PHYSICS

Man Excels Nature In Producing Gamma Rays

HOW MAN is exceeding nature in the artificial production of piercing gamma rays like those given off by radium and used in cancer treatment is revealed in the latest report from California Institute of Technology.

Nearly two and one half times more piercing than the natural gamma rays is the radiation liberated from the light element beryllium when it is bombarded with protons, the nuclei of hydrogen atoms, report Prof. C. C. Lauritsen and Drs. H. R. Crane, L. A. Delsasso and W. A. Fowler. (*Physical Review,* May 15).

Champion of natural gamma rays for piercing power are those from thorium C'' having energies equivalent to 2,600,000 electron volts. Prof. Lauritsen's beryllium rays have energies equal to 6,000,000 electron volts.

Record energies for artificially man-made gamma rays are those which Prof. Lauritsen obtained by bombarding lithium with protons. These gamma rays had energies equal to 16,000,000 electron volts.

Science News Letter, June 1, 1935

GENERAL SCIENCE

Engineer Says Science Is 20 Years Behind Economics

SCIENCE is twenty years behind economic and social development. That's the challenging thought put forward, not by an economist, but by a competent engineer and scientist, Dr. Charles F. Kettering, president of General Motors Research Corporation.

Calling research "industrial prospecting" Dr. Kettering's report to the recent New York meeting of the national engineering societies said:

"We are supposed to have advanced scientifically very much faster than we have socially or economically. I don't believe this at all. I think we are fifteen or twenty years behind our social and economic development in our scientific development. We need more research.

"I often say that research is a way of finding out what you are going to do when you can't keep on doing what you are doing now. If there had been more research with this viewpoint in mind we would not have been in our present difficulties. All that this definition means is that what we are trying to do is to develop new industries which will provide more jobs. Since there are more men than jobs at the present time, it looks like there is plenty of work left for industrial research.

"Research is industrial prospecting. The oil prospectors use every scientific means to find new paying wells. Oil is found by each one of a number of methods. My own group of men are prospecting in a different field using every possible scientific means. We believe that there are still things left to be discovered. We have only stumbled upon a few barrels of physical laws from the great pool of knowledge.

"Some day we are going to hit a gusher that will keep us industrially busy for a long time to come refining the new oil of knowledge and making it into useful new products. Men will be back to work and all of us will live a fuller, more useful life as a result."

Science News Letter, June 1, 1935

ARCHAEOLOGY

Mummified Human Organs Preserved in Wooden Box

MUMMIFIED organs, still scented with perfumes used by Egyptian embalmers 4,000 years ago, have been discovered in Moscow by Egyptologists who chanced to open a wooden box stored at the Museum of Imitative Arts.

The extremely rare find of human organs thus perfectly preserved is expected to shed light on the higher technique of mummification, practised on behalf of noble Egyptians. The organs, a human liver and small intestine, were found wrapped in thick linen fabric and had apparently been covered with sawdust. The box, which an expedition found in Egypt in 1912, is covered with hieroglyphics showing that it dates from the Middle Empire.

Said Prof. V. I. Avdeev, Egyptologist of the Museum:

"History knows only several cases where mummified internal organs were buried, not in canopic jars, but in wooden boxes and yet remained well preserved through thousands of years.

"Apparently the ancient Egyptians had applied in such cases special methods of mummification which were accessible only to the most distinguished nobles, in the retinues of the Egyptian emperors.

"This human being (whether man or woman has not been established) to whom the organs found in the box belonged, apparently had been one of such nobles. The hieroglyphs state that he had been 'an adornment of the Emperor.' "

Science News Letter, June 1, 1935

IN SCIENC

AVIATION

Dr. Ames, Johns Hopkins, Awarded Langley Medal

DOCTOR Joseph S. Ames, veteran physicist, president of The Johns Hopkins University and chairman of the National Advisory Committee for Aeronautics, was awarded the Langley Medal for Aerodromics of the Smithsonian Institution. Chief Justice Charles E. Hughes, Chancellor of the Institution, made the presentation.

The Langley Medal, which has been given in the past to such aviation personages as Wilbur and Orville Wright, Glenn H. Curtiss, Col. Charles A. Lindbergh and Admiral Richard E. Byrd, was awarded "in recognition of the surpassing improvement of the performance, efficiency and safety of American aircraft resulting from the fundamental scientific researches conducted by the National Advisory Committee for Aeronautics under the leadership of Dr. Ames," states a resolution accompanying the medal.

Science News Letter, June 1, 1935

METEOROLOGY

Ships Asked to Radio Reports of Hurricanes

SHIPS at sea are asked by the Hydrographic Office, U. S. Navy, to radio reports of all hurricanes they may encounter during the approaching tropical-storm season, from June to November. The nearer they are to the center of the storm the more valuable their reports will be, say the officers in Washington, D. C., although they concede that "It is realized that in such a situation the master of the ship and his officers are occupied with the duties of navigating the ship." But the life- and property-saving value of such advices nevertheless make them worth the difficulty of sending.

Radio dispatches may be sent in a special code, obtainable either from the Hydrographic Office or the Weather Bureau. Shore stations "talking" with ships in the neighborhood of a hurricane are authorized to forward to the U. S. Weather Bureau, Washington, D. C., by wire collect the storm news thus received.

Science News Letter, June 1, 1935

E FIELDS

MEDICINE

Claim Virus Is Cause Of Acute Rheumatism

THE CAUSE of acute rheumatic disease is probably a virus, Drs. Bernard Schlesinger and Gordon Signy of the Hospital for Sick Children and C. Russel Amies of the Lister Institute report. (*Lancet,* May 18).

Microphotographs of fluids from the chest and lungs of persons dying of acute rheumatic infection revealed elongated bodies closely resembling those previously identified as the virus bodies of chickenpox. The microphotographs were taken and described by J. E. Barnard, non-medical scientist and Fellow of the Royal Society.

Tests with the blood serum of thirty-six living patients suffering from acute rheumatic disease confirmed the belief that the bodies seen in Mr. Barnard's microphotographs are the "germs" of the disease.

The streptococcus, previously considered the microorganism that caused acute rheumatic disease, plays an important part in the development of the malady, probably by lowering the individual's resistance to the virus, the scientists believe.

Science News Letter, June 1, 1935

MEDICINE

New Electric Stethoscope Now Has "Tone Control"

AN ELECTRICAL stethoscope which enables 100 doctors and medical students to listen to heart and lung sounds was described before the Royal Society of Canada by K. A. Evelyn, University clinic, Royal Victoria Hospital, Montreal.

With a powerful microphone, and loudspeaker amplifying system attached to the ordinary stethoscope, physicians—and physicians-to-be — can learn the sound characteristics of various heart ailments.

Moreover, a system, like the tone control on a radio set, enables the doctors to separate the various sounds of the heart beat into the low and high-pitch components. This is a new aid for diagnosis, Mr. Evelyn pointed out.

The secret of success of the new stethoscope is the sound-proof box in which the microphone is placed. This cuts out all extraneous noises which might mask, when amplified, the delicate sounds of the heart beat.

Once the heart beat is turned into electrical impulses it is easily possible to pass them through a cathode ray oscillograph and obtain a continuous picture which can either be obtained visually or photographed on a motion picture film.

The idea of using amplifying systems to allow many people to study heart beats is not, in itself, new. Drs. C. J. Gamble and D. R. Replogle of Philadelphia reported a similar device to the American Medical Association in 1924.

But with the advance of radio and electrical science in the last eleven years techniques formerly not available are now possible.

Especially is this true for the tone control, or frequency sorter, which Mr. Evelyn's device employs.

Science News Letter, June 1, 1935

ZOOLOGY

Snakes Do Not Travel Fast, Experiments Prove

SNAKES do not travel fast, despite the glittering rapidity of their winding movements. The highest speed of the fastest snake measured in a series of tests made by Dr. Walter Mosauer of the University of California at Los Angeles was only 3.6 miles an hour, which is only a moderate walking pace for a man. And the snake in question, a red racer, made that record only under duress and was unable to maintain the speed for more than short distances. (*Copeia,* April 10)

Dr. Mosauer tested half-a-dozen species of snakes common in California, getting two "speeds" on each species. In one set of tests, they were permitted to set their own pace, presumably that commonly used when prowling for game. In a second series, they were pushed to the limit of which they were capable.

Speeds differed according to body build and general habits of the snakes. Sluggish, thick-bodied constrictor snakes like the gopher snake "prowled" at about a tenth of a mile an hour, and could make a high speed of 1.2 miles an hour. "Sidewinder" rattlesnakes averaged a prowling speed of a third of a mile an hour, and a racing speed of two miles an hour. The slowest of all the snakes tested was a California boa, which could not move as fast as a quarter of a mile an hour even when pushed to the limit.

Science News Letter, June 1, 1935

ZOOLOGY

No Wild Animals a Few Hundred Years Hence!

MEN alive today are witnessing one of the great changes in the world's many-million year history—the abrupt passing of a magnificent and prolific wild animal life from the earth.

"Hardly can we sense the significance of our time," declared Dr. James L. Clark, vice-director of the American Museum of Natural History, stressing the hopeless future for the world's wild life.

Speaking at the opening session of the American Association of Museums' annual meeting, Dr. Clark called upon museum workers to do everything in their power to defer the end of the game animals, and to preserve their irreplaceable specimens that will show people, in centuries to come, what the world's animals looked like.

Emphasizing that man himself is the cause of the destruction, Dr. Clark said: "As long as there is a dollar in the hide or hair, conservation becomes impossible, and wild life goes down and down, while sentimentalists rant and rave."

The wild life now vanishing will never revive itself as long as man remains and predominates on this earth, he predicted.

"Those birds and beasts which, by temperament, can associate themselves with mankind—like our domestic animals, or our Virginia deer—will alone survive," he said. "Birds of the air will perhaps last the longest, while fishes of the sea must succumb, as they are exposed to pollution, or their breeding is retarded by man's disturbance of their habitats.

"Lower forms will live indefinitely in the vastness of the deep and continue as before to evolve into other forms, but of no significant size. As their size increases, so does their mortality by the hand of man."

While believing that science is justified in taking the last animals of the vanishing species to preserve, Dr. Clark protested against museums permitting valuable bird and animal specimens to disintegrate in glass cases or museum cabinets, for want of proper mounting and preservation. Future scientists and students will want to see the real animals, and Dr. Clark declared that museums have the serious duty of providing for hundreds of years ahead, by mounting specimens the very best they can, and housing them in buildings that are dust proof and constant in temperature and moisture.

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