

MEDICINE

Pave Way for Breakdown

► THE MEASLES, mumps and chicken pox of childhood may pave the way for some of the mental and physical breakdowns of middle and old age.

To explore this possibility with the hope of finding ways of preventing such breakdowns, the dean of the Harvard School of Public Health, Brigadier General James Stevens Simmons, USA (ret.), plans a new research program at the school as soon as funds can be found to finance it.

In urging this new approach to the search for the basic causes of mental diseases, General Simmons said:

"It seems possible that in our current preoccupation with theories of psychic and vague environmental causes, we are dealing with what at most could be merely secondary or immediate causes of mental disturbances. If this should be true, then the real need is to concentrate on uncovering the primary cause or causes. In our present state of confusion about mental disease, we may be just as far from the truth as were the pioneer investigators of the last century about the causes of cholera,

typhoid, syphilis and encephalitis."

Scientists have long known, he pointed out, that certain acute germ-caused diseases can produce either temporary or permanent brain damage resulting in abnormal mentality. Recently they have learned that some diseases, especially those caused by viruses and rickettsia, may have long incubation periods and that the germs can remain dormant but alive in the body without causing recognizable symptoms until months or years later when the person is subjected to some contributing condition or stress.

"It therefore seems likely," he said, "that a still undetermined proportion of mild or undetected diseases of early life might produce inapparent damage which could later interfere with the normal functions of the brain."

General Simmons called for this new approach to the problem of mental disease in an address to the Rhode Island Medical Society in Providence which awarded him its Charles V. Chapin medal.

Science News Letter, May 17, 1952

PSYCHOLOGY

"Get the Word" Research

► AS THE investigation into the Hobson sinking progresses, it will throw the spotlight on the tremendous importance of more research on the human element in communication. This is particularly likely if it turns out the tragedy was caused by failure of someone to "get the word."

Anyone who has used a telephone in a noisy office or factory knows how difficult it is to understand what is said—how easy it would be to mis-hear or even to lose a word or two altogether. But suppose you put the telephone on a warship and try to use it during the uproar and excitement of battle. Then the difficulty of understanding what is said is magnified. The boom of a gun or

the rush of waves may drown out the voice of the speaker. There is no time to check back or to ask for repetition. At the same time, a thousand distractions may divert the attention of the listener. And yet misunderstanding may cost the lives of all on board. Many tragedies on ships and in the air have been due to the failure of a telephone or radio listener to hear or "take in" the message given them.

Voices are particularly likely to come over garbled on the voice-powered phone. This kind of telephone is still used widely in the Navy because it is less likely to be put out of commission in battle than is the electric powered phone. But on this instrument, noise and distortion are greater than on the kind you have on your desk.

Making phone conversations intelligible has been and is being studied intensively in all branches of the armed services as well as by telephone companies.

Classes are conducted in telephone talking. Men are taught how to pronounce words and letters to avoid confusion with other sounds. They are instructed how to control their voices so as best to make themselves heard. If you listen to police calls on the radio, you will notice how flat the voice sounds. That is done intentionally, not just from boredom, to help get the message across.

Messages that are likely to be repeated from time to time, as, for example, "Turn the wheel to starboard," may be put into code. In this way a single word such as "Seagull" or "coffee" might stand for a complete order. The man using the phone must memorize this code and then the orders can be transmitted quicker and with less danger of confusion.

A familiar example in civilian life of such encoding is in the common greeting telegrams. The telegraph operator can transmit a number like "ten" and the operator at the other end will immediately type out, "Happy birthday, dear Mother, how I wish I could be with you today."

If the telephone operator uses certain standardized words and follows a pre-arranged pattern in his speech, the listener knows better what to expect and is less likely to mis-hear what is transmitted.

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VOLCANOLOGY

Walls to Stop Volcanic Destruction Urged

► LAVA POURING out of volcanoes can be turned from its path in order to protect inhabited areas by properly placed walls, Arnold C. Mason and Dr. Helen L. Foster of the U. S. Geological Survey have concluded.

There are about 450 active volcanoes in the world today and each of them is potentially destructive. However, the two scientists pointed out to the American Geophysical Union meeting in Washington that "it is feasible to build walls" that will change the lava flow.

They concluded this after study of the effects of lava flow on a concrete building that partially blocked the path of the molten material oozing out of Mount Mihara on Oshima Island in Tokyo Bay in 1951.

Such walls would not dam the lava flow, because they would then be overrun. They should be placed so that the lava would be diverted into a safe channel, taking advantage of the natural features in the path, the scientists state.

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