

VOLCANOLOGY

54 of Japan's Volcanoes Active or Recently Extinct

FIFTY-FOUR of the 192 volcanoes in Japan, one of the most mountainous and geologically restless countries in the world, are active or only recently extinct, Williard Price, an American who has resided many years in the Land of the Rising Sun, reports. (*Natural History*, January).

Surveying the islands, Mr. Price finds that geological changes that elsewhere require many thousands of years take place in Japan in a relatively short period of time.

With 85 per cent. of her land mountainous, and with a heavy rainfall, devastating floods are a major problem, he writes.

"Japan outstrips Italy, her nearest competitor, in number and violence of earthquakes. During the ten years following 1923 there were 21,845 quakes strong enough to be felt—besides tens of thousands detected only by the seismograph. The death toll is heavy."

The extreme frequency of earthquakes in Japan results largely from two circumstances, he finds: "The volcanic nature of the islands and the abruptly sloping eastern coast which drops into one of the deep spots of the Pacific, Tuscarora Deep, almost five miles below the surface."

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PSYCHOLOGY

Personality Types Have Distinguishing Brain Waves

DISCOVERY that electric waves originating in the human brain could be tapped and made visible on a screen for study was an accomplishment of pure science. Yet already many experiments in practical applications of the discovery are yielding profitable results.

One series of experiments indicates that epilepsy may be diagnosed in unsuspected cases. Another may lead to a cure for that disease. Another is disclosing new knowledge about the process of learning; still another is revealing facts about sleep, linking it with certain states of mental illness.

New research at the University of Iowa promises to throw additional light upon the puzzling problem of personality.

In the past, psychiatrists have observed that the go-getter type of personality, the good mixer, the person in-

terested in facts and persons external to himself is one who, if he should become mentally ill, is more likely to have the manic-depressive type of mental disease.

Another kind of person, withdrawn, retiring, thoughtful, interested in his own thoughts and emotions rather than in facts and persons about him, is the one who might develop split personality or dementia praecox.

The brain waves distinguish between these two types in normal individuals, Dr. Abraham Ber Gottlober, of the University of Iowa, says in reporting his research to the *Journal of Experimental Psychology*.

The distinction is in the activity of the brain waves—in the percentage of the time during which the waves of the type known to scientists as "alpha" waves are being broadcast by the brain.

In this experiment, the subjects were divided into two groups. In the first group were those whose alpha waves were going out from 50 to 100 per cent of the time. In the second group were those broadcasting less than half the time.

If you are of the go-getter or extrovert type, Dr. Gottlober found, it is more likely that you will be in the first group with alpha waves being generated most of the time.

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ENTOMOLOGY

No New Japanese Beetle Quarantines For 1938

NO NEW Federal plant quarantines against the Japanese beetle insect pest will be necessary in 1938, Lee A. Strong, chief of the Bureau of Entomology and Plant Quarantine of the Department of Agriculture, has announced.

Results of 1937 scouting, it was indicated, show that the situation can be controlled by local extension of quarantines now in force. The annual hearing to consider extension of the regulated area or modification of the regulations will be omitted.

Decreases in the number of beetles trapped were reported this year from four points where beetles had given cause for alarm. Only one Japanese beetle was trapped at St. Louis, Mo., all year despite intensive activity. Indianapolis, Detroit and Chicago catches were also markedly reduced. Systematic trapping activities by the Department indicate where the beetles are and where trouble may be expected.

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IN SCIENCE

PALEONTOLOGY

Extinct Mammoth Was Nearly 18 Feet in Length

TUSKS scattered on the frozen shore of Siberia opposite Alaska may mean that Soviet scientists will some day add more complete specimens of the extinct hairy mammoth to the two bodies already found, Tass, Soviet news agency, reported.

Detailed information on the body, the second one to be found, reached Moscow. It revealed that this hairy mammoth, as it existed thousands of years ago, was in the neighborhood of 18 feet long, had a trunk more than nine feet long and hair more than three inches long.

Like the first specimen found, the second body, which was uncovered last October, was partially damaged by wild animals. The head, one leg and a part of the trunk have been partly eaten away. Otherwise the body is intact, preserved through the ages in the frozen earth of the north, as effective an ice box as man has devised.

The tusks of the specimen found have not yet been located, but they may be under its body, which has not yet been removed from the pebbly ground. Next spring, when the sea in this area is clear of ice, soundings of the coastal zone will be taken to see if a ship can approach the shore to take on board the find.

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PLANT PHYSIOLOGY

Dr. William Crocker Given American Institute Medal

THE 1938 gold medal of the American Institute has been awarded to Dr. William Crocker, director of the Boyce Thompson Institute for Plant Research, Yonkers, N. Y., and will be presented at a dinner to be held in February.

In announcing the award, the Institute cited Dr. Crocker "for his contributions to knowledge of life processes in plants and for his unique leadership in the organization of plant research." Dr. Crocker has been director of the Boyce Thompson Institute since its foundation in 1921.

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E FIELDS

SEISMOLOGY

Storm of Earthquakes Marks Turn of Year

THE OLD YEAR went out in a storm of earthquakes off the Pacific coast of Mexico. Two farewell shakes, on Dec. 30 and 31 respectively, brought the total for the year's last week up to six. They were both at or near the site of the big earthquake of Dec. 23, which caused destruction in far-away Mexico City. Approximate epicenter location for both quakes was given as latitude 15 degrees north, longitude 98 degrees west. The first shock occurred at 12:41.2 p. m., E.S.T., on Dec. 30, and the second at 6:25.2 a. m., E.S.T., on Dec. 31.

In addition to the series of Mexican earthquakes, the year-end seismic disturbances included one quake in mid-Atlantic, near the St. Paul Rocks, on Dec. 28, and one in Peru on Dec. 24.

The New Year's first major earthquake, on Jan. 2, belonged to the same "family" that had been rocking Mexico. It happened at 5:27.2 p. m., E.S.T.. The epicenter was in latitude 15.7 degrees north, longitude 98 degrees west. It was a strong shock.

Reporting observatories were: University of Montana, Bozeman, Mont.; Williams College, Williamstown, Mass.; the Manila Observatory, Manila, P. I.; the stations of the Jesuit Seismological Association at St. Louis University, Georgetown University, Fordham University, Canisius College, and Weston College, and the stations of the U. S. Coast and Geodetic Survey at Ukiah, Calif., Tucson, Ariz., and Washington, D. C.

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PUBLIC HEALTH

Mysterious Epidemic Cause Of Recent Infant Deaths

THE MYSTERIOUS diarrheal malady that has afflicted infants in Chicago hospitals is not limited to that city. Epidemics of the same sort and probably the same disease have occurred in many cities in this country and abroad, Drs. Samuel Frant and Harold Abramson of the New York City Health Department

report. (*American Journal of Public Health*, January).

The malady has been responsible for a steady increase in mortality among new-born babies in recent years, they declare. This increase in babies' deaths is to be found chiefly among infants one month old or less.

The malady is epidemic diarrhea of the new-born. It is not related to the summer diarrhea which took such frightful toll of babies a generation ago. This new malady afflicts infants born in hospitals, and strikes during the first three or four weeks of life. No cause has yet been found for the disease. It has been reported in Seattle, Toronto, Memphis, New York, Chicago, Rochester, N. Y., Buffalo, Teaneck, N. J., Cincinnati, Cleveland, Edinburgh, Scotland, and Garches, France. In New York there have been 23 such outbreaks in the past three years, affecting 711 infants, of whom 335 died.

The only known way of fighting the disease at present is to break the chain of infection from one infant to another in hospital nurseries. Usual methods of safeguarding infants in hospital nurseries have apparently not been sufficient to prevent the spread of this disease once it starts, and consequently Drs. Frant and Abramson recommend certain new methods to doctors and hospital authorities.

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PHYSICS

Harvard Scientists Devise Test For Large Vacuum Tube

THE FIRST satisfactory method of testing the intricate operation of large power vacuum tubes, used in radio broadcasting and in a myriad other scientific and industrial fields, has been announced at the Cruft Laboratory of Communication Engineering at Harvard University.

Thousands of dollars will be saved annually through more efficient operation of these vital scientific tools as a result of this advance, achieved through ten years of research by E. Leon Chaffee, Gordon McKay professor of physics and communication engineering.

Prof. Chaffee's testing technique, based on scientific and mathematical analysis will enable engineers to conduct tests by correlating mathematical analysis and routine laboratory tests. The new method replaces the crude and expensive trial and error procedure now in universal use and is expected to open the way to more efficient application of the tubes.

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MEDICINE—PSYCHOLOGY

Migraine Headache Called Perpetual Emotional Drunk

A PERSON with migraine headache is on a perpetual emotional drunk, Dr. Milton B. Jensen, consulting psychologist of Louisville, Ky., reported to the recent meeting of the American Association for the Advancement of Science at Indianapolis.

Simple habits of becoming extremely excited over everything or nothing were blamed by Dr. Jensen with this puzzling and painful type of headache without organic cause. In his (or her) emotional sprees, the individual tenses his muscles so that he produces a partial anemia in the brain by reducing the circulation of the blood. The headache results from a stretching of the blood vessels in the brain.

Sex cannot be blamed for migraine, Dr. Jensen declared.

"Sexual maladjustment bears no causal relationship to the onset, duration, frequency, or severity of ordinary migraine headaches," he said. "Maladjustment to sex does not cause the headaches and the headaches do not cause sexual maladjustment."

Too much excitement in the home during childhood, improper rest and acquired habits of incessant nervous excitement were held responsible. Dr. Jensen cited cases where the headaches cleared up when the sufferers learned to control their emotional responses.

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ORNITHOLOGY

Long Migration Flights Exhausting To Birds

BIRDS of our summer, now feasting in the sunlit woods beyond the Equator, often have an exceedingly difficult time in the long over-water flight between North and South America, declares Dr. Alexander Wetmore, assistant secretary of the Smithsonian Institution, just back from an extended ornithological trip in Venezuela.

We are so given to marvelling over the performances of migrating birds, says Dr. Wetmore, that we shut our eyes to the real facts. Many species arrive in a state of utter exhaustion, as if they had hardly been able to keep a-wing over the last long mile of inhospitable sea. They are glad enough to find food, and branches to perch on, before they resume their southbound flight.

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