

● Earth Trembles

Information collected by Science Service from seismological observatories resulted in the location by the U. S. Coast and Geodetic Survey of the following preliminary epicenter:

Friday, Sept. 8, 7:04.8 a.m., EST

In the North Pacific, near the Aleutian islands. Latitude 52 degrees north, longitude 175 degrees east (approximately). A strong shock.

For stations cooperating with Science Service, the Coast and Geodetic Survey, and the Jesuit Seismological Association in reporting earthquakes recorded on their seismographs, see SNL, June 17.

vantage of being able to carry a bursting charge, whereas the cannon of that day fired only solid projectiles.

The Congreve rocket is permanently memorialized in our national anthem. In 1813, British frigates were equipped with these rockets, and when their fleet attacked Fort McHenry on Baltimore Harbor, one anxiously watching prisoner on a frigate deck caught glimpses through the night of a flag, still defiantly flying, by "the rockets' red glare."

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Science News Letter, September 16, 1939

GEOGRAPHY

Airplanes Raise Question Of How High Neutrality Goes

UNKNOWN airplanes roaring high above neutral Holland raise the question how high neutrality extends. Legally the limit of ownership is as high as up—beyond the sky is the limit. But the famous three-mile limit for ships at sea was set as the limit of shore big guns.

The highest up of anti-aircraft guns, a practical limit of neutrality, is about 40,000 feet or eight miles. Will that become the usage if not the law?

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MICROBIOLOGY

Bacteriology of Foods Extremely Important in War

Botulism Can be Prevented by Cold Treatment in Foods Too Delicate For Ordinary Heat Processing

"FOOD will win the war!"

That slogan, heard in the close-rationed days of 1917-18, will become loud again with war raging in the present-day world. Micro-organisms in relation to food and its storage therefore occupied an appropriately prominent part in the Third International Congress for Microbiology meeting in New York City.

Most important of the bacteria to be guarded against is the species *Clostridium botulinum*. This is not a food spoiler; it leaves the food in which it lurks innocently inviting—and strikes the eater with an always severe and sometimes fatal food poisoning afterwards.

A three-man research team from the University of Illinois, Drs. F. W. Tanner, P. R. Beamer and C. J. Rickher, told of their investigations on certain food products liable to infestation with this dangerous organism, which are spoiled for market purposes if they are given sufficiently severe heat treatment to destroy the bacteria. Fortunately, however, it was found that the same food-stuffs could be adequately preserved by cold against the deadly *Clostridium*.

From far-off Japan came a report of research on sea foods, by Dr. Yuzo Tohyama of the University of Tokyo. Characterizing his people as "the first rate fish eating nation in the world," Dr. Tohyama related how he has used more than 200 different chemicals in his search for effective means to find a disinfectant that will clear fish, shellfish and other sea foods of disease-causing and spoilage-producing bacteria and still leave them palatable and wholesome for human consumption.

Bacteria in foods are of course not always spoilers or poisoners. Dr. N. E. Gibbons of the Canadian National Research told of the role played by bacteria in the curing of the famous Canadian bacon. The bacteria swarm thickest just where the pickling fluid makes contact with the meat, and it is at this interface, Dr. Gibbons believes, that they do most of their beneficial work.

War Against Germs

MAN'S chemical warfare against the germs that invade his body occupied a leading part in discussions. Especial prominence was given to the powerful new weapons, sulfanilamide and its related chemicals.

Just how sulfanilamide acts against bacteria is still pretty much of a riddle, it was admitted by Drs. Eleanor A. Bliss and Perrin H. Long of the Johns Hopkins Medical School. It has been known for some time that in the presence of small quantities of the chemical, germs of the group known as cocci are not killed outright but stunned or paralyzed, so that the body's own fighting forces can make an end of them. However, in the researches reported by Drs. Bliss and Long, it has also been shown that stronger concentrations of sulfanilamide kill the bacteria outright.

Another point developed was that the effectiveness of certain compounds of sulfanilamide seems to be due to their chemical decomposition, releasing "straight" sulfanilamide in contact with the bacteria.

Experiments in which sulfanilamide and sulfapyridine were used, either alone or in combination with injections of immune sera, on mice exposed to infection with meningitis were reported by Dr. Sara E. Branham of the U. S. Public Health Service:

"In general, it may be said that, weight for weight, sulfapyridine protected mice better than sulfanilamide, and that the combination of either sulfapyridine or sulfanilamide with serum gave better protection than either the drugs or the serum did alone."

Vitamins for Microbes

THE SMALLEST plants, no less than the largest animals, must have their vitamins, hormones and other minutely concentrated but physiologically powerful substances if they are to live and grow, it was made plain in discussion be-