

GEOPHYSICS

New Magnetic Storms Cause Communications Trouble

A SUDDEN and severe magnetic storm, that began abruptly a few minutes before seven o'clock, E. S. T., and lasted all day long on Tuesday, Jan. 25, again disrupted telegraphic and wireless communication. It was the third and most violent of such disturbances in ten days. The Radio Corporation of America, from its Washington office, reported, however, that the ultra-short-wave setup from New York to Philadelphia had little difficulty with its seven-meter wave.

Western Union stated that frequent interruptions occurred throughout the day, reaching maximum difficulty about 6:15 p. m., and developing more trouble over the Alleghenies than along lines running north and south. There was a good deal of trouble in the Midwest communications also. Postal Telegraph reported difficulties all the way around the compass. Neither system was completely blanketed out, but succeeded in getting messages through in spite of temporary interruptions.

The magnetic storms are connected with the great displays of the Aurora Borealis that have been seen recently, but they have no relation to the unusually severe atmospheric storm that caused floods in the South and disabling snowstorms in the Midwest.

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SEISMOLOGY

Hawaiian Quake Followed By One in South Atlantic

HAWAII'S earthquake of Jan. 23 had its epicenter under the sea, about 21 degrees north latitude, 156 degrees west longitude. This is off the northeast coast of the island of Maui. Time of origin was 3:29.9 a. m., E. S. T.

Right on the heels of Hawaii's week-end earthquake came a second one, on Monday, Jan. 24, in a remote part of the world. Scientists of the U. S. Coast and Geodetic Survey gave its position as in the general neighborhood of the Sandwich Islands, east of Cape Horn in the South Atlantic. This quake started at 5:31.3 a. m., E. S. T.

Observatories reporting were: Williams College, Williamstown, Mass.; the Franklin Institute, Philadelphia, Pa.; the University of Montana, Butte, Mont.; the University of California, Berkeley, Calif.; the Dominion Observatory, Ot-

tawa, Canada; the Dominion Meteorological Observatory, Victoria, B. C.; 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 Tucson, Ariz., and Honolulu, T. H.

At Honolulu, the report added, the instruments were wrecked.

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ARCHAEOLOGY

Gold Armor Clue to America's Prehistory

IN 1519, Spanish explorers in Panama saw with their own eyes Indian chief Parita decked for burial in golden mail. His shining armor included a helmet like a basin of gold. He wore tubes of gold on arms and legs, plates of gold on his chest, a golden belt hung with bells, and four or five gold necklaces.

Sixteenth century adventurers were impressed—by the gold.

Four centuries later, American scientists have explored a cemetery in Panama that confirms the glittering story. They have found no single individual so royally outfitted as Parita. But every type of ornament listed by the Spaniards has been unearthed, except the gold belt.

Twentieth century science is impressed—by the light these beautiful objects shed on our ancient history.

Dr. S. J. Lothrop of the Peabody Museum of Harvard tells of exploring this cemetery, in Cocle, Panama. From the styles of burial and from objects of metal, stone, and clay, he learns that ideas flowed north from South America in those days, very powerfully. Gold disks, big as dinnerplates, that Panama chiefs wore in battle, bore designs from South America's west coast. A crocodile god and crested crocodile were ornamental designs as familiar as our Goddess of Liberty figure is to us. Panama got its toothy animals in art from Peru.

Panama, says Dr. Lothrop, was the crossroads of the New World. There particularly may be found many clues to people and ideas that drifted from one New World continent to the other.

Newcomers entering via Bering Strait spread to the tip of South America. But there were backward currents of trade and migration, too.

It begins to appear that even the wonderful Mayas, whose civilization had so mysterious a start, may have come from the south, from South America.

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IN SCIENCE

ANTHROPOLOGY

Scientist's Hats Prove Continued Head Growth

KEEPING a record of sizes of hats he bought during 40 years gave Sir Flinders Petrie, 84-year-old British archaeologist, personal proof that his head has grown steadily, even after he was well past middle age.

A letter from Sir Flinders, who is now on an expedition in Palestine, has been received at the Smithsonian Institution, in confirmation of Dr. Ales Hrdlicka's recently advanced theory that the human head—and presumably the brain—may grow throughout adult life.

Sir Flinders states that he wore a six and one-half hat at 20 years; a seven hat was snug at 30; at 40 he bought seven and one-quarter; at 50, seven and one-half; and since then he has had some trouble wearing a standard size at all. His prestige as a leading British archaeologist, and his strenuous life exploring ruins in Palestine and Egypt, testify to the aged scientist's own comment that he is quite sound and normal.

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GEOLOGY

"Eyebrow of Dirty River" Studied by Geologist

GRIMLY glowering at the western edge of the Albuquerque Plain in New Mexico, a great black cliff, called the Ceja del Rio Puerco ("Eyebrow of the Dirty River," in English) tells geologists a weird tale of volcanic eruptions in the not very distant past, Dr. Kirk Bryan, Harvard University geologist, reports. (*Journal of Geology*, Jan.-Feb.) He and Dr. Franklin T. McCann, of Dayton, Ohio, studied the area.

Long ago, when the Rio Grande flowed in a channel 500 feet higher than the present one, they find, lavas from Mount Taylor, a volcano active before the ice ages, poured out over the plain. Later the rivers cut into the lavas, creating grim escarpments like the "eyebrow." Still later, the Rio Puerco cut into the headwaters of streams flowing into the Rio Grande from the west, "pivoting" the waters.

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E FIELDS

ASTRONOMY

New Features Discovered On Face of the Moon

REVISION of our maps of the moon may be necessary as a result of the discovery of a series of craters and walled plains, near the edge of our satellite's visible disk by H. Percy Wilkins, British astronomer.

Occupying twenty degrees of latitude on the southeast edge of the moon, this tangle of walled valleys, craters and high peaks has escaped discovery for many years, chiefly because nobody looked there carefully enough until now. Commenting on Mr. Wilkins' discovery, Dr. Walter Goodacre, acting director of the British Astronomical Society, recommended further observations of the moon's edges, which may lead to additional discoveries.

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PSYCHOLOGY

Children Learn Intolerance And Warlike Attitudes

CHILDREN early learn intolerance and warlike attitudes. They have their preferences among peoples and races, and the smaller their fund of information, the more illogical their prejudices are likely to be.

Rich children are the least tolerant, youngsters of the middle economic class the most tolerant, a recent study of more than 2,000 children by Dr. H. Meltzer, director of the Psychological Service Center, St. Louis, disclosed.

Country children are of the 100 per cent. American type. They are less tolerant and more nationalistic than are city children, Dr. Meltzer found.

But prejudice and extreme nationalism have been found also among a large number of city children in New York. There two-thirds of a group of 1,000 school pupils were unhesitating in their declarations that if the flag of the United States were insulted, we should go to war. They seemed to feel that there could be no question about it.

A smaller number believe that the killing of a countryman as in the Panay incident would be just cause for war.

In private school classes where instruction had been given on the futility of war, a contrasting picture was presented. There four-fifths of the group were opposed to war in the case of a flag insult. This tolerance is only lip service, however, it is emphasized by Dr. Arthur T. Jersild of Teachers College, Columbia University, who conducted this New York survey. Its shallowness is betrayed by the response when the children were questioned about an insult by a specific country such as Germany or Mexico.

Even the child most outspoken about war in general, reversed herself with regard to Germany because she "hated Hitler."

Although it may be assumed that these youngsters acquired their attitudes from their elders, they are no less significant on that account.

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TECHNOLOGY

New Dehydrating Process Promises Commercial Uses

A NEW, highly rapid method for dehydrating fleshy vegetables, which promises to have revolutionary effects in starch manufacturing and similar industries, is reported by E. F. Hopkins of the U. S. Department of Agriculture's laboratory at Laurel, Miss. (*Science*, Jan. 21.) The research was financed by a grant from The Chemical Foundation.

Dehydrating vegetables by processes now in use is costly because it takes so much fuel to drive the water out of the stubbornly retentive living cells. The heat also sometimes damages the tissues.

In the new process the vegetables, usually reduced to a pulp, are treated with a gas or vapor of some fat-dissolving substance such as chloroform, sulphur dioxide, or carbon tetrachloride. This makes a quick kill of the cells and permits their watery contents to ooze out. After this it is much easier to evaporate the water. The poisonous gas is driven off at the same time.

Mr. Hopkins, however, cautions that "wide claims for the dehydration of vegetables for food use should not be made." This is because much of the soluble food elements ooze out of the cells with the water—such things as vitamins, mineral salts, and flavors. However, the process has great promise for such industrial applications as starch manufacture from sweet potatoes and white potatoes.

Application for a public service patent on the process has been made.

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GEOLOGY

Geologists Check Age of First "Miss Minnesota"

SHE WAS only a hunter's daughter sought after, perhaps, by a few men of her tribe during her brief lifetime of 15 years or so. One day she vanished and was seen no more for 20,000 years. It was probably another boating accident.

This is the story of America's famous "Minnesota Girl" which many geologists now accept.

Studying the bones, and the site where they were found, geologists debated their age. Did the bones fall to the bottom of the lake along with the sediments, or were they buried there later? One group of geologists decided, after a field study of adjacent areas, that "Miss Minnesota" was perhaps only 500 to 1,000 years old, the bones having been buried long after the silts around them had been deposited, while another group were equally certain that her bones were buried when the silts were formed.

Now, Dr. George F. Kay, of the University of Iowa, collaborating with Dr. Morris M. Leighton, of the Illinois Geological Survey, has assured members of the Geological Society of America that the bones were as old as the sediments in which they were found. These sands and gravels have already been dated as from 18,000 to 20,000 years old.

Seven years ago, digging in gravels that were once lake bottom, road workers in northern Minnesota uncovered her remains, ten feet below the surface. The lake in which she had been drowned had filled up, and was dry land. Even the legends of her tribe, which many generations before her death had wandered into the New World from Asia, are forgotten.

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MICROSCOPY

Diatom Shell Markings Test Quality of Lenses

See Front Cover

DIATOMS, tiny one-celled water plants of a myriad forms, have long been standard test objects for microscopes. The exceedingly fine sculpturings and markings on their silica shells defy any but good lens combinations to bring them into sharp definition. On the cover of this week's SCIENCE NEWS LETTER is the picture of one, a wheel-shaped form, taken with a new small-camera photomicrography set-up developed in the Kodak Research Laboratories.

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