PHYSICS

Yale Gets Grant for Radiocarbon Dating

➤ A LABORATORY for radiocarbon dating archaeological and recent geological specimens is to be established at Yale University with a Rockefeller Foundation grant of $42,500.

The new Yale laboratory will establish a second center for making determinations of radiocarbon 14 activity in specimens of organic origin connected with the early history of man and the recent geological history of the earth and archaeological and prehistorical discoveries.

Science News Letter, January 27, 1951

PUBLIC HEALTH

'Flu Can Hop Ocean But Smallpox Is Stopped

➤ INFLUENZA reported epidemic in England may hop the ocean to spread in this country, though so far there are no signs that it has. But smallpox which has broken out in Brighton, England, is not likely to menace us.

This is because our quarantine regulations for the past several years have required everyone entering this country to have been vaccinated aginst smallpox within the previous two years. The regulation applies to United States citizens returning from a vacation or business trip as well as to foreigners.

Recently the regulation has been amended slightly. In place of vaccination the traveller may present a letter from the health officer of the port of departure stating the traveller has not been in an area where small pox is prevalent for the past 10 days. Successful vaccination protects the individual against smallpox and prevents its spread.

Science News Letter, January 27, 1951

GEOLOGY

Methane Deposit Found in New England

➤ FIRST DISCOVERY in New England of a deposit of methane gas, the chief component of ordinary cooking gas, in a pocket in a rock formation has been reported to have taken place in a 500-foot well dug north of Lewiston, Maine.

Heretofore the only methane gas found in New England, according to Drs. Lloyd W. Fisher and William H. Sawyer, Jr., of Bates College was in bogs and in stagnant ponds. There it is commonly generated with the decay of vegetation buried in bottom mud.

Only a small amount of the gas was found in the rock through which this well was dug, the professors reported. It seeped out about 250 feet down, causing the water drawn up from the well to give off a gaseous odor and to bubble.

The most plausible explanation for this rare find of methane gas, as given by Drs. Fisher and Sawyer, Jr. (SCIENCE, Jan. 5) is that it migrated along the contact plane between two local rock formations or along the bedding planes of phyllites from some nearby swamp areas, or entered the zone of the wellhole through fractures in the country rock.

Science News Letter, January 27, 1951

TECHNOLOGY

New Butyl Tire Tube Self-Seals Punctures

➤ A NEW tube for the automobile tire which seals itself instantly when punctured has been developed by Firestone Tire and Rubber Company. It is said to be the first "puncture-proof" tube made entirely of the synthetic rubber known as butyl.

The tube is made of three layers with two puncture sealing elements under the tread. The inner layer is a special soft butyl which will flow around a nail or similar sharp object to prevent loss of air. The intermediate layer is an especially compounded butyl that resists tearing or enlargement of puncture holes. The outer layer is a tough, heat-resisting butyl that provides superior air retention. Butyl is now quite generally used in tire tubes because it holds air better than natural rubber.

Science News Letter, January 27, 1951

AGRICULTURE

More Cotton and Corn Wait New Weedkillers

➤ NEW CHEMICAL poisons are being hunted which will kill off weeds in U. S. cotton, corn, soybean and alfalfa fields without harming cash crops.

The goal of scientists working on new ways to give Nature a helping hand, such herbicides will some day give a "tremendous boost" to some of America's largest farm crops, the American Association for the Advancement of Science was told recently.

Large-scale use of chemicals is already proven, standard practice for the elimination of weeds from certain crops, Dr. Lloyd V. Sherwood, research agronomist of the Monsanto Chemical Co., pointed out.

But so far, cotton, corn, soybeans, alfalfa and similar legumes, beets, potatoes, onions and miscellaneous other crops have barely been touched by the modern scientific wand of chemical weed control.

There has been some early success in attacking the problem, Dr. Sherwood said.

But new chemicals are needed, he added, as well as more knowledge of plant life and the mechanisms by which various chemicals work.

Science News Letter, January 27, 1951

IN SCIENC

INVENTION

Champagne Made by Dropping Capsule in Water

➤ AN ALCOHOLIC beverage resembling champagne wine can be made at any time at any place with a glass of plain water and a capsule on which a citizen of France obtained an American patent recently.

The small capsule, easily carried in the pocket, has a casing principally of sugar and bicarbonate of soda. This casing dissolves quickly in water, releasing the contents of the capsule. Its filling is an alcoholate composed of an ethylic alcohol, a little tartaric or citric acid, an aromatic ester and a coloring material.

The sweetener used in the casing is insoluble in the alcohol used, and the same alcohol prevents the acid from reacting with the bicarbonate of soda until the casing is dissolved in the water when the contents mix with the liquid and gas is formed to give the sparkle.

Inventor is Filippo Frangialli, Paris. Patent awarded is number 2,537,453.

Science News Letter, January 27, 1951

ENGINEERING

Insulation Needed For Panel Heating

➤ INSULATION behind and around the edges of heated panels used in floor-type panel heating systems is essential to prevent heavy loss of heat, the American Society of Heating and Ventilating Engineers was told at its meeting in Philadelphia.

Failure to use insulation results in the loss of about 30% of the heat energy applied to the panel, according to F. W. Hutchinson, University of California, and D. L. Mills and L. J. La Tart, Revere Copper and Brass, Inc., Rome, N. Y. This loss is from the rear and the edges of the panel, they stated.

The conclusions of these technical men were based on investigations made during the past two winters in a regularly occupied building with floor-type heating panels in which the heating coils were embedded in concrete slabs.

In separate tests, three-quarter inch sinuous coil copper tube was used, the coil being embedded in a four-inch concrete slab poured over a six-inch gravel fill. Coils were embedded at two different depths. In each case the heated floor section was less than total floor area. However, edge and rear losses of heat were found to agree closely, and amounted to about 30% of the total energy supplied to the heating system.

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E FIELDS

PHOTOGRAMMETRY

Picture of Korea From Aerial Photos

➤ AERIAL photography gave a better and more complete analysis of Korea than that made by untrained officers in the field.

And it did so without endangering soldiers' lives by enemy action, Matt Witenstein of the Army Map Service told the American Society of Photogrammetry meeting in Washington.

A specialist in strategic intelligence, Mr. Witenstein said that the U. S. made a complete analysis of the highways, railways, towns and electric power facilities of Korea through interpretation of the aerial photographs.

The landscape shown by aerial photographs gives clues, he stated, from which the engineer can build up information much as a detective reconstructs an individual from his footprints in the snow.

A seemingly simple thing, such as the white line of a highway can help to give information about the road surface, the base on which it is built and its strategic and economic implications. Many sources of information must be interwoven to obtain the required information from aerial photography, he said.

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RADIO

Airplane VHF Receivers, Installation Aided

➤ PILOTS of private planes now being equipped with very high frequency radio receivers will be aided by a free leaflet issued recently by the U. S. Civil Aeronautics Administration on the installation of VHF Radio, VHF Omnirange Radio Installation and Noise Reduction Techniques.

The leaflet is a summary report of studies made by CAA technicians with nine makes of personal planes. The objective of the studies is to promote the safer flying that comes with better radio reception. With the present conversion of radio ranges and airport communication systems to very high frequency static-free signals, private planes need new reception equipment.

As a result of the tests already made, CAA officials report that most complete noise suppression in the very high frequency receivers now coming into general use is obtained with a properly maintained, shielded ignition system. Spark plugs are the worst offenders in producing disturbing noises. Use of resistance spark plugs without shielded harness provides an economical but not as good means of reducing ignition noises as the shielded ignition system.

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SURGERY

Patients "Monitored" Through Operations

➤ PATIENTS can be "monitored" through surgical operations by a new kind of blood pressure recording device reported by Dr. Robert Dripps of the Hospital of the University of Pennsylvania at the Surgery Section meeting at the U. S. National Institutes of Health.

A plastic catheter, or tube, is used instead of a needle to register changes in blood pressure during the operation. Recording is done by an ink writer instead of by photographic recording. The combination, Dr. Dripps said, gives greater flexibility and a more accurate, immediate view of blood circulation dynamics.

From the new technique, Dr. Dripps hopes also to get answers to such puzzling questions as why the effect of pressure from the anesthetic mask should cause low blood pressure during light anesthesia but does not reduce blood pressure when anesthesia is heavy. Another unanswered question he cited is why blood pressure is raised during examination of the throat by the laryngoscope under light anesthesia but not under heavy drugging.

Science News Letter, January 27, 1951

ENGINEERING

Supplies Are Dropped From Airplane Rapidly

➤ TWENTY 500-pound packages of equipment can be dropped from a military plane within seven seconds and within a 1,500-foot area with the help of a new monorail system revealed in Dayton, Ohio.

This rapid-fire aerial delivery, over 12 times higher than the World War II rate, is the result of a development program at the Wright-Patterson Air Force Base and Ryan Industries, Detroit, Mich. It uses an overhead monorail system that can be installed in large cargo planes.

Bundles to be dropped are suspended on the single rail which runs the length of the plane's fuselage. They are on trolleys that ride the rail on special rollers. The quick-ejection system is operated by a push button.

This opens the cargo doors in the forward section of the fuselage and activates a driving motor. The trolleys unlock individually and release their bundles as they contact the drop point above the cargo doors. A static line on each bundle pulls out the chute with which each is equipped as the package clears the plane.

Science News Letter, January 27, 1951

ASTRONOMY

Streams of Stars Connect Galaxies

➤ GREAT streams of stars reaching between many of the twin spiral galaxies, each as large as our Milky Way, have been discovered by Dr. Edwin F. Carpenter of the University of Arizona's Steward Observatory.

These great star systems containing as many as a hundred billion stars develop these lengthy connections when they come close enough together and perform a cosmic "kiss."

Dr. Carpenter's observations with a 36-inch telescope extending over many years and involving 60 to 70 pairs of galaxies, give new light upon the way in which the galaxies are formed. The great streamers or filaments between them are pulled out by tidal or gravitational forces and the gaseous substances in them collapse and condense into stars.

The new results indicate that great spiral nebulae are moving in such a way that they are wound up like a watch spring instead of disintegrating like a fireworks' pinwheel.

Two galaxies with such a new found connection may be so distant from each other that it takes light 100,000 years to travel from one to the other.

Science News Letter, January 27, 1951

MEDICINE

Flu Test Gives Verdict in Hour

➤ A SIMPLE test which will tell within an hour whether a patient has influenza or whether his sore throat and feverish aches are due to some other cause, such as atypical pneumonia or a bad cold, has been developed by Dr. S. Fazekas de St. Groth of the Walter and Eliza Hall Institute of Medical Research in Melbourne, Australia.

The test is made from material swabbed from the patient's nose which is then soaked in salt solution of a special strength. It depends on the finding that the mucus normally secreted by human noses contains a substance called an inhibitor which stops clumping of red blood cells. During infection with influenza, the nasal mucus loses this ability.

Disappearance of the inhibitor was previously found to be one of the most sensitive diagnostic signs of influenza in mice. Trials during an epidemic of influenza A in humans in Melbourne showed the test compared well with other tests for 'flu infection in humans. It has the advantage of being simple to perform and quick to give the answer. Details are reported by Dr. de St. Groth in the British scientific journal, NATURE (Jan. 6).

Science News Letter, January 27, 1951