

GENERAL SCIENCE

Scientists Best Defense

Leadership in science must take the place of military defense against atomic bombs. Research in medicine and biology is necessary, says board.

► "SCIENTIFIC leadership is the nation's best defense," a seven-man medical board of review has reported to the Atomic Energy Commission.

"The need for medical and biological research on the various effects of radioactive substances and atomic fission is both urgent and extensive," the report warns.

"It is urgent because of the extraordinary danger of exposing living creatures to radioactivity.

"It is urgent because effective defensive measures (in the military sense) against radiant energy are not yet known.

"From now on we shall mine, transport, process and use radioactive substances as sources of power, tools for investigation of biological processes, and for the treatment of disease. There will therefore be incessant danger in handling such substances and using their radioactive properties. The need for further research is extensive as well as urgent.

"As an explorer allows for unforeseen hardships and unpredictable events, the investigator must plan for extensively unforeseen eventualities. The number of radioactive substances is large; many have never been identified as existing in nature.

"Such substances call for suspicious study. The facts learned and the mastery obtained in the past four years acquire most of their immense significance not merely from their present state of development but from what they will lead to. As the sole possessor of the materials and the processes involved, the Atomic Energy Commission must continue and extend research for which it has the primary, and in the U. S. A. the sole responsibility.

"In terms of human life, this research must be based on medical and biological science."

Here are other highlights of the report:

For scientific supremacy we cannot depend on the memories of the men who worked together to produce the atom bomb and to protect the workers.

We must train oncoming groups of young men, year after year. The young scientists will replace present authorities

on 1. atom-splitting, 2. devising new ways of using atomic power in peace and war, and 3. searching for methods of protecting the workers and the civilian population.

Newly-discovered radioactive substances must be studied for their dangers and their possible disease-curing properties.

Steps should be taken to make isotopes, the chemicals produced by atom-splitting, available to foreign investigators.

The Atomic Energy Commission should cooperate with the U. S. Public Health Service and universities in research and in training young men to conduct it, so far as security permits.

Members of the board were: Dr. Robert F. Loeb, Columbia University, Chairman; Dr. Detlev W. Bronk, University of Pennsylvania, and Chairman, National Research Council; Dr. Wallace O. Fenn, University of Rochester School of Medicine and Dentistry; Dr. Herbert S. Gasser, Director, Rockefeller Institute for Medical Research; Dr. Ernest W. Goodpasture, Vanderbilt University; Dr. Alan Gregg, Director for Medical Sciences, Rockefeller Foundation; and Dr. A. Baird Hastings, Harvard Medical School.

Science News Letter, July 19, 1947

MEDICINE

Inhaling Amyl Nitrite Will Cure Hiccups

► INHALING amyl nitrite, medicine which many heart disease patients carry with them, will cure hiccups, including the alcoholic variety, when all else fails.

Its use to cure hiccup of "unbelievable forcefulness" which lasted almost four days is reported by Dr. R. C. Nairn in *Lancet* (June 14).

The victim was a stoker on a small ship doing minesweeping off Malaya during the war. Dr. Nairn, then a lieutenant surgeon in the British Navy, first suggested all the old and well-tried methods, such as holding the breath, breathing in and out of a paper bag, pulling on the tongue, and eating or

drinking such things as sugar and eucalyptus oil or sugar and vinegar.

When none of these worked, the hiccuper was transferred to Dr. Nairn's ship for examination and further treatment. A mixture of oxygen and seven percent carbon dioxide was given by a special apparatus but did no good. A sleeping medicine and morphine and kaolin (a fine clay) were given, the latter to relieve any possible stomach irritation. The hiccuper fell asleep, still hiccupping.

He stopped hiccupping early in the morning, "much to everyone's relief," but half an hour after awaking and drinking a little fluid, the hiccupping started again.

Dr. Nairn was considering giving a general anesthetic, such as ether, or paralyzing the patient's phrenic nerve by injecting a local anesthetic (procaine).

"Before seriously contemplating these heroic procedures," Dr. Nairn reports, he made a mental survey of the drugs supplied to small ships. One anti-spasmodic had not yet been tried. This was amyl nitrite.

Inhaling the vapor from one ampule of this "worked like a charm." In less than a minute the hiccup stopped.

Science News Letter, July 19, 1947

PHYSICS

Glare-Reducing Headlamp

► AN AUTOMOBILE headlamp with its glare greatly reduced is the invention on which G. C. Singer of Brownsville, Texas, has received patent 2,423,525. Since direct rays from the luminous filament are responsible for most of the blinding glare in such lamps, he places directly before this, on the inside of the flat front surface, an opaque disk that is silvered on its inner side, to reflect back the direct rays. These strike mirror surfaces on other parts of the lamp's interior, and thus emerge bright, but diffused.

Science News Letter, July 19, 1947

PHYSICS

New Form of Bolometer

► FOR A NEW form of bolometer, extremely sensitive heat-detecting instrument, patent 2,423,476 has been issued to three physicists of the Polaroid Corporation, B. H. Billings, W. L. Hyde and E. E. Barr. Essential part of the instrument is a film of chromium and silver, deposited by evaporation on a very thin pellicle of nitrocellulose.

Science News Letter, July 19, 1947