

MEDICINE

Test Detects Cold Virus

This chemical procedure will speed-up studies looking toward drugs or a vaccine to conquer the common cold. Human volunteers are aiding the study.

See Front Cover

► A DRUG to cure the common cold or a vaccine to prevent it may come faster, thanks to a chemical test developed by two U. S. Public Health Service scientists, Drs. Leon T. Atlas and George A. Hottel of the National Institutes of Health in Bethesda, Md.

The test detects the presence of the common cold virus and tells how much of it is present in a given sample of material. When certain chemicals are added to virus-containing material a pink to brown color develops. A very light pink color means a little virus. A very deep brown means lots of virus. To determine the exact amounts scientists measure the intensity of the color with an instrument called a spectrophotometer. The chemicals used are tryptophane, an amino acid, and perchloric acid. Details of the testing procedure were reported in the journal, *SCIENCE* (Dec. 31).

The speed-up on work toward a cure or preventive for the common cold comes from the fact that with this test scientists can do as many of certain procedures in one routine day as have so far taken two years.

First steps in trying to make a vaccine against a disease are to isolate the germs causing it and grow them outside the body in large quantities. In the case of colds, this can be done by washing out the nose of the cold victim with milk and growing this material on fertile hen's eggs. On the cover of this week's *SCIENCE NEWS LETTER* a fertile egg is shown being inoculated with common cold virus.

But the only way scientists have had so far of knowing whether the cold virus was present in the material from the victim's nose, or had grown on the eggs, was to spray some of it in a healthy person's nose and wait to see whether he got a cold.

And if they wanted to know how much virus is needed to cause a cold, essential for development of a vaccine, they had to spray different dilutions of virus-containing material in different noses and again wait to see whether colds developed.

These tedious, time-consuming procedures will be eliminated by the new test. Human volunteers will still be needed for some phases of cold research. Examples Dr. Atlas gave are recognizing the various agents which may cause colds, studying susceptibility to fresh colds, the length of time a cold lasts, and the effect of drugs, climate and various other factors on attacks of colds and their course.

Tests of aureomycin, new mold remedy,

as a cold cure and of diluted virus as a vaccine are planned.

The chemical test has been successful in detecting and measuring a virus called MR 1. Decoded, this means Minor Respiratory 1. It is the code name given the virus which Dr. Atlas and Dr. Norman Topping of the National Institutes of Health announced just a year ago (*See SNL*, Jan. 24, 1948). Dr. Atlas got it from the nose of a scientist to whom he was giving a physical examination preliminary to a U. S. Public Health Service fellowship.

With the aid of 500 volunteers among

inmates at Lorton Reformatory, District of Columbia penal institution, Drs. Atlas and Topping made sure that this virus definitely causes colds. Because it may not be the only virus that causes colds, or what the scientists term minor respiratory diseases, they have given it the number, "1", to identify it.

Dr. Atlas hopes that the new test will enable him and fellow scientists to isolate and study other viruses that may be causing the minor respiratory diseases now lumped under the name of a cold.

The test might be made specific for each virus, not only of colds but of other diseases such as infantile paralysis, measles and so on. If so, it would speed new knowledge for fighting these diseases. Its potential usefulness in this way comes from the fact that it is based on a chemical difference between infected and non-infected fertile hen's eggs, probably on the chemical composition of viruses in general and not a specific virus.

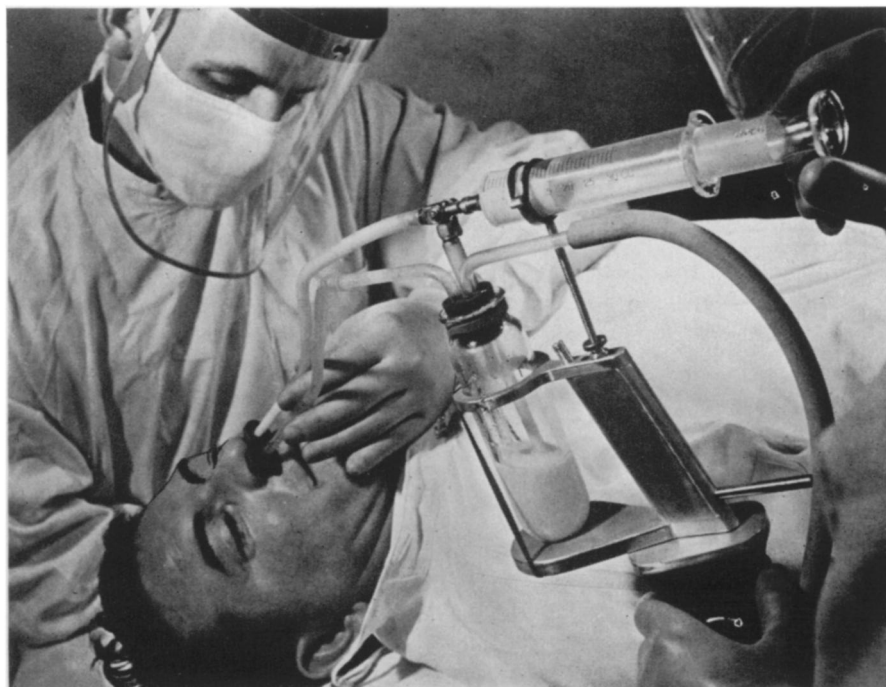
Science News Letter, January 8, 1949

ASTRONOMY

14 Comets Found in 1948

► "THE YEAR 1948 was another record-breaking one for comet seekers," Dr. Fred L. Whipple of Harvard Observatory revealed at the meeting of the American Astronomical Society in New Haven, Conn.

Fourteen comets were spotted during the year. This is as large a number as has ever been found, and only the third time on record when over an even dozen have been spotted in a single year.



ISOLATING GERMS—A nasal washing is shown being collected by Dr. Leon T. Atlas of the National Institutes of Health common cold research program. Sterile skim milk is circulated through the nostrils and nasal pharynx of a volunteer who, a few days before, was inoculated with common cold virus.