

GENERAL SCIENCE

Hiroshima Bombing Gained Soviet Scientists a Raise

► SALARIES of Soviet nuclear physicists were trebled when the atomic bomb exploded over Hiroshima, Dr. I. I. Rabi, Columbia University Nobelist, told an audience at the dedication of Cornell's Laboratory of Nuclear Studies in Ithaca, N. Y.

Comparing the Soviet scientists of today to the alchemists of the Middle Ages who attempted to turn base metal into gold for their patrons, Dr. Rabi expressed doubt that the Soviet scientists find happiness and inspiration in their exalted condition.

The Soviet scientist is expected to produce discoveries which will not only strengthen the state but will support the doctrines of the dominant group, he explained. For success he receives great rewards, country estates, servants, limousines and well-equipped laboratories.

"From the standpoint of basic science such limited and materialistic motivation is irrelevant and even vulgar," Dr. Rabi said. "The real reason for basic research is to expand the boundaries of knowledge pure and simple. It is an expression of the human spirit."

Science News Letter, October 23, 1948

GENERAL SCIENCE

Appoint Biologist Editor Of A.A.A.S. Publications

► DR. GEORGE A. BAITSELL, Colgate professor of biology at Yale University, has been appointed editor-in-chief and chairman of the editorial board for the American Association for the Advancement of Science's two publications, SCIENCE and THE SCIENTIFIC MONTHLY.

The appointment was announced by Dr. Edmund W. Sinnott, director of the division of sciences at Yale and president of the A. A. A. S.

Serving with Dr. Baitsell on the editorial board of the publications will be: Dr. Arthur C. Bevan of the Illinois State Geological Survey; Dr. Edward U. Condon, director of the National Bureau of Standards; Dr. Bentley Glass of Johns Hopkins University; Dr. Malcolm H. Soule of the University of Michigan; and Dr. Everett S. Wallis of Princeton University.

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ENGINEERING

Entire Tree Can Be Used By Converting Wood Waste

► BY CONVERTING wood waste into new forms through new mechanical means, the lumber and plywood industries can make great strides toward the complete utilization of the tree, the American Society

of Mechanical Engineers were told in High Point, N. C., by Armin Elmendorf of the Elmendorf Corp., Chicago. This will result in a great increase in the production of new types of wallboard and synthetic lumber and some of these boards will be superior in many respects to ordinary lumber.

The need for increasing woodworking research was emphasized by George M. Hunt, U. S. Forest Products Laboratory, Madison, Wis. The gap between research findings and their industrial application should be made as narrow as possible, he stated. If the Forest Products Laboratory publishes the essentials of good seasoning practice, the only plants that benefit are those that apply the information to their own operations.

Among recent advance steps made by the laboratory is the development of a process for the manufacture of wood sugar from wood waste. This, he said, has enormous potential benefits to the nation when plants are built and the process is put to use.

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PUBLIC HEALTH

1948 Not Big 'Flu Year Despite the Calendar

► HERE IS good news for you. According to the calendar we were due for a worldwide epidemic this year of influenza and pneumonia such as in 1918 attacked 20,000,000 people in the United States alone and killed over half a million of them. Instead, statisticians of the Metropolitan Life Insurance Company predict that the death rate from these diseases for 1948 will drop below the all-time low reached in 1947.

"So far this year," they explain, "there are no signs of an influenza epidemic, either in the United States or elsewhere. This is unlike the situation in 1918, when months in advance of the pandemic serious outbreaks occurred in army camps and naval installations in our country. In Europe, too, there were outbreaks in the spring of 1918."

Although there is no well-defined cycle, these worldwide epidemics have in the past occurred at intervals averaging about 25 or 30 years. Even if major outbreaks should occur, "the medical and public health professions are much better prepared now than 30 years ago to meet the attack," the statisticians point out.

Sulfa drugs and penicillin are mostly responsible for the reduced death rate. Since 1935-37 the decline in deaths from influenza and pneumonia has been proportionally three times as great as in the ten previous years. Last year the rate was 17.4 per 100,000.

However, the battle against these diseases is still not won, they caution. Certain forms of pneumonia, including virus pneumonia, have no specific treatment.

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IN SCIENCE

PHYSIOLOGY

Control Center in Brain Called Key to Evolution

► THE BODY'S thermostat, which keeps the temperature of warm-blooded animals at a constant level and enables cold-blooded ones to adapt their life processes to the changes in temperature imposed on them by their environment, is a small but highly specialized part of the underside of the brain known as the hypothalamus. Importance of this brain organ was demonstrated in experiments by Dr. Simon Rodbard of Michael Reese Hospital in Chicago, who reports his findings in SCIENCE (Oct. 15).

Other jobs that have been assigned to the hypothalamus, states Dr. Rodbard, include "regulation of blood pressure, respiration, appetite, the diurnal rhythm of sleep and wakefulness, the sexual cycle, and the control of the metabolism of sugar, fat and water."

Coordination of all these functions by one control center, Dr. Rodbard points out, enabled fish to survive in inshore waters where temperature range was greater than in the open sea, then made it possible for fish-like creatures to come ashore as amphibians and reptiles. Increasing efficiency of control accompanied the evolution of mammals and birds from two different reptilian stocks. The hypothalamus can therefore be looked upon as the physiological key to the process of vertebrate evolution.

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ASTRONOMY

New Comet Discovered By Lick Astronomer

► ANOTHER FAINT COMET has just been discovered by Dr. C. A. Wirtanen of the University of California's Lick Observatory.

Of the 14th magnitude, it is far too faint to be seen with the naked eye, but can be picked up with a ten- to 12-inch telescope.

As this is the third comet Dr. Wirtanen has found so far this year, it will undoubtedly be referred to as Comet 1948 k, the letter "k" denoting that it is the eleventh comet found in 1948. This comet is the ninth new one spotted since January 1.

The comet was discovered with the observatory's 20-inch star camera. Its faint, short fuzzy trail was found on routine plates taken Oct. 7, reports Dr. Charles D. Shane, director of the observatory. Found in the constellation of Aquarius, the water carrier, it was moving southwest.

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CE FIELDS

MEDICINE

Nose Blowing OK During Colds, Sub Men Show

► NOW YOU CAN BLOW your nose when you have a cold, without worrying about getting ear trouble.

Evidence that, contrary to general medical teaching, nose blowing does not cause ear infections comes from 30,000 Navy submarine men trained in the Momsen lung during the war. It was presented by Dr. R. Wallace Teed of Ann Arbor, Mich., at the meeting in Chicago of the American Academy of Ophthalmology and Otolaryngology.

The old idea was that nose blowing during colds forced germs into the tube connecting ear and throat. But the men training in the Momsen lung, a device for escaping from a sunken submarine, had frequently to inflate this tube between ear and throat to equalize pressure in the middle ear as they made their "escape" through the water.

Dr. Teed declared that he was "horri-fied" to see men with acute infections going through this test and inflating their tubes at least 50 times during each test. But of the 30,000 men, about 90% of whom had colds, only one got an ear infection from inflating the tubes.

"The sheer weight of this evidence," he declared, "gradually forced on me the conclusion that the older teaching, that otitis media (middle ear infection) was caused by improper blowing of the nose during an infection, was entirely fallacious and should be discarded."

What causes ear infection, he decided, is direct obstruction of the tube by infection of tissue, creating a relative vacuum in the middle ear, which fills with serum that in turn may become infected; but nose-blowing has nothing to do with it.

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GENERAL SCIENCE

U. S. Technology Is Weapon Against Soviet Propaganda

► AMERICAN technical experts and machinery sent to Russia may be "one of the best investments for peace in the future that could be made," Watson Davis, director of Science Service, told a meeting of the American Institute of Electrical Engineers in Philadelphia.

"No Russian could work alongside an American specialist without being immunized to some degree against the malicious hate propaganda against the capitalist system," Mr. Davis declared.

"No Russian can work with American

equipment without being convinced that the American way of life produces successful technology that enriches living and helps all mankind regardless of where he may live on the face of the earth," he explained.

Pointing out that Americans must protest attempts by the Soviets to change scientific facts by decree, as in the case of genetics theory, the speaker said that such acts will correct themselves.

"The next generations—whether they be of fruit flies, wheat or people—will prove the truth," he pointed out.

"Scientific honesty and freedom is at the heart of the democracy of free peoples," Mr. Davis said.

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MEDICINE

Tannic Acid Treatment Advised for Poison Ivy

► THE PICNIC SEASON may be over but poison ivy lingers on to plague gardeners getting in some last licks before the snow flies and others who roam the woods to gather autumn leaves and berries for home and school decorations.

For those unlucky enough to get an attack of ivy poisoning, the tannic acid treatment developed some years ago by scientists of the U. S. Public Health Service is said still to be the best known. Injections of preparations of the ivy poison are frowned upon by some skin specialists. Good results have been reported with them in some cases. But some specialists believe the explanation is that in such cases the injections probably were not given until the trouble was about ready to clear up anyway.

The tannic acid treatment can be applied at home, but advice is to consult a physician first, to make sure the trouble really is ivy poisoning, and not some other skin condition that might be made worse by the tannic acid. The treatment is said to stop itching and discomfort from poison ivy within one or two days and to clear up the condition entirely within a week.

Directions are to clean the inflamed area with gauze soaked in alcohol, rubbing vigorously to break the blisters. Then apply a dressing wet with a 10% solution of tannic acid in water. Leave this on for one hour. Repeat the treatment every six hours, breaking any new blisters that have formed.

The tannic acid should not be used on the face or genitals.

Boric acid wet dressings can be used instead of the tannic acid, applying them for several hours several times a day.

Remember that clothing, garden tools, logs for the fireplace and even the cat's fur and dog's hair may be contaminated with the ivy poison. Be sure all these are washed or otherwise cleaned so that handling them will not cause fresh bouts of the trouble.

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ENGINEERING

New Ceramic-to-Metal Seal Improves VHF Radio Tubes

► A NEW METHOD of sealing ceramics to metal offers many advantages in producing tiny radio waves a few inches in length, Dr. C. G. Suits of General Electric revealed. The seal is made by an alloy of silver and titanium.

Most radio tubes, such as those used in ordinary home broadcast receivers, are now made of glass, though some are made with metal envelopes. However, those used for microwaves have much more severe requirements. The tubes themselves must be small, which means that they must operate at high temperatures. This introduces trouble with glass.

A ceramic material, however, seems to meet the difficulties. A type must be used which is strong and retains good insulating properties even when hot. Methods ordinarily used for bonding metal and glass cannot be used with ceramics.

The new technique was developed in the ultra-high-frequency section of General Electric Research Laboratory by R. J. Bondley. The process is carried out in a vacuum at high temperature, which effectively drives out gases in the metal and ceramic parts. This simplifies final evacuation of the tube. The method may be used to join two pieces of ceramic as well as to make a ceramic-to-metal seal.

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PALAEONTOLOGY

Fossils of Early Mammals Brought to Smithsonian

► FOSSILS OF ANIMALS that lived in Eocene time, the dawn period of the Age of Mammals, have been brought back to the Smithsonian Institution in Washington by Dr. Charles L. Gazin, who spent the summer digging for them in western Wyoming and Montana.

Included in the collection is an excellent skull of the little eohippus, the terrier-sized horse that had individual hooflets on each of its separate toes. To zoologists this animal is known as Hyracotherium.

Another notable find is the skeleton of an animal about the size of a sheep. Although it had clawed feet, it is believed to be distantly related to the hoofed animals of the present time. Its scientific name is Meniscotherium.

Near Pipestone Springs, Mont., Dr. Gazin worked in deposits of the second major period of mammalian time, known as the Oligocene. Here he found bones of numerous small animals, forerunners of present-day rodents, dogs and cats, moles and shrews. Most familiar fossils of this age are those of huge, rhinoceros-sized beasts; good fossils of small Oligocene mammals are much rarer.

Science News Letter, October 23, 1948