

## SCIENCE NEWS

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## SCIENTIFIC EVENTS OF THE YEAR

*(Continued)**Biology*

Surgical transplantation of eyes, ovaries and other organs in insects only a sixth of an inch long was described by Drs. Boris Ephrussi and G. W. Beadle, working first in Paris and then at the California Institute of Technology.

That cells "drink" fluid from their surroundings was demonstrated by Dr. Warren H. Lewis, Department of Embryology, Carnegie Institution of Washington.

A pressed specimen of one of Gregor Mendel's famous pea plants was brought to the University of Pennsylvania from Mendel's old monastery, by Professor Samuel W. Fernberger.

The historic Lacasta-Mocino botanical collection was brought from Madrid to the Field Museum of Natural History, Chicago.

Elephants have a body temperature about two degrees lower than that of man, and a heart-beat less than half as fast as the human rate, it was announced by Dr. Francis G. Benedict and Robert C. Lee, Nutrition Laboratory, Carnegie Institution of Washington.

Evolutionary changes in a fungus were produced by secondary cosmic rays, in experiments by Drs. B. Rajewsky, A. Krebs and H. Zickler of Frankfurt-am-Main, Germany.

Heavy hydrogen and isotopes of other nutrient elements were used in tracing the transportation routes of materials in animal and plant bodies by Professor August Krogh, of the University of Copenhagen, and by Drs. R. Schoenheimer and D. Rittenberg, of Columbia University.

Cancer-provoking chemicals produced abnormal growths on plants, in experiments by Dr. Michael Levine, Montefiore Hospital, New York City.

Green light is poisonous to one-celled plants, Dr. Florence E. Meier, Smithsonian Institution, discovered.

A humane trap, that holds its catch with a chain loop instead of steel jaws, was brought out by Vernon Bailey, formerly of the U. S. Biological Survey.

The North American Wildlife Conference was formed, under the leadership of J. N. ("Ding") Darling.

All shooting of canvasback and red-head ducks was forbidden.

A juniper in the High Sierra, believed to be as old as the famous Big Trees, was studied and described by Dr. Waldo S. Glock, Carnegie Institution of Washington.

An enormous mountain laurel bush, 82 inches through at the base, was found in the Great Smoky Mountains National Park.

The great National Park in the Belgian Congo was more than doubled in size.

The number of plant patents passed 200.

Extensive field tests were made with the Rust cotton picker, and an improved model was patented.

A promising new cotton hybrid with exceedingly fine,

strong fibers, was announced by the U. S. Department of Agriculture.

Drought caused the worst crop failures in the history of the country.

Grasshoppers and Mormon crickets were very destructive in the West.

The devastating elm disease continued to spread in the area around New York City.

Milk was successfully shipped for long distances by first concentrating and then freezing it, in a process developed by the U. S. Department of Agriculture.

Experiments on a commercial scale were made with the method of growing large crops of vegetables and flowers in tanks of electrically warmed nutrient solution originated by Professor William Gericke, of the University of California.

*Anthropology*

PEKING MAN—inhabitant of Choukoutien caves in China over half a million years ago—was a direct ancestor of recent man, and a type independent of Neanderthal Man and far more primitive, Dr. Franz Weidenreich, Peiking Union Medical College, concluded.

"The oldest known Englishman" title was claimed for the skull which has been coming to light in successive discoveries in the Thames Valley, as a result of excavations in gravel 24 feet under ground, by Dr. A. T. Marston, London dentist and archeologist.

The verdict that a new species of fossil ape with certain man-like characters, discovered at Sterkfontein, South Africa, is probably of Upper Pleistocene age, hence contemporary with man, not an ancestral form, was announced by Dr. Robert Broom, of the Transvaal Museum.

The human race became definitely human between Pliocene and Pleistocene times, about 1,000,000 years ago, Professor Hellmut de Terra, Yale, estimated.

Seeking new light on prehistoric man in Alaska, Dr. Aleš Hrdlička, of the U. S. National Museum, explored two Aleutian burial caves containing numerous mummies, and also discovered an Aleut skull pronounced the largest normal skull known in America.

The American population includes nine physical groups, the largest consisting of Nordics mixed with other types, Professor E. A. Hooton, Harvard University, reported.

A 4-year study of New England speech, which will become part of a linguistic atlas of the United States and Canada, was completed under the direction of Dr. Hans Kurath, Brown University.

Physical traits of 2,000 Irish women and 10,000 Irish men were recorded by Harvard University anthropologists working in Ireland.

Blood types of ancient Egyptians were determined by Dr. P. B. Candela, Brooklyn physician, from their dry bones subjected to biochemical test.

Dr. Edgar B. Howard, leader of a joint expedition, succeeded in dating Folsom Man in America more definitely by finding man-made weapons associated with bones of prehistoric elephants and by having scientific witnesses

confirm the geology and climatology as indicating antiquity of about 10,000 years for the event.

Tombs of ancient American rulers were discovered by the Carnegie Institution of Washington, in a group of Mayan pyramids in Guatemalan highlands, shedding new light on the Old Mayan Empire.

A culture in the Ulua River region of Honduras, ancestral to that of the Mayas, was unearthed by Dr. W. D. Strong, leading an expedition for the Bureau of American Ethnology and Harvard University.

A prehistoric Indian settlement described as three miles long in Ponca Creek Valley, Nebraska, was explored by Professor Earl H. Bell, University of Nebraska.

An ox cult, unique in archeological records, was discovered in the Limpopo Valley, Transvaal, Africa, when Captain G. A. Gardner unearthed a very early Bantu habitation of possibly 900 A.D. and found an ox buried with human ceremony.

#### Medical Sciences

Protamine insulinate, called the "most valuable discovery in the treatment of diabetes since the original discovery of insulin," was developed, for use together with ordinary insulin in treating severe diabetes, by Dr. H. C. Hagedorn and associates at Steno Memorial Hospital, Copenhagen.

Apparently one disease was transformed into another when Dr. George Packer Berry, University of Rochester School of Medicine, produced in rabbits fatal cases of the tumor disease, myxoma, by injections of killed and harmless myxoma virus mixed with the virus of non-fatal rabbit fibroma.

First synthesis of theelin, one of the female sex hormones, was reported by Professor Russell E. Marker and Thomas S. Oakwood, Pennsylvania State College.

Apparently successful use of a preparation, known as Protosil, in the treatment of beta hemolytic streptococcus infections including scarlet fever, puerperal fever and erysipelas, was reported by Drs. Perrin H. Long and Eleanor A. Bliss, the Johns Hopkins Medical School, and in England by Dr. Leonard Colebrook, Medical Research Council, and Dr. Méave Kenny and associates, Queen Charlotte's Hospital, London. The chemical was first prepared and used in Germany four years ago.

Continuous use of the stomach tube to reduce internal pressure in the distended abdomen in cases of acute intestinal obstruction and other severe abdominal conditions was devised and its successful use reported by Dr. Owen H. Wangensteen, of Minneapolis, Minn.

Long-sought cause of mussel poisoning, which has resulted in death following the eating of California rock mussels at certain seasons, was traced by scientists at the Hooper Foundation of the University of California to poisonous phosphorescent microorganisms of the sea, *Gonyaulax catenella*, eaten by the mussels.

Detection of radium poisoning became more accurate through the application of a new type of screen-cathode quantum counter developed by Dr. Robley D. Evans, Massachusetts Institute of Technology, and said to be 10 to 100 times more sensitive than older methods of detecting radium in the body.

Better protection against dangerous x-ray burns through use of a baffle screen which deflects secondary electrons in the x-ray beam was devised by Dr. G. Failla, Memorial Hospital, New York.

A new technique for investigating living matter by obtaining characteristic electrical patterns specific for each species and which, in animals, has already shown characteristic changes in the pattern on the advent of cancer, during ovulation, and other physiological processes was devised by Drs. Harold S. Burr, Cecil T. Lane, and Leslie F. Nims, of Yale University.

Neutron rays are more effective than x-rays in killing tumors in animals and may prove more potent in destruction of cancers in humans, Dr. John H. Lawrence, of Yale University, and his brother, Professor Ernest O. Lawrence, of the University of California, reported, on the basis of studies with the atom-smashing cyclotron invented by Professor Ernest O. Lawrence.

Growth of mouse cancers was checked with hemorrhage and destruction of the tumors following the treatment with colon bacilli, meningococci and other microorganisms, Dr. H. B. Andervont, U. S. Public Health Service, reported.

Mice with spontaneous tumors lived longer and tumor growth was checked following injections of cystine disulfide, Dr. Frederick S. Hammett, Lankenau Hospital, Philadelphia, reported.

Cancer tissue, contrary to general opinion, requires the same sort of protein nourishment for its growth as normal tissue, Drs. Carl Voegtlin, J. W. Thompson, Mary E. Maver and J. M. Johnson, U. S. National Institute of Health, found from experiments in which growth of cancer in mice was checked by diets deficient in lysine or cystine and restimulated by glutathione.

A new strain of yellow fever virus was isolated by scientists of the International Health Division, Rockefeller Foundation, promising more effective vaccination against yellow fever.

A new hazard from yellow fever was discovered when scientists of the Rockefeller Foundation's International Health Division found that Brazilian jungle fever is a yellow fever and that other mosquitoes besides *Aedes aegypti* can carry the disease.

A chemical explanation of heart failure as a disturbance in the breaking down and rebuilding by individual heart muscle cells of phosphocreatine was worked out by Drs. George Herrmann and George Decherd, University of Texas School of Medicine.

Visual purple, chemical compound in the eye necessary for seeing, was regenerated in a test tube for the first time under controlled conditions which make possible repetition of the feat and consequent important investigations of vision, by Drs. Selig Hecht, Aurin M. Chase, Simon Shlaer and Charles Haig at Columbia University.

A test for the sense of smell and for fatigue of this sense, which may be useful in locating brain tumors, was developed by Dr. Charles A. Elsberg, Irwin Levy and Earl D. Brewer at the Neurological Institute, Columbia University.

A nervous mechanism that acts as a thermostat to

regulate body temperature was found in the hypothalamic region of the brain by Dr. S. W. Ransom, Northwestern University Medical School.

Important function of the cortex of the adrenal glands is to regulate the amount of potassium in the blood and thus keep the body from poisoning itself, Drs. Raymond L. Zwemer and Richard Truszkowski, Columbia University College of Physicians and Surgeons, reported.

Further evidence that the adrenal and pituitary glands play an important rôle in diabetes was obtained by Dr. C. N. H. Long, Yale University.

The relation of the pituitary gland to sex functions was further clarified by Dr. Herbert M. Evans and collaborators at the University of California who succeeded in separating the stimulating extract into three fractions, each of which selectively affects one of the three functional components of the ovary.

Lipocaie, new hormone from the pancreas which controls fat metabolism in the liver as insulin controls carbohydrate metabolism and may greatly improve treatment of diabetes, was obtained by Drs. Lester R. Dragstedt, John van Prohaska and Herman P. Harms, University of Chicago.

Vaccination against ivy poison by subcutaneous injections of the irritant from poison ivy plants was accomplished in a group of CCC men by Lieutenant-Colonel J. M. Blank, U. S. Medical Reserve Corps, and Dr. Arthur F. Coca, Pearl River, N. Y.

Influenza can be more widely spread through the air than previously supposed, but ultraviolet light kills the influenza virus suspended in droplets in the air, studies by Drs. W. F. Wells and H. W. Brown, Harvard School of Public Health, indicated.

A structure between the nerves and muscles of the body which acts as a barrier to the passage of a disease-causing virus which, like infantile paralysis virus, attacks the brain and central nervous system, was discovered by Drs. Albert B. Sabin and Peter K. Olitsky, Rockefeller Institute for Medical Research.

An alum-picric acid nasal spray, developed by Dr. Charles Armstrong, U. S. National Institute of Health, was widely used as a preventive of infantile paralysis in southern states. This method was 95 per cent. effective in monkeys but the method of its employment in the southern states was such as to leave its value in humans undetermined.

Successful use of placental extract in the treatment of hemophilia was reported by Drs. R. Canon Eley and Charles F. McKhann, of Boston.

Surgical operations were performed on hemophiliacs without post-operative hemorrhage by means of high frequency electroscalpel and coagulation unit, Drs. Warfield M. Firor and Barnes Woodhall, Johns Hopkins Hospital, reported.

Incubation of egg white mixed with potassium bromide provides a remedy that markedly reduces the blood clotting time in hemophiliacs and continued use of the remedy may enable them to lead normal lives without danger of hemorrhage from slight injury or exertion, Drs. W. A. Timperley, A. E. Naish and G. A. Clark, University of Sheffield, England, reported.

Improved rabies vaccine, free from potentially dangerous nervous tissue, was made from culture virus by Drs. Leslie T. Webster and Anna D. Clow, Rockefeller Institute.

Picrotoxin is an antidote for overdoses of luminal and other barbiturates, Drs. T. Koppányi, J. M. Dille and C. R. Linegar, Georgetown University Medical School, reported.

Antidote for cyanide poisoning is injection of a mixture of amyl nitrate, sodium nitrite and sodium thiosulphate, Dr. K. K. Chen, of Indianapolis, reported.

The immediate cause of certain headaches was claimed by Dr. Temple Fay, Temple University, Philadelphia, to be the amount of fluid in the brain.

Epileptic seizures were predicted by electrical studies of the brain conducted by Drs. F. A. Gibbs and W. G. Lennox, Harvard Medical School.

Experimental production of edema of the lungs and subsequent pneumonia, such as occurs following operations, burns and toxic conditions of childbirth, was accomplished by Drs. Virgil H. Moon and David R. Morgan, of Philadelphia.

Human bone marrow was grown in glass laboratory apparatus for the first time in sufficient quantities for study of blood and metabolism by a method devised by Dr. Edwin E. Osgood and Alfred N. Muscovitz, University of Oregon Medical School.

Injecting meningococcus antitoxin into the veins instead of the spinal cavity is a more effective method of treating epidemic meningitis and reduces the number of deaths from the disease, Dr. Archibald L. Hoyne, of Chicago, found.

Allergy or sensitiveness to certain foods can be detected by a blood test, since the number of white blood cells decreases after the offending food is eaten, Dr. Warren T. Vaughan, of Richmond, reported.

Further proof that food poisoning is due to *Staphylococcus aureus*, common microorganism that also causes boils, and that cream puffs and eclairs, foods most commonly concerned, can be made safe by reheating to 156 degrees Fahrenheit, was furnished by researches of Dr. G. M. Dack, of the University of Chicago, and Dr. George A. Denison, of Jefferson Co., Ala., Board of Health.

The causative virus of epidemic encephalitis was grown outside the animal body by Drs. Jerome T. Syverton and George P. Berry, University of Rochester School of Medicine and Dentistry.

A combination of recognized fever and medicinal methods of treating syphilis, which materially shortens the necessary period of treatment, was reported by Drs. Clarence A. Neymann and Theodore K. Lawless and S. L. Osborne, of Chicago.

Sinus infections can reach the lungs via lymphatic glands of neck and chest, Drs. Ralph A. Fenton and Olaf Larsell, University of Oregon Medical School, demonstrated.

Test for predicting the outcome of operations for relief of high blood pressure, made by observing the effects on blood pressure of injection of the anesthetic, sodium pentothal, was devised by Drs. Edgar V. Allen, J. S. Lundy and A. W. Adson, of the Mayo Clinic.