

MEDICINE

Booster Shots Might Prevent Flu Epidemics

► FUTURE INFLUENZA epidemics, like the current Asian one, may be eliminated by building up a broad immunity to all known types of influenza with properly spaced vaccinations of the right vaccine.

This is indicated in research by Drs. Fred M. Davenport and A. V. Hennessy of the University of Michigan School of Public Health, Ann Arbor.

Their studies show resistance to influenza is controlled by the existence of a broadly reacting antibody giving protection to an individual regardless of minor changes in the prevalent strain of flu virus.

It is this broad immunity that can be built up by an initial vaccination, plus booster shots at set intervals to increase antibody production.

Vaccinations greatly reinforce production of antibodies to strains of the virus previously encountered by a person, but they have a much smaller stimulating effect when antibodies to a new strain must be built up. Thus, if boosters are given after the first vaccination, they will greatly increase antibody production.

Repeated vaccinations with appropriate viruses would be expected to yield a longer lasting immunity that would not be threatened by minor, although seemingly dramatic, changes in the "virus of the year," the scientists report in the *Journal of Experimental Medicine* (Dec.).

Science News Letter, December 28, 1957

CHEMISTRY

Daylight Makes Changes In Cigarette Smoke

► CIGARETTE smoke which has been exposed to daylight is not the same as the smoke inhaled by a smoker, a fact that may be important in some cancer-smoking experiments, Dr. Hilda Johnston, Royal Beatson Memorial Hospital, Glasgow, Scotland, reports in *Nature* (Dec. 14).

When fresh smoke is dissolved in a benzene solution it is fluorescent, but after this solution is exposed to light, it begins to lose this characteristic fluorescence.

A decrease in fluorescence indicates one obvious difference between the original smoke inhaled by a smoker, which contains unchanged products, and any solution of the smoke products, which has been exposed to light and then used for chemical or biological tests.

The products in the smoke which undergo this light change are not known, although they come from the actual burning process and are not something found even in unburned tobacco.

Many vegetable products heated to the same temperature give similar results when benzene solutions of their smoke are exposed to light.

However, tobacco is the only vegetable product commonly smoked and inhaled into the lungs, so its decrease in fluorescence might still be important.

The existence of light-sensitive elements

in tobacco smoke strengthens the theory that free radicals are formed when organic material is burned like tobacco.

Free radicals have been suspected of being cancer-producing by some researchers, although no free radicals have actually been found in cigarette smoke.

Science News Letter, December 28, 1957

GEOPHYSICS

Byrd's Abandoned Snow Cruiser Found

► ADMIRAL Richard E. Byrd's 1939-41 Antarctic expedition snow cruiser, which cost \$125,000, has been found beneath 14 feet of snow at Little America.

Byrd intended to use the 33-ton "snow-bird" on wheels in his 1941 expedition.

Inside the cabin of the snow cruiser were found souvenir envelopes prematurely printed "The snow cruiser reaches the South Pole."

Soft snow bogged the cruiser's 10-foot diameter balloon tires and it got only a few miles from where it was unloaded from the expedition ship North Star.

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It did not have enough power to dig itself out of its own tracks.

The vehicle was intended to conquer the Antarctic hinterland and carried a light aircraft on its roof for reconnaissance.

The cruiser is unlikely to be salvaged this Antarctic summer as it would require a bulldozer to dig down about 30 feet and cut a ramp 100 feet long for it to be dragged out.

Science News Letter, December 28, 1957

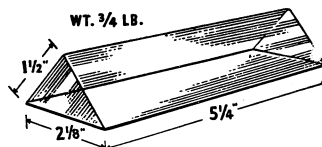
METEOROLOGY

Storm Warnings Sent By Conelrad

► UNDER a new storm warning plan, Conelrad alert receivers that have been set up to warn of possible enemy attack will now be used to disseminate emergency weather bulletins.

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Science News Letter, December 28, 1957

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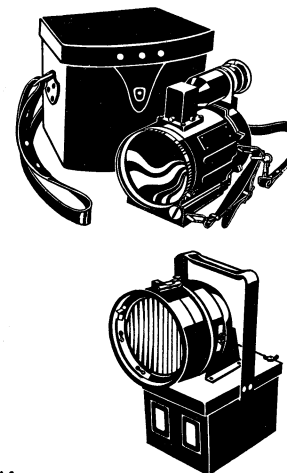
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