

rubber stopper makes it impossible for the stopper to pop out of a germ-filled bottle accidentally. A variety of sterilizing agents have been explored, including ethylene oxide gas—a cold sterilizer developed for use with delicate heat-sensitive instruments.

At Detrick everyone working in hot areas is vaccinated. There are very few microorganisms dealt with at the Biological Laboratories for which there are no vaccines, but where such work is done the precautions are redoubled.

Employees dealing with pathogens are trained to report themselves at the slightest sign of physical abnormality. Time taken off for these medical precautions is not deducted from sick leave or annual leave.

Because of its deep concern with protective measures, Detrick probably has the safest laboratory conditions in the world. Some scientists say that there is less hazard at the Biological Laboratories than there is in crossing a busy street. When accidents

do occur, they are almost always the result of an individual's failure to follow correct precautionary procedures.

Detrick scientists disseminate their safety findings and recommendations through professional journals, pamphlets, film strips, etc. They also answer innumerable queries from research institutions, public health departments, universities and commercial laboratories. In addition to informing biologists about the various safety devices now available, these educational materials also emphasize the need and value of caution in biological work.

A wild African lion, one slide film points out, belongs in a safety device called a cage. Brave as a lion tamer may be, he cannot afford to take chances with dangerous beasts. Nor can the biologist (who, the film implies, may be easily as brave as the lion tamer) afford to take chances either—with those equally dangerous creatures, infectious bacteria.

• Science News Letter, 83:282 May 4, 1963

MEDICINE

New Disease Weapon

► A NEW WEAPON for fighting infectious diseases has been discovered.

Both a group of chemical compounds and an idea, it enables a host animal to adjust to disease-causing bacteria, rather than fighting to overcome the invaders. The bacteria are not killed, yet no disease develops.

The compounds have been christened "pacifarins" by their discoverer, Dr. Howard A. Schneider of Rockefeller Institute, New York.

One of the chemical "silencers" has been isolated from grain, he reported to the American Philosophical Society meeting in Philadelphia.

Pacifarins open the way for a new strategy of disease control. The strategy is expected to apply to humans, although specific tests have not yet been made.

In laboratory tests on mice, the chemicals silenced the bacteria that cause typhoid. When a mouse ate a pacifarin, its system adjusted to the bacteria. Disease did not break out. After a while, the bacteria stopped multiplying, and the mouse and bacteria lived together in peace.

Scientists and laymen focus on the sickness bacteria cause, Dr. Schneider said. But when an animal or human host encounters bacteria, disease very rarely results. For a handful of polio cases in one area, there are a thousand persons who have the virus but do not become ill.

By understanding the reasons a disease is not contracted, scientists will be able to help those who have the disease, he said.

Using pacifarins in a strategy of silent adjustment means abandoning the idea that "man should survive and bacteria be eradicated," Dr. Schneider reported. It changes the basic notion that disease, in itself, is a war.

Past methods of fighting disease have been based on the war assumption. Neither man nor the bacteria has won.

The first pacifarin isolated works with all three varieties of mouse typhoid. Tests will be made with chickens and other animals to see how many types of typhoid the substance can stop.

Dr. Schneider said he did not know whether the pacifarin would have stopped the recent Swedish typhoid epidemic.

The pacifarin already works more generally than many immunological techniques. For every new strain of a disease, immunologists have to develop a new vaccine. The body itself builds up immunities to drugs and treatment.

This could be overcome by using pacifarins, Dr. Schneider indicated.

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DENTISTRY

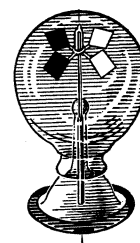
Mouth Cancer Detection Dentist's Responsibility

► YOUR DENTIST has the responsibility of detecting mouth cancer. The American Dental Association urges dentists to take a sample smear of any suspected mouth area when a patient comes for routine dental work.

Dr. Clifford Wilk of Chicago told the National Dental Health Conference at Chicago that dentists have adapted the Papanicolaou cervical cancer smear technique with reliable diagnostic results. They take their smears with a metal blade or with a cotton-tipped applicator tongue blade and send the samples to laboratories for analysis.

Dr. Wilk, who is a member of an advisory committee to the Chicago Board of Health, said mouth cancer, although in an easily detectable area for early diagnosis, has received little attention.

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