

## PUBLIC HEALTH

# Plagues to Come in War's Wake Microbiologist Predicts

**Warring Nations Will Not Risk Use of Bacteria,  
President of International Congress Predicts**

**I**NFLUENZA is almost certain to be widespread again if there is a general war, it is predicted by Dr. Thomas M. Rivers, of the Rockefeller Institute for Medical Research and president of the Third International Congress for Microbiology meeting in New York City.

And no effective weapon yet exists for this plague. With the two of the four horsemen of the Apocalypse (war, famine, pestilence and death) riding again, scientists gathered from all over the world for the Microbiology Congress are making plans to outwit the third horseman, pestilence.

Microbes will play a tremendous part in the war that has now started in Europe, Dr. Rivers declared.

No one is going to start a war of microbes, Dr. Rivers said. That would be next to impossible. Epidemics of influenza, typhus fever, trench fever and dysentery, however, are sure to follow in the wake of this war as they did during the last world war. Meningitis and European sleeping sickness, technically termed epidemic encephalitis, may also appear.

Medical scientists are better equipped to fight some of these war-born plagues than they were in 1914, Dr. Rivers pointed out. Sulfanilamide, the new dis-

ease-conquering chemical, will not prevail against influenza or typhus fever, but it cures meningitis and gas gangrene, dreaded aftermath of war wounds. Serums also have been developed for fighting these deadly ailments.

The idea of using germs as a weapon of war is out on two counts. In the first place it is almost impossible for man to start an epidemic deliberately by releasing germs among a group of people or putting them into water or food. Not even cholera could be spread this way, Dr. Rivers declared. Many factors besides germs are needed to start an epidemic. Even in laboratories, where conditions can be controlled far better than in communities of men and women, it is difficult if not impossible to start an epidemic.

Second reason why germs will not be used as a weapon of war is that such a weapon would boomerang on the nation starting it. If an epidemic really got going, it would be impossible to prevent its spreading to people in the nation starting it as well as among their enemies.

Germs, Dr. Rivers said, neither recognize nor stop at the front line.

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they do where our Hudson river meets the sea. Even though their parks and streets and rooftops may bristle with anti-aircraft batteries they are still the most tempting kind of bomb-bait.

During the first few days of the new World War, British fliers have apparently respected the air neutrality of the two coastal nations. If they have infringed upon it at all, it has been only to the extent of carrying over loads of propaganda handbills.

However, should there be any violation of the Netherlands or Belgian boundaries from the east, or should the Nazis provide other provocation, the first thrust at Germany's industrial vitals could be made before German anti-aircraft could be extended into invaded territory. It would take time to drive back the Belgians, if experience in 1914 is any criterion; and in the Netherlands invading forces would certainly find themselves up to their necks (or deeper) in water let in by the dikes' defenders. Before they could get their new chain of listening posts and high-angle batteries set up, the British could be over Essen.

Furthermore, an invasion of Belgium would give the armies of France, now stymied against the Westwall between the Swiss and Luxembourg frontiers, just the chance they are probably praying for. The Westwall and the Maginot Line run parallel along the relatively short common frontier of Germany and France. At the Luxembourg "corner," however, they part company. The Westwall follows the Belgian boundary to the wide, swampy reaches of the Scheldt, while the Maginot Line follows the southern edge of Flanders to the sea.

If the Germans should come out from behind their Westwall onto the Flemish plain, it would be a safe bet that the French would leap out eagerly to meet them. There, between the fortified lines and the sea, they would slug it out like a pair of heavyweights.

And in the meantime the British bombers would be roaring high overhead, carrying steel to Essen.

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## GEOGRAPHY

# Air Neutrality of Netherlands Protects Germany's Vitals

**T**HE AIR neutrality of the Netherlands and Belgium, already cracking according to latest press dispatches, will let in an avalanche of trouble for Germany if it breaks down altogether. A glance at the map will show why.

Immediately behind the protecting dike provided by the neutrality of the Low Countries lies the greatest heavy-industries center of the Reich. Essen, the German Pittsburgh, is scarcely more than 30 miles from the nearest point on the Netherlands frontier—only five or six

minutes, as the modern bomber flies. Krefeld, where the chimneys really begin to get thick, is less than half that distance. To the south, Cologne, key point on the Rhine railway lines that back the Westwall defenses, is quickly reached.

In that region, comprising the wide plain of the lower Rhine, there are areas scores of square miles in extent, where steel mills and chemical works crowd each other so closely that you cannot throw a stone without hitting something vital. The cities cluster edge to edge as

## ● RADIO

Dr. George R. Harrison, director of the research laboratory, Massachusetts Institute of Technology, will be the guest scientist on "Adventures in Science" with Watson Davis, director of Science Service, over the coast to coast network of the Columbia Broadcasting System, Monday, September 25, 4:30 p.m., EDST, 3:30 EST, 2:30 CST, 1:30 MST, 12:30 PST. Listen in on your local station. Listen in each Monday.