

Summary of Scientific Events During 1926

The first instalment of this summary of science for the past year appeared in the *SCIENCE NEWS-LETTER* of January 1, XI, 4, and covered aeronautics, anthropology and psychology, astronomy, biology, and chemistry.

Chemistry (Continued)

A set of world standards for gasoline and other liquid fuels was proposed at the meeting of the International Union of Pure and Applied Chemistry.

Prof. Richard Zsigmondy of the University of Goettingen, Germany, received the 1925 Nobel prize for chemistry, and Prof. The Svedberg of the University of Upsala, Sweden, was awarded the 1926 Nobel chemistry prize.

Poland elected as its President, Prof. Ignatz Moscicki, well-known scientist in the field of chemical engineering.

The American Chemical Society celebrated the fiftieth anniversary of its foundation.

A meeting of the International Union of Pure and Applied Chemistry was held at Washington, September 13-15.

Engineering and Invention

High steam pressure boilers promised to revolutionize future locomotives.

Cellulose skins for sausages were perfected at the Mellon Institute.

Refrigerators cooled by gas flame and by steam were invented by European engineers.

A machine for automatically coding cipher telegraphic messages was perfected.

Prof. Schwartz of the University of Stellenbosch proposed a scheme for checking the gradual drying-up of South Africa by damming the Kuene River.

Secrets of the long-range German cannon that bombarded Paris from a distance of over 60 miles, were revealed following the death of the inventor, Dr. Fritz Rausenberger of the Krupp firm.

Steel sections, formerly used only in skyscrapers, were used in residences and buildings of light construction class.

Practically all of the important railroad lines in the United States decided to establish auxiliary motor lines, as a result of a meeting of railroad officials representing 51 lines.

Exploration

Lieut. Commander R. E. Byrd, U. S. N., reached the North Pole, May 9, by airplane from Spitsbergen, making first flight to pole.

Amundsen crossed the North Pole, May 12, in the airship Norge, traversing 2,700 miles in 71 hours.

Center of New Guinea, only place where white man has not yet roamed, penetrated by American-Dutch party.

An expedition to Greenland to locate the seat of the North Atlantic storms was headed by Dr. William H. Hobbs, of the University of Michigan.

General Science

Four of the most important scientific gatherings of the year were the International Congress of Plant Sciences held at Cornell University, Ithaca, N. Y.; the International Congress of Physiologists held at Stockholm; the First International Congress on Sexual Research at Berlin, and the Pan-Pacific Science Conference at Tokyo.

Germany was admitted to the International Research Council.

The first volume of the International Critical Tables comprising an invaluable collection of statistical information for the use of scientists generally, was issued by the National Research Council.

An institution for popularizing science, L'Office d'Information Scientifique et Technique, similar to Science Service, opened in Paris under the patronage of the Duc de Gramont.

Geology and Geography

Thick vast beds of potash in Texas and New Mexico were discovered and promise to free America from German potash monopoly.

A gold ore deposit of importance was discovered at Boliden, near the Arctic Circle, by Swedish engineers, using electrical prospecting methods.

Prehistoric reptile footprints in sandstone, 25,000,000 years old, were brought to U. S. National Museum by their discoverer, Charles W. Gilmore.

A 400 million year old fossil fish, found in Norway, was presented to Princeton University.

While the U. S. S. *Maryland* made a trip to Australia, a chart of the sea bottom along the route was made by the automatic depth sounder, which kept a continuous record throughout the long voyage.

Iceberg predictions were undertaken by the International Ice Patrol.

Medicine

Partial immunization to measles, by means of injections of blood serum from persons who have had the disease and recovered, was claimed in a report to the League of Nations Health Committee.

The germ of oroya fever, or Peruvian fever, was isolated at the Rockefeller Institute by Drs. Hideyo Noguchi and T. S. Battistini.

Dr. E. B. Krumbhaar of Philadelphia announced that the spleen is an important source of the anti-bodies in the blood, which aid the body in resisting bacterial infection.

A skin test for susceptibility to infantile paralysis was originated by Dr. Edward C. Rosenow of the Mayo Foundation.

Bacteriophage, the enemy of germs, discovered by Dr. F. d'Herelle, was declared by him to be a living parasite of parasites and not just a chemical factor.

Cause of creeping eruption was found to be a small parasitic thread worm by experts at U. S. Bureau of Entomology.

Mrs. Margaret R. Lewis, of the Carnegie Institution, and Howard B. Andervont, Johns Hopkins University graduate student, discovered that a form of cancer occurring in chickens is the result of the white blood cells running wild.

Experiments on 50,000 mice by Dr. Maud Slye, of the University of Chicago, showed that resistance as well as susceptibility to cancer in mice is hereditary.

Virus from chicken sarcoma was found to be absolutely resistant to X-rays by workers at Cancer Research Laboratory at Middlesex, England.

Rat bite fever was found to be an effective cure for general paralysis or paresis.

The Pasteur Institute claimed that babies may be protected from tetanus infection by giving prenatal doses of tetanus anatoxin to mothers.

Indications were found that trachoma, a disease of the eye for which immigrants have been barred from entering the U. S., is due to a deficient diet, by Dr. B. Franklin Royer, medical director of the national committee for the prevention of blindness.

Two Prague scientists discovered a way of using washed animal blood in human transfusions.

By coating them with gold, Prof. H. Bechold, German scientist, made visible minute bacteria formerly beyond the power of any microscope.

Polonium, the radioactive element isolated by Mme. Curie, was declared to be of possible use in treating syphilis as a result of preliminary tests made at the Pasteur Institute.

The theory that some diseases may be the result of a partnership of two kinds of germs was advanced by Dr. Aldo Castellani, internationally known for his studies of tropical diseases.

Protection against typhoid fever by swallowing vaccine was tried out experimentally in bacteriological laboratories at the State College of Washington.

Discovery of the chemical compound in tuberculosis that causes the skin reaction in persons that have tuberculosis was announced by Dr. Florence B. Seibert, of the University of Chicago, as a new step toward understanding the chemistry of tuberculosis.

The belief that the adrenal glands play an important part in the production of body heat was advanced by Dr. Charles Sajous, professor of endocrinology at the University of Pennsylvania.

It was shown that ultra-violet light is necessary for the formation of vitamin B, which prevents beri-beri and similar diseases, and of the growth-promoting vitamin A, at least to a certain extent.

Nickel and cobalt were shown to be necessary to the proper functioning of the pancreas, which prevents diabetes, by Gabriel Bertrand, of the Pasteur Institute of Paris.

The Health Organization of the League of Nations built up an epidemiological service to check the spread of infectious diseases between countries.

A drive for full birth and death registration throughout the United States was inaugurated by the American Medical Association.

Tetraethyl lead "anti-knock" gasoline was declared by the U. S. Public Health Service to be not unduly dangerous to health when made under specified and carefully supervised conditions.

A movement to secure uniform milk ordinances for all the states was instigated by the U. S. Public Health Service at a conference of health authorities from the different states.

Berlin established a matrimonial bureau where candidates for marriage can receive medical and genetical advice.

The first meeting of the American Health Congress was held at Atlantic City.

Physics

Dr. W. D. Coolidge, of the General Electric Company, demonstrated a new cathode ray tube, with which these rays are for the first time obtained in quantity outside the tube. The effect of the tube

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Scientific Events

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is estimated to be equivalent to a ton of radium.

Prof. A. A. Michelson of the University of Chicago announced his new determination of the speed of light as 299,786 km. or 186,284 miles per second.

Helium was prepared in solid form at a temperature of 457 degrees below zero Fahrenheit by Prof. W. H. Keeson of the University of Leyden, Holland.

Magnetism of hydrogen atom was measured by Drs. J. B. Taylor and T. E. Phipps of the University of Illinois.

The penetrating cosmic rays vary daily with the aspect of the heavens, Dr. Werner Kolhoerster, German physicist, found.

Experiments made by means of midnight balloon ascensions in Belgium showed no ether drift, thus substantiating the Einstein relativity theory.

Dr. Roy J. Kennedy of the California Institute of Technology repeated the Michelson-Morley experiment and obtained no evidence of ether drift.

Experiments by Dr. Carl T. Chase of the Norman Bridge Laboratory of Physics at Pasadena gave strong support to the Einstein theory of relativity, quite in opposition to Dr. Dayton C. Miller's results antagonistic to the famous theory.

Experiments by Dr. Rudolph Tomaschek, of the University of Heidelberg, Germany, fail to confirm the ether drift said to have been indicated by experiments of Dr. Dayton C. Miller at Mt. Wilson, California.

Dr. G. M. B. Dobson and Prof. F. A. Lindemann, of Oxford University, showed that the temperature 50 miles above the

earth is as high as that of a warm summer day.

A vacuum switch which stops immense electrical currents safely was devised in the new high-tension laboratory of the California Institute of Technology.

A new kind of vacuum tube with which electric currents can be amplified two million times was developed by Dr. Albert W. Hull and H. N. Williams working in the research laboratory of the General Electric Company.

The sound of a single atom of radium was made audible to radio broadcast listeners when Dr. H. P. Cady, chemist of the University of Kansas, amplified minute electric currents 700 billion times.

The proposition that beats of a master pendulum of great precision might be signalled throughout the world by radio, so that all telegraphic, astronomical, and radio instruments would be in exact tune with each other was urged by Albert Einstein before the League of Nations Committee on Intellectual Cooperation.

Dr. James Franck of the University of Goettingen and Dr. Gustav Hertz of the University of Halle divided the 1925 Nobel physics prize, and Prof. Jean Baptiste Perrin of the Sorbonne, Paris, was awarded the 1926 Nobel prize for physics.

Prof. Niels Bohr, physicist, received Franklin medal from Franklin Institute for his work on the structure of the atom.

Dr. W. D. Coolidge, inventor of the type of X-ray tube now almost universally used in hospitals and laboratories, was awarded the Howard N. Potts Medal of the Franklin Institute for his invention which "has simplified and revolutionized the production of X-rays."

Psychology

Intelligence tests given to 301 geniuses of history by Dr. Catherine M. Cox of Stanford University showed that genius is generally revealed in youth.

Intelligence tests given to 5,500 New England school children of foreign parents were found by Dr. Nathaniel Hirsch to show that there is no connection between high intelligence and any one particular racial type.

Tests made with 100 young children showed that a two year old child that can scarcely talk is already developed into a personality type, with characteristic emotional reactions, it was reported by Dr. Leslie Marston, of the Iowa Child Welfare Research Station.

The mind of a person is organized and important mental attitudes determined before birth, Dr. Stewart Paton of Princeton University declared.

First mental tests of a gorilla, made by Dr. Robert M. Yerkes, of Yale University, showed it to be the most intelligent of the higher apes.

The Yale Psycho-Clinic started on a program of studying the mental development of normal children, in which the mental growth of individual children is to be followed for a number of years, through pre-school ages and later childhood.

A close systematic study of the development of six normal children in a normal home environment was started by three scientists in New York City.

Children whose characters become warped so that they steal and commit sex offenses as a result of sleeping sickness may be reeducated by training in good habits, according to results obtained by Helvi Haahti, Finnish psychiatrist at the Institute of Juvenile Research of Illinois.

Colored moving pictures now being developed cause much less strain on the eyes than black and white pictures, according to experiments made by Dr. Leonard Troland, psychologist, of Harvard University.

Radio

Two-way radio communication was established for considerable lengths of time between New York and London.

Directed "beam" radio transmission was begun on a large scale by several stations in the British Empire.

Radio broadcasting in the United States has been under poor control due to failure of Congress to enact legislation.

New 80,000 watt radio transmitter was installed by U. S. Navy at Chollas Heights, near San Diego.

Practical television was claimed by several inventors in France and the United States.

Seismology and Volcanology

Ten severe earthquakes in or near North America were reported by seismological stations cooperating with Science Service, the U. S. Coast and Geological Survey and the Jesuit Seismological Association.

Plans were completed by the Seismological Society of America, in cooperation with the Carnegie Institution of Washington, for the establishment of a chain of seismograph stations around San Francisco Bay, to detect microscopic earth tremors and so to more adequately warn of future quakes.

Earthquake on west coast of Sumatra cost 400 lives.

Earthquakes devastated portions of Armenia.

Volcanic eruption in Tokachi, Japan, cost 900 lives.

Three hitherto unknown volcanoes were discovered in Alaska by R. H. Sargent, of the U. S. Geological Survey. The largest is six and a quarter miles in diameter.

An Eastern Section of the Seismological Society of America was established for the particular study of earthquake phenomena in the eastern part of the United States.

Science News-Letter, January 8, 1927

Switzerland has developed 70 per cent. of its available water power.

Cortez, in the sixteenth century, tried to introduce silkworm culture into Mexico.

Since the Bronze Age of prehistoric man, salt has been mined almost continuously in Austria.

Almost three-fourths of the murderers in this country have had no previous criminal record.

Habitual bad posture may cause backache, fatigue, abdominal pain, constipation, and insomnia.

An egg laying contest in Great Britain has attracted over 15,000 ambitious pullets and ducks.

The sun would appear blue-hot if it were not for the scattering of its rays by atmospheric gases.

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