrestors.

The device spins at 3,400 revolutions a minute. In continuous operation since June 3, it turned over its 210,000,000th revolution July 15. In a normal lightning season of 200 days it will come close to a billion revolutions.

The device that willingly and purposely awaits the direct hits of lightning is called the fulchronograph. Designed



LIGHTNING TRAP

This device on the top of the 42-story tower of the University of Pittsburgh traps bolts of lightning and records their electrical characteristics.