

"Come up here, for the sight of your life!" the captain called down to the commodore.

"No thanks," replied the commodore, "I can see better from here."

Science News Letter, August 25, 1945

MEDICINE

Water Spreads Hepatitis

First experimental evidence shows that the infectious liver disease is acquired in this way. Gamma globulin from blood gives protection.

► FOR apparently the first time, medical scientists have experimental evidence that infectious hepatitis spreads through contaminated drinking water. This is an inflammatory liver disease sometimes accompanied by jaundice which became widespread among both civilians and military forces during the war.

With this medical first comes also the first satisfactory evidence that a virus disease can be naturally acquired by humans through water.

Studies showing these facts are reported in the *Journal of the American Medical Association* (Aug. 11) by Capt. John R. Neeffe, of the Army Medical Corps, and Dr. Joseph Stokes, Jr., of Philadelphia.

Gamma globulin from human blood, which is used to give protection against measles, will also protect against this infectious hepatitis, it was found in trials during an epidemic in a heavy bombardment group and various regiments of the ground forces in the Mediterranean Theater last winter. These trials are reported in the same issue of the medical journal by Dr. Stokes and Capt. Sydney S. Gellis, Maj. George M. Brothier, Maj. William M. Hall, Col. Hugh R. Gilmore and Maj. Emil Beyer of the Army Medical Corps and Capt. Richard A. Morrissey of the Army Sanitary Corps.

Tests of gamma globulin as a protective against infectious hepatitis in the armed forces followed a test of the material by Dr. Stokes and Capt. Neeffe during an outbreak of the disease in a camp for boys and girls last summer. The discovery that the virus causing the disease could be spread through contaminated water was made in further studies of this same epidemic. The water became contaminated through intestinal wastes from infected persons.

Chlorination of drinking water according to procedures commonly used for rapid disinfection under emergency conditions did not inactivate or weaken the virus, Dr. Stokes and Capt. Neeffe found

in studies made with Maj. James B. Baty, of the Army Sanitary Corps, and Dr. John G. Reinhold, principal biochemist of the Philadelphia General Hospital.

"Superchlorination" of infected water definitely reduced the ability of the virus to cause disease. Treatment of contaminated water with sodium carbonate and aluminum sulfate, used to remove extraneous material from drinking water by coagulation, and activated carbon, also used to remove materials from water, did not completely remove or inactivate the virus or germ of infectious hepatitis.

Methods used to disinfect water, the scientists report, may have to be modified further in order to inactivate completely the germ that causes infectious hepatitis.

Human volunteers had to be used for the studies, since there is no way of knowing whether the virus of the disease is present in a given material except by demonstrating the ability of that material to produce the disease in humans. Conscientious objectors and members of the Civilian Public Service Unit 140 of Philadelphia were among those volunteering for the studies. Besides drinking suspected and known to be infected water, these volunteers had blood serum, nose and throat washings and material from body wastes of patients given them, in order to learn how the germ spreads.

All the studies were carried out under the direction of the commission on measles and mumps of the Army Epidemiological Board.

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CHEMISTRY

Excelsior Planks for Your Postwar House

► THAT NEW house you are going to build now that the war is over may be made of excelsior instead of solid boards and planks sawed out of big logs. A process for making planks out of excelsior and Portland cement has been patented by Armin Elmendorf of Winnetka, Ill.

The excelsior, which may be made

from such cheap, low-grade timber varieties as cottonwood or aspen, is first immersed successively in sodium silicate and calcium chloride. These chemicals react together to precipitate calcium silicate on the fibers; common salt, the other product of the reaction, is removed by washing. The excelsior is then mixed with a concrete slurry, molded to the desired dimensions, cured for a suitable period in a moist room, and set aside to dry.

Rights in Mr. Elmendorf's patent, No. 2,377,484, are assigned to the Celotex Corporation.

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