MEDICINE

New Anthrax Vaccine

New vaccine against the deadly disease wins Dr. George G. Wright the Army's highest award to civilians. The vaccine is made by filter method.

➤ A NEW vaccine against a deadly disease once feared as an agent of germ warfare has been made by Dr. George G. Wright at the Army's biological warfare center at Camp Detrick, Md.

For this achievement Dr. Wright received the Army's highest award to civilians, the Exceptional Civilian Service Award.

The new vaccine has been given safely to 660 volunteers. These people are likely to be exposed to the disease in the course of their work with the hair and hides of animals. Anthrax is primarily a disease of cattle and sheep, but humans can get it from infected animals. Woolsorters' disease is an old name for it.

How effective the new vaccine will be in protecting humans cannot be told for some time because anthrax now is relatively rare and it may be a long time before any of the vaccinated are exposed to it.

At the meeting of the Society of American Bacteriologists early in May Dr. Wright reported that the new vaccine will be effective against a wide range of strains of anthrax germs. This was determined through laboratory tests.

The new vaccine is made by a new method which may become a model for making other vaccines. Former vaccines against anthrax, dating back to the time of Pasteur, were made from attenuated, or weakened, spores of the anthrax germs. They never were considered safe enough for humans because of the danger that live germs might develop from the supposedly harmless spores. These vaccines, however, have been used on cattle.

Dr. Wright's vaccine is made by filtering cultures of the anthrax germs. The germs are grown on a chemical growth mixture without any blood serum, so there is no danger of serum sickness from the vaccine. This germ culture is put through a special filter which holds back the germs but lets the antigen go through. The antigen without the germs does not cause disease but does call up anthrax-fighting antibodies in the animal or human body.

Dr. Wright thinks in the future scientists may pay more attention to filtrates from germ cultures, instead of the germs, in their search for better vaccines against other diseases.

Science News Letter, June 4, 1955

MEDICINE

Bronchitis Treatment

➤ CHRONIC BRONCHITIS, probably the most common chest condition doctors see, should get more vigorous treatment than it usually does, Dr. David H. Waterman of Knoxville, Tenn., declared at the meeting of the National Tuberculosis Association in Milwaukee.

Stopping smoking is part of the vigorous treatment Dr. Waterman and associates have found helpful in over 3,000 cases of chronic bronchitis treated during the past eight years.

Chronic bronchitis, Dr. Waterman said, is a disease in itself, although it may also be found in such other chest diseases as pulmonary emphysema, silicosis, soft-coal workers' pneumoconiosis, bronchiectasis and asthma.

It is a relatively painless but highly resistant type of infection, Dr. Waterman said.

Most important of the vigorous measures of treatment is a "well-performed bronchoscopy." In this, the upper air passages are examined with a special instrument of tube, lights and mirrors and fluid is sucked out. Use of medicines to help the patient cough up material from the lungs, giving large amounts of fluids, postural drainage and inhalation treatment are other measures in the vigorous treatment.

Dr. Waterman's associates are Drs. Sheldon E. Domm, William K. Rogers and Arthur J. Pollard at Fort Sanders Presbyterian Hospital, Knoxville.

Science News Letter, June 4, 1955

METEOROLOGY

Energy of 4,500,000 A-Bombs Blows North

➤ ENERGY EQUAL to 4,500,000 exploding atom bombs a day pours into the air over polar regions from tropical areas around the world.

This energy transport across the 40-degree latitude belt is required to maintain the average temperature difference between the tropics and poles, Dr. Harry Wexler, chief of the Weather Bureau's scientific services division, told the Washington Academy of Sciences meeting in Washington.

An almost infinite number of eddies and whirls, some covering areas as large as the United States, others quite small, carry the energy northward.

To learn more about this energy transport, scientists plan to set up three pole-to-pole networks of stations to make meteorological recordings during the International Geophysical Year, Dr. Wexler said.

The IGY, scheduled for 1957-58, is a world-wide probe of the earth, its seas and airs in which 40 nations will cooperate. Scientists have dubbed it "Geophysics-for-Peace" program. (See SNL, Jan. 15, p. 42.)

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• RADIO

Saturday, June 11, 1955, 5:00-5:15 p.m. EDT

"Adventures in Science" with Watson Davis, director of Science Service, over the CBS Radio Network. Check your local CBS station.

Walter A. Grant, vice-president in charge of central engineering staff, Carrier Corp., Syracuse, N. Y., will discuss "Air Conditioning."

GENERAL SCIENCE

National Plumbing Code Is Established

➤ AN AUTHORITATIVE code of modern plumbing standards for voluntary adoption by local areas has been approved.

Described as the country's first true national plumbing standard, the thick volume took over 20 years to develop. It was designed to coordinate the efforts of manufacturers, architects, designers and lawmakers.

The American Standards Association and the American Society of Mechanical Engineers pointed out that the code would fill a "long-felt need" for a single voluntary national standard.

Along with the American Public Health Association, a co-sponsor of the project, the U. S. Department of Commerce and six other groups helped develop the code.

Science News Letter, June 4, 1955

ELECTRONICS

Better TV Signals From Slotted Pipe Antenna

➤ BETTER TV reception may result from development of a new type of broadcast antenna that looks like a length of pipe with thin slots cut into it.

Known as a "traveling wave" antenna because of the traveling electrical wave in the interior of the device, it is simple in design and construction. It emits a circular wave that has no gaps. Its developers are R. Wayne Masters and Conrad J. Rauch of Ohio State University.

The antenna may find use in color television broadcasting. The design had been largely cast aside because the beam had a tendency to wobble. This difficulty was overcome in the new antenna.

The research was done at Ohio State's Antenna Laboratory under a contract between the Ohio State University Research Foundation and the RCA Victor Division of the Radio Corporation of America.

Science News Letter, June 4, 1955