

SEISMOLOGY

Earthquake Shakes Pacific Coast of Mexico

THE MEXICAN coast 250 miles west southwest of Mexico City was rocked by an earthquake at 1:49 a. m., on June 29. "Very clear" and "fairly strong" was the description of the shock reported by seismological stations throughout North America.

The epicenter was located at 18 degrees north latitude and 103.3 degrees west longitude, according to calculations made by the U. S. Coast and Geodetic Survey from telegraphic data supplied by Science Service.

This would make the shock center just a few miles off the coast where the Mexican continental shelf drops rapidly off into the depths of the Pacific Ocean.

Seismological stations reporting to Science Service include: University of Michigan; private station of Mrs. M. M. Seeburger, Des Moines, Iowa; St. Louis University, St. Louis, Mo.; Canisius College, Buffalo, N. Y.; Georgetown University, Washington, D. C.; Penn State College, State College, Pa.; University of California; Seismological Observatory, Pasadena, Calif.; and the U. S. Coast and Geodetic Survey stations at Honolulu, Ukiah, Calif., Tucson, Ariz., and Chicago.

Science News Letter, July 13, 1935

HORTICULTURE

Only 124 Plant Patents Granted In 5-Year Period

PATENTED flowers, fruits and other plants have not accumulated very fast since the plant patent law went into effect five years ago, on May 23, 1930. Files of the U. S. Patent Office show only 124 plant patents of all kinds, contrasted with the thousands of patents on mechanical devices and processes that pour from inventors' brains every year.

Four classes have thus far proved sufficient for the arrangement of plant patent records: roses, other flowers, fruits, and "plants"—the latter category being a catch-all for everything that is not classifiable as either flower or fruit.

Aside from roses, patented flowers have run rather strongly to carnations, dahlias, chrysanthemums and freesias. Among patented fruits, apples, plums, cherries, grapes and avocados are conspicuous. Patented vegetables are conspicuous by their absence, but there is one patented mushroom.

The highest number of plant patents

granted to a single applicant is nine, to the estate of the late Luther Burbank. The Burbank patents include two roses, five plums, one peach and one cherry. There are at present, however, several commercial nursery companies that hold numerous plant patents, sold or assigned to them by the inventors. A number of patents have been granted to breeders in England, Holland, Czechoslovakia and other foreign countries; most of these have been assigned to American firms.

To be patentable, a plant must be capable of "asexual" propagation, that is, it must be reproduced from cuttings, bulbs, grafts or by means other than seeds. From the provisions of the law, however, tuber-propagated plants like potatoes are excluded.

When an application for a plant patent is received it is not only examined by officers of the U. S. Patent Office, but is submitted also to the bureau of plant industry, U. S. Department of Agriculture, which has a corps of botanists and horticulturists capable of judging whether the variety is really new and distinct, and also of certifying whether or not its method of propagation makes it eligible to patent rights under the law.

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BOTANY

"Cow Tree" May Be Future Source of Chewing Gum

GUM CHEWERS may in future get their favorite chicle confection from a still-unused Central American tree species, Dr. J. S. Karling, Columbia University botanist, suggests. (*American Journal of Botany*, June).

Dr. Karling has made a preliminary investigation of the chicle-yielding properties of a milky-sapped tree which the natives of Guatemala call the "palo de vaca" or "cow tree." Its latex is described as "copious, rich, creamy, sweet and palatable." Specimens growing in the Central American rain-forest reach a trunk diameter of as much as five feet. The bark is thick, and easily tapped without doing permanent injury to the tree.

Dr. Karling does not expect immediate use of gum from this tree. Considerable further research is necessary, he says, especially on the chemical treatment necessary to make a good chewing-gum base out of it, and also to determine the adaptability of the tree to plantation cultivation.

The botanical name of the species is *Couma guatemalensis*.

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IN SCIENCE

MEDICINE

Claim Fatal Blood Disease Is Related to Hay Fever

AVERY serious blood disease, in which white blood corpuscles are destroyed to a dangerously low number, is physiologically related to hay fever, asthma and other allergic troubles, Drs. Theodore L. Squier and Frederick W. Madison of Milwaukee, Wis., told a medical audience at the meeting of the American Association for the Advancement of Science. This malady, known to physicians as granulocytopenia, has come into increased prominence recently, with the widespread use of pain-allaying drugs based on amidopyrine.

It has been commonly thought that the drug caused the disease simply by poisoning the systems of its ill-advised users. However, Dr. Squier pointed out that considering the large numbers of users, many of whom take massive doses without being affected, a different type of action must be considered as a cause. Further, patients who have recovered from attacks of granulocytopenia sometimes become seriously ill again from extremely minute doses, which is exactly the way in which hay fever or asthma is brought on in persons "sensitized" to such things as pollens, feathers or hair.

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OCEANOGRAPHY

Artificial Darkening Makes Glaciers Melt Faster

WATER for irrigation will flow more abundantly in the rivers of dry Central Asia, if a scheme tried experimentally by Soviet scientists works out successfully on a larger scale.

At the Tien-Shan Observatory on the Davydov glacier in Central Asia, a thin layer of dark, heat-conducting material was spread on the ice. It speeded melting as much as four or five times on sunshiny days, and even on cloudless days doubled the normal melting rate. Further experiments are now in progress, to find the most suitable material for large-scale controlled glacier melting.

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E FIELDS

PHYSICS

Expansion of Universe Sole Explanation of Red Shift

ARE the distant nebulae redder than the nearer ones because they are receding with enormous speed or, as many would like to believe, is there some other explanation such as attributing the red shift to the action of electrons in free space?

Prof. Roy Kennedy and Walter Barkas of the University of Washington announced at the meeting of the Pacific division of the American Association for the Advancement of Science that they had tested the matter experimentally and found that electrons could not be held responsible because there are not enough of them.

They used a special instrument called an interferometer, designed by Prof. Kennedy, which is capable of detecting a change of a billionth of an inch in a foot. Still no effect of electrons could be seen even with millions of millions present. Prof. R. C. Tolman, new president of the Pacific division of the Association, announced that he and Dr. Edwin P. Hubble, recent winner of the Barnard medal for his work on the red shift, were practically convinced that no known effect other than recession of the nebulae was competent to account for the observations of the red shift.

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PUBLIC HEALTH

Large Cities Have Lowered Diphtheria Death Rate

ABRILLIANT lowering of the death rate from diphtheria in large cities of the United States is reported by the American Medical Association in its twelfth annual survey just completed.

Only one section of the country—the east south central states—failed to share in the tremendous inroads being made against this enemy of childhood.

Fifteen large American cities of the ninety-three covered in the survey had not a single death from diphtheria during 1934. They are as follows:

Cambridge, Mass.; Canton, Ohio; Duluth, Minn.; Elizabeth, N. J.; Grand

Rapids, Mich.; Long Beach, Calif.; New Bedford, Mass.; New Haven, Conn.; Salt Lake City, Utah; Seattle, Wash.; South Bend, Ind.; Spokane, Wash.; Springfield, Mass.; and Syracuse and Utica, N. Y.

The ten cities with the lowest death rates from this disease in the last five year period, according to figures published in the *Journal of the American Medical Association* (June 15), are: Grand Rapids, Mich.; Salt Lake City, Utah; Duluth, Minn.; Seattle, Wash.; Syracuse, N. Y.; New Haven, Conn.; Yonkers and Rochester, N. Y.; Spokane, Wash.; and Long Beach, Calif.

Also listed are the ten cities with the worst health records as regards diphtheria: Lowell, Mass.; Louisville, Ky.; Knoxville, Tenn.; El Paso, Texas; Chattanooga, Tenn.; Nashville, Tenn.; Atlanta, Ga.; Jacksonville, Fla.; New Orleans, La.; and Somerville, Mass.

Baltimore, which had a high diphtheria death rate for 1925-1929, now not only leads the group of south Atlantic states but has one of the best rates among the thirteen cities of the country with more than 500,000 population. San Francisco and Philadelphia alone surpass it.

South Bend, Ind., has had its third successive year without a diphtheria death, a new record among American cities.

Five cities reported that they had only one diphtheria death each in 1934, and it occurred in a non-resident. These cities are Providence, R. I.; Worcester, Mass.; San Francisco and Long Beach, Calif., and Tacoma, Wash.

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PHYSIOLOGY

Raw Sauerkraut "Cure" Contains Liver Vitamin

RX: Sauerkraut, raw. Sig: One pound, eaten daily. Keep it up for many months.

This is the prescription you would be likely to get if you undertook the new "kraut cure" which is becoming popular in Germany and Austria. An article in the *Muenchner Medizinischer Wochenschrift* recommends it as beneficial in rheumatism, asthma and some types of digestive troubles.

The benefits of the "kraut cure" are ascribed to its high content of lactic acid and choline. The latter has recently been identified by Dr. C. H. Best and associates of the University of Toronto as a new vitamin, necessary for the normal function of the liver.

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BOTANY

New Evening Primrose Developed At Princeton

THE unexplained disappearance of a deadly lethal factor from its hereditary make-up has made possible the appearance of an unusual new type of evening primrose among the experimental plants of Dr. George H. Shull, professor of genetics and botany at Princeton University.

The new variety, which put in its appearance for the first time this spring, is characterized by leaves whose petioles or leaf-stems are longer than the blades of the leaves themselves. They form a marked contrast to the normal leaf, which is over ten times as long as its leaf-stem or petiole, and for this reason Dr. Shull has named the new variety *Oenothera petiolaris*.

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ARCHAEOLOGY

Ruined Villages Show Indian Farm Cycle

TRASH heaps in 97 ruined and abandoned Indian villages are telling a government scientist new facts about farming in the Dakotas along the Missouri River, in Indian days. Abundant pottery, corn and tools are thrown together in huge refuse piles in all of these Indian villages, Alfred Bowers of the U. S. Department of Agriculture, stationed at Stanley, N. D., reported to the American Association for the Advancement of Science.

"Based on the rate of accumulation of these refuse piles in dated historic villages" he said, "where the time both of building and abandoning is known, it becomes evident that a large population of earthlodge tribes formerly lived in the region."

Mandan Indians who lived in earthlodges and farmed for their living reached the locality of Pierre, S. D., before 1200 A. D., Mr. Bowers estimates. These and other farming tribes, well organized for defense, drove out roving buffalo-hunting Indians.

This Indian farming cycle ended about 1862. The nomad Plains tribes found that, with horses, guns and knives, they were more than a match for the once-feared villagers. When contagious diseases swept the villages, the conquest was complete, and only a few miles of the river were left to the earthlodge tribes.

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