

BIOLOGY-MEDICINE

# Disease Warfare Not New

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► THE IDEA of the use of biologic or bacterial agents in warfare is not new. Major use of "germs" as intentional weapons of war has not yet occurred on any considerable scale, yet disease has played a decisive part in many wars.

Up until the 20th century epidemic disease during war has always produced more military casualties than the missiles of the enemy.

The use of organisms that cause communicable diseases as an instrument of warfare was considered by the Conference on the Limitation of Armaments held in Washington in 1922. A commission that numbered among its members the American physiologist, Dr. Walter B. Cannon, who died only a few months ago, reported to the League of Nations that the effects of bacterial injury cannot be limited or localized, modern water purification methods protect against the organisms of typhoid and cholera, plague is a disease that would be as dangerous for the force using the organisms as for the attacked, danger from typhoid has been exaggerated, and modern sanitary methods are effective in controlling communicable diseases.

Doubtless with the biological warfare researches announced by the War Department, such conclusions are outdated. Bigger and better diseases have been found, no doubt, and counter measures developed.

Opinion in the era between the two World Wars was that bacterial warfare, like gas warfare, would not be a very effective weapon. There were "practically insurmountable technical difficulties." Perhaps with the new researches this is no longer true, and the mere fact that biological warfare was not used in actual combat may be no indication that it could not be used with effect.

Bacterial warfare was on the hush-hush list of the U. S. censorship codes of World War II and there were only a few breaks or mentions of the subject.

An article that was originally published in the *Military Surgeon* for March, 1933, written by the then Maj. Leon A. Fox, MC., U. S. Army, who is now a general, was reprinted by that journal and several other medical, scientific or technical journals in 1942 and

1943, just when the secret biological warfare researches were getting well under way. This caused a flurry of germ warfare publicity, which gave military and censorship authorities some unhappy moments.

Surgeon General Thomas Parran of the U. S. Public Health Service, at the Conference of Mayors in 1942, warned that, in his opinion, the enemy had planned and would use bacteriological warfare wherever possible.

A book titled "Japan's Secret Weapon," written by Barclay Newman and published in 1944 by Current Publishing Company, New York, called disease warfare Japan's "new jiu-jitsu in the death grapple of nations." It had among chapter headings: Spirochete warfare, black fever or kala-azar, tsutsugamushi fever, black death or Ohara's disease, leprosy as a weapon, fungus warfare, Japanese encephalitis, cancer-causing chemicals, miyagawa cocktail, amok, "American sleeping sickness".

The Japanese were charged in June, 1942, by Dr. P. Z. King, director of the Chinese National Health Administration, with using Chinese people as guinea pigs to test the effectiveness of bacteriological warfare. Other news reports from time to time charged use of germs in war against China to the Japanese.

The next war will be waged with disease germs and their toxins, weapons more devastating than atomic bombs and easier to develop, Maj. Gen. G. B. Chisholm, deputy minister of National Health and Welfare of Canada, and director general of medical services of the Canadian Army, warned in an address prepared for delivery on Oct. 23 of last year before the William Alanson White Psychiatric Foundation at Washington. This portion of the address was not actually delivered.

Gen. Chisholm said:

"While the atomic bomb has been a dramatic weapon in the closing phases of the recent war other almost completely developed weapons are still more terrible.

"What of an invasion of a country by a few thousand immunized tourists loaded with anthrax or the toxin of botulinus or typhoid or influenza or per-

haps some new bacteria or filterable virus especially developed for the purpose, or the spreading of such materials by planes without warning?"

"Any country could be paralyzed and destroyed at leisure by a well-organized attack of this type—and without any development of heavy industries.

"Let us all be prepared not for the last war with navies and armies and airforces, but for the next war with rockets and atomic bombs and bacteria and toxins.

"These are the weapons of the future and with them the whole world can be reached from any place on the earth in a few minutes.

"The people who definitely do not want to fight any more wars must promise total annihilation to any nation which starts to fight and must be prepared immediately and ruthlessly to carry out that promise without parley or negotiation. This involves the continual upkeep of widely dispersed atomic rocket stations covering the whole world and a continual high pressure research program to discover ever more efficient methods of killing to keep ahead of any possible competition.

"This must go on until we, all the people, are re-educated to be able to live in peace together, until we are free to think and behave sensibly."

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## Biological Warfare Technical Advisers Named

See Front Cover

► THE PICTURE on the front cover of this SCIENCE NEWS LETTER shows a group of biological warfare technical advisers (left to right): Dr. Ira L. Baldwin, present Dean of University of Wisconsin; Capt. N. S. Prime, USN, Commanding Officer of Naval detachment at Camp Detrick, Md., and also Chief of Ordnance for Biological Warfare development; Brig. Gen. W. A. Borden, USA, Chief of New Developments Division, War Department Special Staff. Mr. George Merck (President of Merck Chemical Co.), Special Consultant to the Secretary of War on Biological Warfare; Rear Admiral Julius Furer, USN; Commander W. B. Sarles (Asst. to President, U. of Wisconsin), Technical Adviser on Biological Warfare; Col. Oram Woolpert, (Professor, Ohio State U.) CWS technical adviser on Biological Warfare, and Lt. Col. Norman Pyle, CWS Technical Adviser on Biological Warfare.

*Science News Letter, January 12, 1946*