

celeration of meteors which flash briefly in the area about 30 to 60 miles above the earth.

At heights of 70 miles above the earth the temperature is found to be 20 degrees Centigrade, ordinary room temperature.

The basic principle of Dr. Whipple's apparatus is to revolve a fan blade in front of a telescope-camera lens in such a way that if a meteor flashes down across the field of view, its fiery path is broken at measured intervals. This gives an indication of speed and deceleration. One such thermometer is located at Harvard Observatory in Cambridge, while the other is at Harvard's Oak Ridge station, 24 miles away.

*Science News Letter, September 30, 1939*

## METALLURGY

## Rustless Steel Effective At Very High Temperatures

**H**OT steel news from England: Rustless steels have been produced which maintain a reasonably protective film at temperatures in excess of 1,000 degrees Centigrade and at the same time have useful strength. This will be important to the chemical industry. Dr. W. H. Hatfield, director of the Brown-Firth Research Laboratories, Sheffield, reports this accomplished by modifying the chromium and nickel in steel compositions and also by adding other elements, such as tungsten, molybdenum, cobalt and titanium.

*Science News Letter, September 30, 1939*

There are more miles of highway in Michigan than in all of China.

## MEDICINE

# Doctors Cure One Ailment But Report New Menace

## Baby Is Saved From Influenzal Meningitis With Drug; Worker on False Teeth Develops Silico-Tuberculosis

**S**UCCESS in treating one ailment and the discovery of a new industrial health menace are reported to the American Medical Association.

A two-year-old baby girl suffering with influenzal meningitis recovered after treatment with sulfapyridine, widely hailed for its pneumonia-curing properties. Influenza itself has so far failed to yield to either this drug or related chemicals such as sulfanilamide.

"We knew of no published report of this type of meningitis in which treatment with sulfapyridine had been successful, but it seemed advisable to try it," Drs. Tom R. Hamilton and Frank C. Neff, of the University of Kansas Hospitals, state in their report.

Other types of meningitis have been successfully treated with sulfanilamide and there was no other specific remedy to try. The little girl, arriving at the hospital after a 100-mile ambulance trip from her home in Waverly, Kans., in a prostrated condition with high fever and other dangerous symptoms, was much better after four days of sulfapyridine treatment. After a week she was well enough to go home and recovered com-

pletely within 16 days after the start of her illness.

The new industrial menace, reported by Dr. Louis Siltzbach, of New York City, is the danger of silicosis, the lung disease that threatens workers in "dusty trades," attacking dental technicians who polish false teeth with pumice or the substitute known as "pummy."

A young Russian Jewish immigrant paid with his life for this knowledge which may save thousands of his fellows who polish with pumice or "pummy" from a similar fate. For 19 years, from the time he left school at the age of 16, he worked at polishing dentures in a dental laboratory. Because of the large

## HOW THEY GROW

*Even the deer hunter seldom witnesses the whole cycle of antler growth during the summer months. From W. N. Dirks, amateur naturalist of Oakland, Calif., come these pictures which show how rapidly the growth takes place. On April 15, pedicles arose on the frontal bone of the deer and the summits of these pedicles became filled with a network of blood vessels, and a bony secretion became deposited (left). The other two pictures were taken on May 5 and May 25.*





#### LATER STAGES

Late summer brings changes to the antlers. During the growth, the antler is covered with a soft, hairy skin, known as the velvet, through which run a number of blood vessels. Near the end of the antler's growth (right) a bony ring is deposited near the base which tends to cut off the blood supply. When the blood supply ceases, the deer loses or rubs off the velvet, exposing the antler, whose wrinkled, corrugated surface marks the grooves in which the blood vessels occurred. These pictures were taken on June 24, July 14, and August 25.

volume of work turned out by this laboratory, he was required to polish as many as 50 sets of false teeth in an eight-hour day. He worked in an alcove 30 feet from the nearest window, and there was no suction device or other means of drawing off the rising dust. His nose and throat were constantly irritated by it although he took "crude" precautions to protect himself, such as wrapping a wet towel over his nose and mouth or trying to wear a primitive rubber mask. He died of silico-tuberculosis.

Only one other report of danger of silicosis from working with pumice has appeared, Dr. Siltzbach found. This was a report of silicosis among pumice mill workers on the Lipari Islands, source of 90% of the pumice imported into the United States.

The New York State Department of Labor is planning to survey conditions in mechanical dentistry to find how widespread the danger of silicosis may be among workers in that industry. For the present, substitution of some harmless polishing material is recommended, together with use of exhaust hoods.

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#### CHEMISTRY—MEDICINE

## Difference in Cancer Cells Confirmed by Americans

### Discovery Originally Made at University of Utrecht Is Now Confirmed at Yale and Franklin Institute

DISCOVERY of an important chemical difference between cancer cells and normal ones, hailed at its first announcement in the typically cautious scientific "important if true" attitude, has just been confirmed by a member of the National Cancer Institute staff, Dr. Julius White. (See SNL, July 29.)

The original discovery, made by Prof. F. Kögl and Dr. H. Erxleben, of the University of Utrecht, was that one of the protein building blocks of cancer cells is slightly but significantly different from those in normal cells. These building blocks, known as amino acids, occur naturally in what might be called a left-handed form, because when a beam of polarized light is passed through them, they turn it to the left. In cancer cells, it was discovered, one of these building blocks, glutamic acid, occurs both as the natural left-handed acid and in an unnatural right-handed form that turns polarized light to the right.

The discovery may speed the fight against cancer by giving a possible chemical approach to better understanding and treatment of this malignant disease. Before its possibilities in this

direction could be explored, however, the original discovery had to be checked by independent groups of scientists to make sure there was no mistake about it.

Dr. White, working with Florence White, his wife, at Yale University, is the third American to report that he has confirmed the Kögl-Erxleben discovery. The Whites' report has just appeared (*Journal of Biological Chemistry*).

First confirmation of the discovery, so far as is known, was made by Dr. E. Schroeder, working at the Biochemical Research Foundation of the Franklin Institute.

Second confirmation, (*Science*, Sept. 15) the day before the Whites' report appeared, was made by Drs. L. Earle Arnow and Jeanette C. Opsahl at the University of Minnesota Medical School.

Failure to confirm the discovery, reported by Dr. A. C. Chibnall and associates in London, has been explained by Prof. Kögl as due to a difference in chemical methods.

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Magnesium, lighter than aluminum, is obtained from brine wells and sea water.