PUBLIC HEALTH

Bacillary Dysentery Germs May be Carried in Many Ways

Some Forms of the Disease Highly Fatal; All Precautions Against Spread Should be Taken

BACILLARY dysentery, recently epidemic in New Jersey and New York City, is a painful disease of the intestines which attacks with great suddenness after the patient has consumed infected food or drink.

Although it is usually common only in the tropics or in military or other camps where proper sanitary facilities are not available, an epidemic of this disease occasionally breaks out in some northern community, particularly in some overcrowded institution. The infection is usually spread by inadequate sewage disposal, and through infection of water supplies, milk, or other food. It is also rarely spread by dysentery "carriers" when such persons are engaged in handling of foods.

House flies may be held responsible for carrying the dysentery organism, and precautions should undoubtedly be taken wherever the disease is epidemic to screen all food from these insects. The germs may also be carried in wind-blown dust. They may be transferred from person to person and from person to food by soiled fingers.

The guilty bacillus is known in several varieties, of which there are two groups. The first group was discovered by Shiga in 1898 in Japan, and the second by Flexner in Manila. The Flexner group includes several strains which react more or less to a serum prepared from any one strain. These serums have very little effect on the Shiga group, however, and serum prepared from the Shiga group has little effect on the Flexner strains. The strain found in the United States is usually of the Flexner-Harris type.

The onset of the disease is very sudden and may take place within 48 hours after the infection. Within two days, the patient may be seriously ill, delirious, feverish, and in great pain. Death may occur by the third or fourth day.

In cases of moderate severity, the patient may be convalescent in two or three weeks, but in the meantime he has become greatly emaciated. There is, however, one form of the disease which lasts many weeks or months. The death rate is very high in the severe forms.

Bacillary dysentery is an entirely different disease from amebic dysentery, the intestinal ailment which spread among the guests of two hotels in Chicago during 1933.

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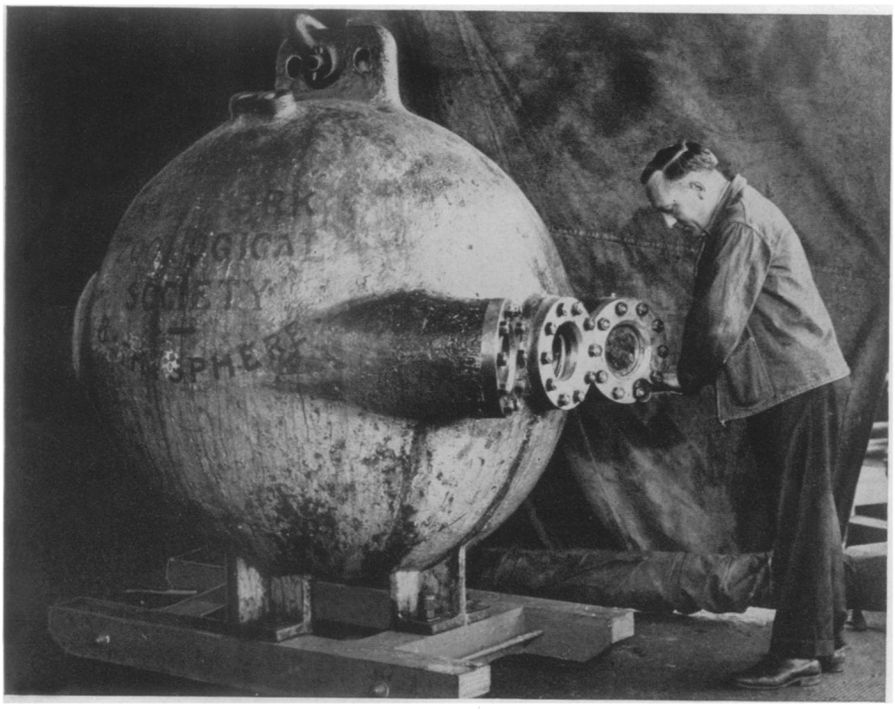

AGAIN VENTURING

The famous bathysphere of Dr. William Beebe being put in shape for further investigation of submarine depths off Bermuda. A workman is installing new quartz windows, three inches thick, through which Dr. Beebe is observing oceanic life and environment.

OCEANOGRAPHY

Three-Inch Thick Quartz Windows for Bathysphere

WHO WOULD want to break a window pane that cost $160? And not a large window, either. One just eight inches in diameter.

That is the cost of the quartz windows which are installed in the bathysphere of Dr. William Beebe, who is now renewing his undersea biological studies.

The bathysphere windows are only eight inches across, but they are three inches thick to withstand the enormous water pressures far below the surface. The price of $160 for the windows in the rough may be high as judged by ordinary glass but considering the difficulties of fusing quartz their cost is considered low by engineers.

Quartz has a compression strength 16 times greater than glass and yet expands so little as the temperature changes that a red-hot piece of it may be plunged into cold water without cracking. It is ideal material for underwater windows.

If quartz were fused in air the resultant chunks would not be usable for windows because of the formation of thousands of tiny gas bubbles.

To get clear blocks, the quartz is melted in a vacuum and while molten it is subjected to a high gas pressure. The pressure either blots out the bubbles entirely or greatly reduces them in size.

The quartz windows for Dr. Beebe's bathysphere were fabricated at the General Electric Company laboratories at West Lynn, Mass., and ground by the A. D. Jones Optical works at Cambridge, Mass.

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