

VETERINARY MEDICINE

Vaccines Found Useless For Mexican Cattle Disease

► EUROPEAN foot-and-mouth disease vaccines hold no hope for Mexico's afflicted cattle. The only possible remedy for the situation in that country is still total extermination and deep burial of all infected or exposed animals.

This is the verdict of Britain's foremost student of foot-and-mouth disease, Dr. I. A. Galloway of the special laboratory for the study of the malady set up at Pirbright, England.

Samples of virus from sick Mexican cattle were flown to Pirbright, and studied there in connection with the best of Europe's preventive vaccines. All were found ineffectual.

Dr. Galloway has just concluded a survey in Mexico in company with scientists from the U.S. Department of Agriculture and the Mexican Ministry of Agriculture. He has been attending a conference in Washington on the foot-and-mouth disease problems.

Science News Letter, October 4, 1947

BIOLOGY

No Inspection System Serves Against Germ War

► A SILENT and sinister Pearl Harbor on a nationwide basis could be created by biological or germ warfare, Dr. Robert W. King, assistant to the president of Bell Telephone Laboratories, declared in a report to the Eighth Conference on Science, Philosophy and Religion in Philadelphia.

"If a nation is bent upon waging biological warfare," he said, "there is no form of international inspection which would be worth the paper and ink used to formalize it. Biological research and preparation need only the barest minimum of raw materials, a small personnel and very isolated laboratories and plants."

If a crippling disease or poison can be effectively broadcast in an enemy state, he said, "the atomic bomb is already well along toward being outmoded as the weapon especially to be feared."

Dislodging by the United Nations of leaders of a nation from their positions of power was recommended by Dr. King as a war prevention measure when the leaders bring their nations to war's brink in opposition to a United Nations verdict.

Scientists must remain free to discuss their discoveries whether or not these touch closely upon secret military devices and developments, Dr. King declared. The freedom of science may hinge upon the creation of a world police with elimination of national military rivalries, he told the conference.

As a means of reducing the misunderstanding among pupils studying textbooks on both sides of the iron curtain, Dr. Robert H. Lowie, University of California professor of anthropology, advocated in a conference report that "a commission of British, Russian and American scholars might unite on a formulation of historical facts that would not cause umbrage in any of the countries in question."

Practical difficulties would confront such an attempt in the United States, Dr. Lowie recognized, as the matter of historical texts is one that is constantly liable to interference by mob rule.

Science News Letter, October 4, 1947

MEDICINE

Thirty or More Viruses Held to Blame for Polio

► THIRTY or more different infantile paralysis-causing viruses may exist, Dr. Robert Ward, New York University College of Medicine, pointed out at a conference on the disease held at Warm Springs, Ga.

The conference was held to commemorate the twentieth anniversary of the polio treatment center's founding by the late President Franklin D. Roosevelt.

The number of kinds of polio virus that exist is not known, Dr. Ward said. There may be as many types as there are pneumonia germs or streptococci. Pneumonia germ types number some 33, and before the sulfa drugs and penicillin, saving a patient's life often depended upon being able to give him serum of the exact type of pneumonia germ that had invaded his body.

Existence of more than one type of polio virus strain is one of the handicaps to preparing a vaccine against the disease. Another is the lack of tests for polio virus, similar to tests now available for detecting different types of pneumonia germs. To be effective, a vaccine would have to be capable of giving protection against all types of polio virus, since there is no way of knowing which type may have attacked.

"No such vaccine is available today," Dr. Ward declared.

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IN SCIENCE

ORDNANCE

Surplus Army Bombs Being Buried to Preserve Them

► SURPLUS Army bombs are being buried "alive" to preserve them, the Department of the Army revealed in Washington. Stripped of bomb parts and shipping bands, the bomb body, filled with the explosive TNT, is buried under the earth in great piles.

Before burial, all paint scale, rust and dirt are removed from the bomb. Fuze cavities are filled with a preservative, and threaded parts are covered with bandages and grease. Then the entire bomb body is coated with a special preservative.

Following this preparation, the treated bombs are stacked in as small a space as possible and covered three feet or so with earth. After the earth covering has settled, it is further compacted and covered with a waterproof blacktop similar to that used on roads. The present experimental burying ground is in northwestern Illinois.

Science News Letter, October 4, 1947

MEDICINE

Fat from Blood May Be Weapon Against Disease

► A FAT from blood may become a chemical weapon of the future against encephalitis, infantile paralysis and other virus-caused diseases that attack the brain and nervous system. (*Science*, Sept. 19).

This possibility, and so far it is only a possibility, is now being investigated by Drs. J. Casals and Peter K. Olitsky of the Rockefeller Institute for Medical Research, New York.

The viruses of three kinds of encephalitis, popularly known as "sleeping sickness," are inactivated in the test tube by a fat from blood serum, the Rockefeller scientists discovered.

The fat, or fatty substance, has not yet been identified. It has been found in blood serum from mice, hamsters, rabbits and horses. Its chemical identity, the mechanism of its virus inactivation and the bearing of this on laboratory tests for viruses are now being investigated.

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E FIELDS

ENGINEERING

Shortage of Engineers Predicted Until 1949-50

► ENGINEERS and scientists for American industry will continue to be in short supply well into 1949 or 1950, an industrial educator warned.

H. N. Muller, manager of the educational department of the Westinghouse Electric Corporation, Pittsburgh, declared, "All companies are short of technically trained men today.

"The competition for these men is keener than it ever was," he added.

Industrial expansion coupled with the wartime drain on schools and colleges is blamed for this postwar shortage by Mr. Muller.

Westinghouse, the official explained, is enrolling many more men in its graduate student training courses for new technical employees than it did before the war. Wages for these college graduates starting in industry are far above prewar levels, too, Mr. Muller pointed out.

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MEDICINE

Poison-Ivy Self-Treatment Nearly Fatal to Boy

► POISON-IVY tincture nearly killed a Philadelphia boy who used it without medical supervision in an attempt to make himself immune to the weed. The story (*Journal, American Medical Association, Sept. 13*) is told by Dr. Harry Lowenburg, Jr., of Philadelphia.

The patient was first seen in 1942 as a boy of 7. He had a distressing array of symptoms. He was treated for what seemed to ail him and showed some improvement, but continued to need treatment.

Finally in 1946 he was admitted to the Jewish Hospital with a high fever and severe gastro-intestinal symptoms including wine-colored vomit; breathing and circulation were quite abnormal. Various emergency treatments were given. His condition improved, and he was eventually discharged as cured.

When his parents were closely questioned, they told Dr. Lowenburg that for seven weeks their son had been swallowing daily doses of a commercial

tincture of poison ivy, stepping up the dose from five drops a day at the outset to 57 drops just before the crisis that sent him to the hospital. Maximum dosage for adults, as recommended by the manufacturer on the label, was five drops three times daily in half a glass of water. In his anxiety to become immune to poison ivy, he had overdosed himself to within an inch of his life.

And it all went for naught. Dr. Lowenburg adds that since his recovery, a little more than a year ago, the boy has had two severe attacks of ivy poisoning.

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PHYSICS

Scientists Probe Mystery Of Cosmic Particle Birth

► ONE of the mysteries of subatomic matter and energy concerns just how cosmic rays from outer space create very short-lived particles called mesons or mesotrons.

A new theory suggests scientists have been seeing only the start and the finish of the birth process, Dr. Victor F. Weisskopf of the Massachusetts Institute of Technology said in a letter to the *Physical Review*, (Sept. 15).

The whole process of producing a meson in the earth's upper atmosphere by a proton, which is a cosmic ray particle, happens very fast and the meson created lasts only a few small fractions of a second. But this time is sufficient, so Dr. Weisskopf surmises, for the proton to get into a state preparatory to meson production. This may explain why the production of a proton by a meson has not been discovered, as it should be if the process is simply reversible.

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PHYSICS

Five-Mile Phone Calls Carried on Light Beam

► A DEVICE for talking across one to five miles with a beam of light was disclosed in New Haven by three scientists. They said the "beam of light telephone," developed during World War II, could be used day or night. At night, infrared filters prevented the enemy from literally seeing the conversations.

The scientists are William W. Watson and Richard F. Humphreys of the Yale University Department of Physics and D. L. Woernley of the Cornell Aeronautical Laboratory, Buffalo, N. Y.

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CHEMISTRY

Tons of Mushrooms Wanted To Produce Antibiotic

► WANTED: mushrooms, at least two or three tons. Deliver to Miss Nancy Atkinson, Institute of Medical and Veterinary Science, Adelaide, South Australia.

Not that Miss Atkinson is that fond of mushrooms-on-toast. She has good scientific reason for wanting such a huge quantity. She has found in the common mushroom that you buy in tins or little baskets a penicillin-like drug which she states kills tuberculosis germs in a test-tube, and attacks a wider range of bacteria than penicillin itself.

Now she wants to make a sufficient quantity of her new antibiotic to try it on guinea-pigs infected with tuberculosis, and if they survive the treatment then possibly on volunteer TB patients.

The common market mushroom (*Psalliota* to botanists) was only one of more than 200 varieties of fleshy fungi in which Miss Atkinson found antibacterial activity.

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ASTRONOMY

"Flying Mountain" Found By California Astronomer

► A "FLYING Mountain" whirling through space at a speed of 14 miles per second has been discovered in the heavens.

The flying mountain is a new minor planet, less than 10 miles in diameter. It is millions of miles from the earth, so you will not be able to see it without a powerful telescope.

The newest-discovered minor planet, or asteroid, was spotted by C. A. Wirtanen, astronomer at the Lick Observatory, Mt. Hamilton, Calif. He found it last July as a trail on a 17-inch plate exposed in the 20-inch Carnegie astrophotographic telescope of the observatory.

Named Wirtanen's Object, the tiny new planet has the second closest orbit to the sun of any asteroid yet discovered. Wirtanen's Object circles the sun at a distance of 156,000,000 miles. The closest known orbit for an asteroid is that of Eros, 133,000,000 miles. The earth is 93,000,000 miles from the sun.

Like most of the more than 1,500 known asteroids, Wirtanen's Object has an orbit between Mars and Jupiter. Its closest approach to Mars is 6,000,000 miles.

Science News Letter, October 4, 1947