METEOROLOGY

Sudden Weather Changes Are Often Large-Scale

➤ SUDDEN CHANGES in the weather that occur every year about the same date will lead to much more accurate weather forecasts over periods of 30 days or longer, weathermen from the University of Wisconsin predicted at an American Meteorological Society meeting in New York.

The January thaw, which occurs over much of the United States about the third week in the month, is an example of the weather singularities that are now being intensively studied by meteorologists. Although once thought to be highly local in nature, studies of the huge mass of observations made during World War II have led weathermen to conclude that these annual occurrences are really large-scale changes of an entire hemisphere's weather patterns.

Besides the January thaw, which occurs both in northeastern United States and Europe about Jan. 20, the Wisconsin weathermen studied Arizona weather in June and July.

"Arizona experiences a large increase in rainfall within a few days about July 1 in most years," Drs. Reid A. Bryson and William P. Lowry concluded.

This shift of the circulation pattern may be world-wide, they said, but in Arizona its occurrence brings summer rains similar to the "monsoon" of the Far East.

European weather patterns were described to the weathermen by Dr. Bryson, and Drs. Peter M. Kuhn and James F. Lahey, also of the University of Wisconsin.

They analyzed changes in weather type for those dates when the probability of shift was higher than chance occurrence. These "key change dates" were then examined for preferred sequences of the weather patterns.

Some of the key dates they found and the weather type associated with them are: Dec. 7, 9, cyclonic; Dec. 31, Jan. 1-2, cyclonic; Jan. 6, 8, cyclonic, and Feb. 10-11, anticyclonic. Cyclones are regions of low barometric pressure in which the winds circulate in a counter-clockwise direction in the Northern Hemisphere. In an anticyclone, the wind circulation is clockwise and the weather is of a quiet and settled type.

Science News Letter, February 5, 1955

MEDICINE

Changing Birth Rates Change Polio Ages

➤ CHANGES IN the birth rate over the years explain the changes in the ages at which polio attacks, in the opinion of Dr. Carl C. Dauer, National Office of Vital Statistics in the Department of Health, Education and Welfare in Washington.

In Massachusetts, figures for the past 35 years show that the number of children under five attacked by polio declined as compared with the number in the five-to-nine-year age group. The number at this age who got polio increased.

But in 1944 the picture began to change, with more of the "small fry" under five being attacked. At about the same time, there was an increase in polio cases among young adults in the 20-to-24-year age period. Maryland figures showed the same trend.

The increase of polio among the small fry and the young adults came as the number of new babies in the United States was increasing tremendously. Dr. Dauer's theory is that the new babies and the 20-to-24-year-olds both were groups who had not been exposed to polio. The 20-to-24-year-olds, he reasons, would include many new parents who would be likely to get polio from the children.

Science News Letter, February 5, 1955

METEOROLOGY

Science Service Wins Meteorology Award

➤ THREE AWARDS for outstanding service to meteorology were presented by the American Meteorological Society at its 135th national meeting held at New York University recently.

Prof. Charles F. Brooks of Harvard University and Jerome Namias of the U. S. Weather Bureau in Washington received individual honors.

The third award was presented to SCIENCE SERVICE for "its extensive coverage and accurate reporting of current developments in theoretical and applied meteorology." Watson Davis, director of SCIENCE SERVICE, accepted the award.

Prof. Brooks, who organized the weathermen's society in 1919, was honored for his lifetime of service to the Society.

Mr. Namias received his award "for his contribution to, and stimulation of, research in the principles and application of extended and long-range forecasting techniques."

Also honored at the dinner was Prof. Horace R. Byers, chairman of the Department of Meteorology of the University of Chicago, as a past president of the Society.

Science News Letter, February 5, 1955

MEDICINE

New Drug to Help In Child Leukemia

➤ FOR CHILD leukemia victims, there is now a new drug to help prolong their lives and give them more months of health while scientists continue the search for a real cure for the cancer-like blood disease.

The new drug is an anti-folic acid compound very similar to Aminopterin. It is called Methotrexate by its manufacturers, Lederle Laboratories, Pearl River, N. Y. One or two remissions, periods of temporarily restored health, can usually be induced with the new drug, according to the firm's announcement. After that it can be used with cortisone or ACTH to bring another remission.

Science News Letter, February 5, 1955

IN SCIEN

BIOLOGY

Air Mail 36 Rabbits From Missouri to France

➤ THIRTY-SIX more Missouri cottontail rabbits were air mailed to France for further experiments to combat the dread rabbit disease, myxomatosis, which is threatening to wipe out the European rabbit.

The shipment, reported the State of Missouri Conservation Commission, is in response to an urgent request made by the French government. The French Ministry of Agriculture will use the Missouri rabbits for cross-breeding and inoculation studies.

The Missouri Commission is interested in the experiments, not only as a "hands-across-the-sea gesture," a Commission spokesman stated, but because the Missouri bunny might also be susceptible to the dread disease, and advance knowledge would permit more effective preventive action.

Last year the Commission sent 12 rabbits to France in an effort to further the study of means to combat the virus infection which is threatening France's rabbit industry.

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TECHNOLOGY

TV Moves to Railroad Yard to Speed Traffic

➤ TELEVISION IS now working on the railroad, all the live-long day and night, to speed routing operations.

In the first permanent installation of its kind in the United States, two television cameras in a shed in the Potomac Yard in Alexandria, Va., keep their ever-vigilant lenses peeled for freight trains arriving from the south. As the train chugs through the shed at 10 miles an hour, the number and initials of each passing car are picked up and relayed to a TV screen in the record office two miles away. Floodlights make it possible for the cameras to operate day and night under all weather conditions. The clerk at the office reads the numbers from the screen into a tape recorder.

From this record, waybills can be processed more rapidly. Cars are then switched onto any one of the 49 northbound classification tracks and made up into new trains.

The new $30,000 system recently unveiled replaces the conventional ground identification process, which yard officials said consumes considerably more time. They also estimate that the system will save the yard approximately 40% net annually over the old method.

Plans for a similar installation for the southbound tracks at the other end of the 520-acre yard are now under consideration.

Science News Letter, February 5, 1955

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CE FIELDS

ZOOLOGY

Kiwi in San Diego Only One in Hemisphere

See Front Cover

➤ THE ONLY flightless kiwi in the Western Hemisphere is now in the San Diego Zoo. It and the one in London are the only living specimens outside of New Zealand, its natural habitat.

The strange animal, pictured on the cover of this week's SCIENCE NEWS LETTER, lays an egg almost one-fifth as heavy as itself. The male incubates the egg while the female gathers food and guards the nest.

A rapid runner, the kiwi can inflict serious wounds when cornered by striking out with its long taloned feet. His diet consists of earthworms, grubs, insects, berries and grass seeds. In captivity it eats eight ounces of food daily.

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ARCHAEOLOGY

Evidence Muddled That Norse Came Here First

➤ THE PHYSICAL evidence to prove that the Vikings settled on the shores of North America before Columbus is so muddled that Dr. Johannes Brondsted, director of the Danish National Museum in Copenhagen, finds it "highly questionable" that his ancestors got here first.

In the annual report of the Smithsonian Institution in Washington, the Danish expert declares that "the field now is in such a chaotic condition, with conflicting claims, questions of authenticity of relics and charges of fraud, that about the only real hopeful approach now open is a comprehensive expedition of archaeologists with a good Scandinavian background to explore the most likely areas along the Atlantic Coast."

Dr. Bronsted points out that the Icelandic sagas leave no doubt that several Norse expeditions from Greenland landed on the Atlantic coast of North America and could have settled there or wandered away among the Indians. But, at the same time, he explains, the Vikings themselves apparently failed to leave any physical evidence of their visits.

"All efforts to determine the sites of Vinland, Markland, etc., mentioned in the sagas from hints in the texts," Dr. Brondsted reported, "have proved fruitless."

The Danish archaeologist cites three major bits of evidence that are thought to be authentic Norse remainders of bygone excursions to the New World. These are: the "so-called" Beardmore find, a rusted fragment of an iron sword and two other iron objects found near Toronto, Canada; the Newport Tower, the ruin of a small cylindrical stone tower near Newport, R. I.; and the "so-called" Kensington Stone, a slab found near Kensington, Minn., which bears a runic description allegedly telling the fate of a party of Norse explorers expecting to be killed by Indians.

Each of the three has been attacked and defended with no clear-cut and valid conclusions as to their authenticity, the scientist states.

"What is essential," Dr. Brondsted says, "is to find ruins of a genuine Norse settlement or Norse grave on the continent."

Science News Letter, February 5, 1955

HISTORY

Sailing Rig Dates Back to Early A.D.

➤ THE "FORE-AND-AFT" rig that is standard type of sail on all the many small sail boats that dot America's yacht harbors, and on most of those in Europe, has an ancient history, Dr. Lionel Casson of New York University reports.

Great advantage of the "fore-and-aft" rig, with canvas stretched from the bow of the boat toward the stern, is that it is the best kind of sail for travel against the wind, important in yacht races, and for short runs under varied wind conditions.

Antiquity of this type of rigging was discovered when boats carrying it were found portrayed on ancient tombstones dating from the first three centuries of the Christian era. The tombs were in widely separated areas, two in Asia Minor and the third in northern Greece. All show boats with spritsail, ancestral to our modern rigging.

The spritsail was formerly thought an invention of northern European sailors of much later date, Dr. Casson explains in *Archaeology* (Winter, 1954).

Oldest and most important type of sail, Dr. Casson points out, is the square sail. It has been used on all sorts of boats from the day when man first took to the sea. Square sails brought the Greek fleet from Aulis to Troy, carried the Phoenicians the length and breadth of the Mediterranean, and brought Columbus' Santa Maria across the Atlantic. It finished its long career on the famous American clipper ships of the nineteenth century.

The square sail was ideal for long voyages. It offered every inch of its rectangular surface to the thrust of the wind, and caused the vessel carrying it to ride comfortably and safely.

A drawback was that the square sail required a wind that came from behind. To meet the need for a boat to sail against the wind, the fore-and-aft rig was invented. Such a rig was particularly important in the Mediterranean, where every ship that sailed from Egypt or Palestine or Asia Minor to Rome had to slog it out in the face of the wind for most of the voyage, Dr. Casson reports.

Science News Letter, February 5, 1955

METEOROLOGY

Safer Landings From New Weather Measuring

➤ AIRLINE PILOTS flying into Newark airport during bad weather will soon have the use of a new weather measuring system, the first to tell them when they will see vital ground reference points.

Trials of the system for regularly scheduled airlines are expected to start next fall, R. P. Snodgrass of Sperry Gyroscope Company, Great Neck, N. Y., told the Institute of Aeronautical Sciences meeting in New York.

"Visual reference information," needed by pilots to increase safety in instrument landings, is not available under present methods, Mr. Snodgrass said.

The new system tells the pilot when he can first see the ground, the approach lights, the end of the runway and visibility down the runway. This information is "what pilots really want to know," Mr. Snodgrass said, and is of more value than ceiling and visibility measurements at some point remote from the runway.

Raymond C. Wanta, U. S. Weather Bureau meteorologist in charge of the airport station at MacArthur Field, Long Island, N. Y., described the special measuring instruments that will provide this information for the pilots. A rotating beam ceilometer measures cloud heights at frequent intervals and a photoelectric transmissometer determines visibility continuously.

These instruments are planned for installation by the Weather Bureau at more than a dozen airports in the United States.

The new weather measuring system resulted from a two-year study of instrument approach flights under all weather conditions made under the sponsorship of the Air Navigation Development Board and the Weather Bureau in the New York-Long Island area.

Science News Letter, February 5, 1955

NUTRITION

Mashed Potatoes Made From Flakes

➤ TO POTATO chips, French fries and home fries can now be added "potato flakes," a new kind of dehydrated mashed potato.

Described as tasting somewhat like a baked potato, the new product was developed by a team of U. S. Department of Agriculture research scientists, who claimed that the flakes can be rapidly made into mashed potatoes by simply adding either hot water or milk.

An important advantage of the flakes, the scientists pointed out, is that the temperature of the water or milk can vary.

The flakes are made by drying cooked mashed potatoes on the rolls of a steam-heated double-drum drier. Commercial development must await completion of storage tests and cost estimates.

Science News Letter, February 5, 1955