

METEOROLOGY

Drought's Southwestern Empire Spreading

DROUGHT'S empire in the Southwest is spreading dangerously, a study by the U. S. Weather Bureau shows. The region in which the rainfall from Jan. 1 to May 1 was less than half normal includes the entire state of Oklahoma, almost all of Kansas and Arkansas, the northern half of Texas, parts of New Mexico and Colorado, and about three-fourths of Missouri.

This southwestern centering of the drought area is in marked contrast to the condition prevailing during the great drought year of 1934, when the principal "fifty per cent. minus" area was in the Northwest, including large parts of the Dakotas, Montana, and Nebraska, with extensions into adjoining states. There was also a "half rainfall" island in central California, and smaller ones just west of Lake Michigan and along the Ohio River.

The situation, however, is not hopeless, the Weather Bureau adds. Recent rains have invaded the drought area, and if they continue, as rains in the West normally do in June and early July, the domain of the drought will have considerable provinces lopped off it.

Science News Letter, May 16, 1936

GENERAL SCIENCE

Orville Wright Among 15 Elected To Academy

ORVILLE WRIGHT, inventor of the airplane, is among the fifteen scientists elected to the National Academy of Sciences, "senate" of American science.

Youngest among the new academicians is Dr. I. S. Bowen, aged 38, physicist of the California Institute of Technology, noted for his researches upon light. Oldest is Dr. Edwin O. Jordan, aged 70, chairman of the department of bacteriology at the University of Chicago. Dr. Wright is now 64.

The inventor of bakelite and velox paper, Dr. Leo H. Baekeland, 69, was also among those elected. Others honored with election were:

Dr. Eliot Blackwelder, 56, Stanford University geologist.

Dr. Wallace H. Carothers, 40, duPont research chemist.

Dr. Alexander Forbes, 48, Harvard physiologist.

Dr. W. F. Giauque, 41, University of California physical chemist who specializes in low temperature research.

Dr. Clark L. Hull, 51, Yale psychologist.

Dr. A. V. Kidder, 51, archaeologist who is head of the Carnegie Institution's division of historical research.

Dr. Warren H. Lewis, 65, anatomist and cytologist of the Carnegie Institution and Johns Hopkins.

Dr. Robert S. Mulliken, 39, University of Chicago physicist.

Dr. W. C. Rose, 49, University of Illinois biochemist.

Dr. Edmund W. Sinnott, 48, Columbia University botanist.

Dr. J. L. Walsh, 40, Harvard mathematician.

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PHYSICS-PHYSIOLOGY

Skin Tells Presence of Another Person in Dark

THE much-ridiculed ability of a person to go into a dark room and tell that another person—a burglar perhaps—is also present, even though no sound is heard or figure actually seen, was given scientific credence at the meeting of the American Physical Society in Washington, D. C.

The human skin, reported Drs. J. D. Hardy and T. W. Oppel of Russell Sage Institute of Pathology, New York City, is more sensitive than the best mercury-in-glass thermometers which scientists can make.

This extremely high heat sensitivity of the skin, said the scientists, "is probably the explanation of the so-called 'sixth' sense whereby the presence of another person in the dark is made known."

The minimum amount of radiation required to stimulate the heat sensation in the skin of the face, the scientists reported, causes a temperature rise of only five ten-thousandths of a degree Centigrade per second.

Boeckman type differential thermometers, among the most sensitive instruments available, will only record temperature differences of one-thousandth of a degree Centigrade or more, according to the thermometer calibration division of the National Bureau of Standards in Washington.

The New York scientists radiated white skin of the face with various wavelengths of both visible and infrared light. They found that the sensitivity of the skin to heat varied with the area exposed up to 200 square centimeters, or about 30 square inches. After this area was attained there was little increase in absolute sensitivity.

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IN SCIEN

GENERAL SCIENCE

New Foundation Has Funds For Research Fellowships

FUNDS for research work in science are provided by the newly organized Lalor Foundation, Dr. C. Lalor Burdick, its secretary, announced. A bequest of \$400,000 from the late Willard A. Lalor, formerly of the Chicago, Burlington and Quincy Railway, established the foundation as a testimonial to his sister, Mrs. Anna Lalor Burdick of the Office of Education, U. S. Department of the Interior, and his brother, John C. Lalor, who was active in the early development of mining and metallurgical industries of Montana.

Five research professorships and fellowships, of \$2,500 each, will be made available during the coming academic year, in certain specified fields of science. Only mature scholars, who have already taken the doctor's degree, will be eligible. The first awards will be announced in the near future.

Dr. Charles Lee Reese is president of the Lalor Foundation, and Mrs. Anna Lalor Burdick, vice-president.

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EXPLORATION

Explorers To Use Tank In South American Jungle

PEACEFUL science, rather than destructive war, is the end in view for a tank now being constructed by a Swiss engineer, Herr Bachmann, at Horgen, Switzerland. It is intended to carry a party of German, Swiss and South American explorers into the "green hell" of the Amazonian jungle.

The turret on top of the tank will carry, not a machine gun, but a sound-recording motion picture camera. Caterpillar treads are expected to make going possible through thick jungle and marshy ground. The tank is an amphibian, with pontoons for river navigation.

Within the steel shell, the exploring party expects to be safe alike against the arrows and bullets of implacably hostile savages, the bites of poisonous snakes, and disease-carrying insects, and the possible onslaughts of wild animals.

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ICE FIELDS

GEOLOGY

Sea Level Sank Half Mile Million Years Ago

ONCE early in the great Ice Age, about a million years ago, the level of the sea was 3,000 feet lower than it is now and the missing water was piled high upon the continents as ice of great glaciers.

This picture was presented to the National Academy of Sciences by Prof. Francis P. Shepard, University of Illinois geologist, as a result of his investigations of great river-cut canyons of the sea floor, some of them 10,000 feet below the ocean's surface or about twice the depth of famous Grand Canyon in Arizona.

One explanation of how they were formed is that the coasts of the world were raised up above their present position during the glacial period. Prof. Shepard considers such a gigantic movement in relatively recent times as "scarcely creditable."

Instead he told the academicians that it is much more reasonable that the canyons were formed by a combination of processes of which the sea level change was the most important. The deep portions outside were probably formed in some other way.

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RADIO

Experimenting Scientists On the Trail of Static

STATIC, the still-unconquered ogre of radio, has science hard on its trail, it was disclosed at the meeting of the American Geophysical Union. S. L. Seaton, of the Carnegie Institution of Washington, is working on the problem in a special laboratory at Watheroo, Western Australia. A Washington colleague, H. F. Johnston, reported on his behalf.

A loop antenna, rotating continuously, is the key-piece of Mr. Seaton's apparatus. Into the hookup a special device has been incorporated, which makes very exact direction determinations possible. The set is so sensitive that static originating as far away as Central America has been detected at Watheroo.

Most atmospheric disturbances originate in thunderstorm regions. The observations indicate that most of the atmospheric disturbances originate from land areas, which conforms with the known fact that thunderstorms are more frequent over land than over the ocean.

Apart from the interest in atmospheric disturbances owing to their effect on ordinary radio reception, scientists are concerned about them as possible guides in assisting meteorological forecasts. Since they come from regions of thunderstorm activity it is possible by noting their direction to determine the course of a distant thunderstorm. Such methods may be of very great value since the presence of areas of thunderstorm and hurricane may be detected over the ocean where no weather bureau stations are located to record and to report on them and their progress.

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RADIO

Suggest Assigning Radio Wavelength to Physicians

THE ASSIGNMENT of a short-wave radio wavelength to physicians is suggested. (*Journal of the American Medical Association*, Mar. 28.)

The doctor's wavelength would not be for communication but for therapeutic purposes. The suggestion is the outgrowth of recent interference caused by short-wave diathermy machines used by physicians for treating inflamed joints and other ailments where heat is needed.

Dr. Harry Rowe Mimno of Harvard University recently traced a minor radio mystery of "celestial signals" and the malice of an "antisocial crank" to a diathermy machine on Harvard's campus.

The *Journal of the A.M.A.* makes two suggestions: 1. That manufacturers of short-wave diathermy machines get together and determine some one wavelength that is the most efficient for treatment purposes. They can then ask that this channel be assigned to them for therapeutic use.

2. That in the meantime those physicians who may be accused of interfering with radio communication, consult the makers of their machines as to the proper method of screening and minimizing interference.

The American Medical Association states that each manufacturer of this equipment has his own favorite wavelength. The Association's Council on Physical Therapy does not accept the claim that one wavelength is more efficient than another.

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CHEMISTRY

Tennessee Chemist Wins Charles Herty Award

AS "the man who has done outstanding chemical work in the South this year," Dr. Walter H. McIntire, Tennessee chemist, has been selected as the 1935 recipient of the Charles Herty award of the Chemistry Department of the Georgia State College for Women. Presentation of the award will be on May 16.

Dr. McIntire is professor of chemistry at the University of Tennessee and consultant for TVA. He has been a leading researcher for ways of making efficient and cheap fertilizer from low-grade phosphate rock.

Selection of Dr. McIntire for the award was made by a committee of the Georgia Section of the American Chemical Society. The 1933 award went to Prof. Fred Allison of Alabama Polytechnic Institute and in 1934 it was given to Dr. Charles H. Herty, formerly professor of chemistry at the University of Georgia and University of North Carolina and now a consulting chemist of New York City.

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PSYCHIATRY

Psychiatric Control of Criminals Advocated

IF PSYCHIATRISTS had their way, and their advice about paroles and releases of criminals were followed, society would be far better protected, Dr. Cornelius C. Wholey of Pittsburgh declared at the meeting of the American Psychiatric Association.

"Psychiatrists entertain no slushy sentimentality toward the criminal class," Dr. Wholey stated.

The psychiatrists would not free irresponsible and dangerous criminals at the termination of their sentence, as is now customary, he said. Some are definite mental cases. An even greater menace are those unregenerate criminals whose past records and perverse personalities clearly show that they are incurable and will remain menaces for life. Crimes committed by psychopathic persons are largely those in which the safety of another person is involved, while the crimes committed by non-psychopathic criminals are chiefly against property, such as robbery.

One person out of every fifteen at some time in his life becomes a mental case, Dr. Wholey estimated.

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