

MICROBIOLOGY

Germ Warfare Detection

Centers for detection of germ warfare are being planned as a part of civil defense. A number of agents could be used in attack, but large-scale epidemics are unlikely.

► ESTABLISHMENT of germ warfare detection centers is a part of Federal civil defense plans, Dr. Victor H. Haas, director of the Microbiological Institute, National Institutes of Health, revealed at the meeting in Chicago of the College of American Pathologists.

Federal agencies are also now planning as part of their civil defense activities to train selected scientists in germ warfare detection and defense methods. These in turn will train other scientific and technical personnel.

The training is needed because laboratory workers engaged in usual peacetime operations are not familiar enough with procedures used in germ warfare detection.

Laboratory directors must be prepared to detect and frustrate attempts to produce germ warfare agents in the United States, Dr. Haas warned.

"An enemy can attack us with infectious agents or biological toxins," Dr. Haas declared emphatically in one of the few statements that have been made by a government official on this hush-hush subject since the release early in 1946 of the Merck report on the nation's biological warfare program during the last war.

Large-scale epidemics, however, are unlikely to result from germ warfare attacks, in Dr. Haas' opinion.

Many disease-causing germs and their poisonous products are stable, resistant to heat, drying and sunlight, capable of quantity production and suitable for dissemination in the air, water, milk and so on, Dr. Haas stated.

"Any bacteriologist can think of a number of agents which could be used to attack us," he said, giving as examples: 1. viruses, such as influenza or psittacosis (parrot fever); 2. rickettsiae, such as those causing Q fever or typhus; 3. bacteria, such as the typhoid or cholera organisms or the agents causing plague or tularemia; 4. fungi, such as histoplasma or coccidioides; and 5. toxins such as that produced by the botulism germ.

"There is abundant reason," he declared, "for believing such agents could be used against us as part of an attack with explosive munitions or by sabotage before or during actual warfare.

"A simple but important measure in helping to prevent attacks with these agents will be to frustrate attempts to produce them here in the United States.

"An enemy with access to a laboratory might manufacture sufficient quantities of

live organisms or their toxins to permit extensive sabotage.

"Alertness and vigilance on the part of laboratory directors, careful supervision of all activities under their control and scrutiny of any excessive or unusual demands upon bacteriological supplies or equipment should minimize the possibilities for surreptitious production."

Because agents of biological warfare, or B. W. as scientists term it, are not detectable by the physical senses, Civil Defense Health Services will have to set up a system of air sampling and accumulate records of normal

germ populations of the air in target areas and strategic buildings and installations under a variety of conditions, Dr. Haas stated.

Present methods and apparatus are inadequate for detecting most of the agents that might be used to attack us, Dr. Haas said. Even such germs as were caught by the samplers would be identified too slowly. But he thinks a start could be made and expects improvements in the methods.

The first sign of an attack with B. W. agents, he said, will probably come some days after the attack has taken place and will depend on the appearance of illnesses resulting from exposure to the germs or toxins.

We can expect, he said, "a number of primary casualties resulting from a mass initial exposure, and that secondary cases will be absent or minimized.

"It is not expected that large-scale, self-perpetuating epidemics would develop as a result of attack."

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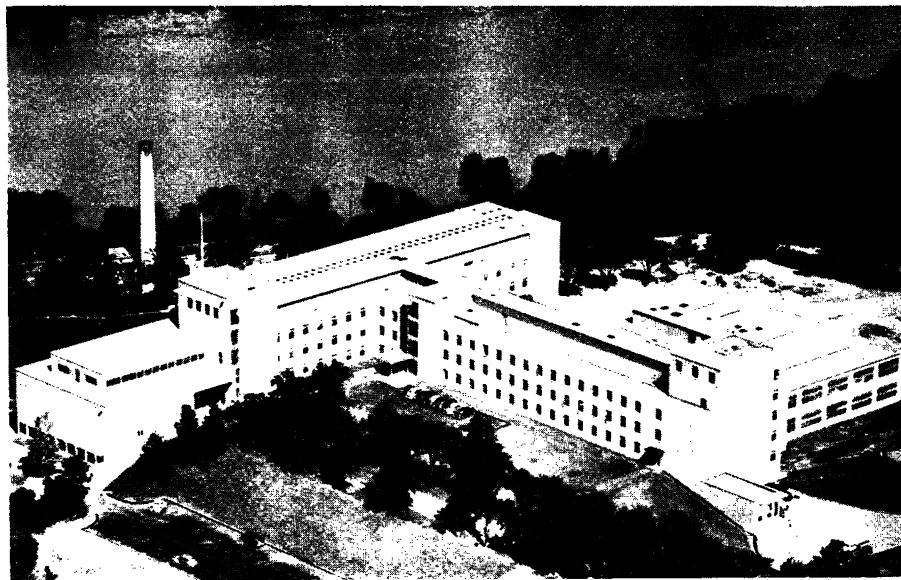
MEDICINE-AERONAUTICS

Ultrasonic Noise Harmless

► THE HIGH frequency noise of the exhaust of turbo-jet engines has been found not guilty of causing nausea, weakness, irritable disposition and other vague ills. So Dr. Hallowell Davis, expert on hearing of the Central Institute for the Deaf,

St. Louis, Mo., reported to the National Noise Abatement Symposium in Chicago, Ill.

Ultrasonic noise that is beyond the range of your hearing will not hurt you—unless the sound is intense enough to cook a small



HOME OF RESEARCH—The main building of the General Electric Research Laboratory located at the Knolls near Schenectady, N. Y. is shown above. "Universal space" design, provided by ready availability of services and use of movable steel partitions, permits establishment of rooms of any size ranging from six feet to the full length of the building. The four other principal structures are the radiation laboratory, the low-temperature laboratory, a chemical pilot plant and a heating plant.

animal by the heat generated in its fur.

The vague symptoms which you may really feel on exposure to the turbo-jet noise are actually due to the very intense middle and low frequency noise that is also present.

Dr. Davis reported a study of the harmful effects of noise made by Dr. Karl Kryter, director of the Human Resources Research Laboratory at Bolling Air Force Base, under a contract between the Office of Naval Research and the Central Institute for the Deaf.

Steady or expected noises do not interfere with work to any significant extent, it was found. In fact, some evidence was obtained that noise may "insulate" a person from intermittent distractions so that on some tasks, such as aiming a gun, performance is better in noise than in quiet.

The explanation for this is in the ability of the individual to adapt or "get used to" steady noise and to the fact that a person can usually increase his effort, if necessary.

Even in a hospital, the steady hum of an electric fan can prevent patients from complaining about loud voices down the hall, because it masks them so that they are not heard.

Gun fire and other shock or blast waves cause partial deafness that may last for a few minutes or several days and if the noise is repeated this partial deafness may be permanent and may get worse with continued exposure.

Ear plugs can prevent deafness from this kind of loud noise and also improve the hearing of speech in noisy surroundings. Cotton does not give much protection against low and middle frequency noises, but it does cut out the high frequencies which are the most annoying.

The most important effect of noise, Dr. Davis said, is its interference with communication. In situations where teamwork is important, this may be a serious hazard.

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was halted.

The medical scientists also warned that although the rice regimen has an important place in the treatment of severe essential hypertension, it is not, in its present form, a practical method of sustained therapy in most cases.

They pointed out that the diet is extremely unpalatable, monotonous and difficult to maintain long enough to exert its effects.

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MEDICINE

Rice Diet Evaluated

► THE RICE diet for high blood pressure helps patients and has given good results in more than half of one group, but is not in its present form a practical method of continued treatment in most cases.

This, in brief, are the conclusions of a team of medical scientists at Columbia University College of Physicians and Surgeons in New York. Their conclusions are based on results with 50 patients, all of whom were in the hospital throughout the diet test and who for an average of 10 and one-half weeks were given the diet, exactly as prescribed by its originator, Dr. Walter Kempner of Duke University.

The diet consists of an average of almost one pound of rice daily plus white sugar or dextrose and fruit or fruit juice.

The Columbia physicians report in the

AMERICAN JOURNAL OF MEDICINE that they "concur in Dr. Kempner's opinion that this specific diet, if followed with sufficient attention to detail, specifically reduces the blood pressure in a significant proportion of patients with severe essential hypertension."

"It would appear," they stated, "that the effects of the rice diet exceed, under controlled conditions at any rate, any other types of treatment for this disease short of sympathectomy (cutting of the sympathetic nerves in the spinal region). As far as we are able to ascertain, the drop in blood pressure is due chiefly to the very low sodium, or salt, content of the rice diet."

It was emphasized, however, that most of the patients on the strict diet returned to their hypertensive condition once the diet

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