

## BACTERIOLOGY

# Germ Warfare Likely

In the event of another war this would become a "major weapon". Defense against air-borne infection would be very weak, bacteriologist reveals.

► BW, germ warfare to the layman, is a "major weapon." In the event of World War III it is "likely to be used." And "there is little doubt that it would be effective."

These are the words of a man qualified to know, Dr. Theodor Rosebury, associate professor of bacteriology at Columbia University College of Physicians and Surgeons. During World War II, Dr. Rosebury was chief of the air-borne infection project at the United States biological warfare, or BW, headquarters at Camp Detrick, Md.

Although he admits the practicability of BW is not proved and cannot be proved unless it is used in war, Dr. Rosebury is sufficiently convinced and alarmed to tell all he can about it in a book for lay readers, *PEACE OR PESTILENCE* (Whittlesey House).

No secrets are revealed in this book. Dr. Rosebury limits himself to what has already been published in technical reports from Camp Detrick plus facts all bacteriologists, but few laymen, know. Here are a few shockers you may not have heard before:

Even if one ounce of pure botulinus toxin might kill 200,000,000 humans, "other BW agents may be considerably more potent."

One gram, about a thirtieth of an ounce, of streptococcus germs would be enough to produce sore throats in about 700,000,000 humans.

An ordinary, run-of-the-laboratory preparation of psittacosis, or parrot fever, virus would contain enough virus in one quart of material to infect more than 7,000,000,000 people, or about three times the total population of the earth. Add to this, says Dr. Rosebury, the fact that psittacosis is a self-propagating disease. The virus grows and multiplies in the person infected, whereas, botulinus toxin, being a poison from the botulinus organism, does not.

An air-conditioned theater or similar public building could have its ingoing air polluted with potent disease germs by a Flit gun.

This, however, and pollution of reservoirs and of food in industrial plant cafeterias would be minor BW offensives, acts of sabotage, Dr. Rosebury points out.

The bottleneck problem in BW is the large-scale spread of disease germs through the air. But, says Dr. Rosebury, solving this problem is "not beyond the ken of human genius." As evidence for this he cites a published report from Camp Detrick on work with small-scale clouds of germs.

The work was done in cloud chambers

having a capacity of 100 gallons. The scientists found that even with the tularemia germ, most difficult to protect from damage in the process of atomizing it into a cloud, it was simple to have enough extra germs in the preparation so that "every last exposed animal could be infected and killed by the cloud."

And while we have penicillin and other drugs and some vaccines to prevent or overcome germ diseases in civilian life, they cannot be counted on as protection against biological warfare.

"Defense against BW as a whole is pitifully weak," Dr. Rosebury says, "so weak that none of us, civilian or military, can find much comfort in its prospect."

Dr. Rosebury concludes his book with a strong plea for peace and the suggestion that we are so strong and so free from "national guilt" that we can "afford to be generous in our approach to other nations, including Russia."

"If we could approach the international conference table with the respect for others that would grow out of true faith in our-

selves," he says, "we might find a solution to the problem of peace that all of us could accept."

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## AERONAUTICS

## World Aviation Certifying Group to Meet in U. S.

► THE world-wide aviation organization that puts the official stamp on airplane speed and other aviation records will meet this year in the United States for the second time in its 44-year history, the National Aeronautic Association revealed. The meeting will be held in Cleveland during the first seven days of September at the time of the famed National Air Races.

The organization is known as the Federation Aeronautique Internationale. It is composed of national aero clubs of some 30 nations. The American member is the National Aeronautic Association.

One of the chief functions of the international group is to certify aeronautic records, and no record is "official" until so certified.

The organization was formed in 1904, less than two years after the Wright Brothers' first flight. Its purpose is to advance aviation internationally and to foster international air travel. The original charter members were Belgium, France, Germany, Great Britain, Italy, Spain, Switzerland and the United States.

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**FLIGHT-CONDITIONS DETECTOR**—Sensory devices are housed in this long, needle-like boom which is supported well ahead of the nose of a Northrop Scorpion XF-89 all-weather fighter. Detectors transmit electronically to recording instruments in the plane such information as air speed, altitude, and yawing action.