

MEDICINE

Exposure to Germs Fails To Cause Colds in Volunteers

Normal Men Stay in Air Conditioned Room With Sneezing Patient and Remain Well In This Ideal Environment

CATCHING COLD is not just a matter of getting the "germs" or virus of a cold into your system. Getting chilled or being tired may be a big factor. This is the opinion of Dr. William J. Kerr, professor of medicine at the University of California Medical School. In experiments, he exposed human volunteers in an air conditioned room to a sniffing, sneezing person.

Under certain conditions, you can share a drinking glass with a cold sufferer, and even sit within sneezing range of him for hours at a time and still fail to catch a cold. This was the experience of twenty-four volunteers who took part in experiments which Dr. Kerr and Dr. John B. Lagen, research associate, have been conducting for the past two years at University of California Hospital.

Dr. Kerr admits that a strong case has been made for a filterable virus being the causative factor of common colds, but he is not satisfied that this is the only causative factor. Failure of the body to adapt itself to changes in the environment is probably another factor that is responsible for your catching cold.

"If a filterable virus is the cause, the environmental factors and the general bodily responses must still be considered in the preparation of the soil," Dr. Kerr suggested.

He hopes that his studies on how colds are transmitted from one person to another will throw some light on the adaptive mechanisms of the body which help to keep us healthy and about which little is known.

The experiments to test the effect of environment were carried out in a specially constructed air-conditioned room. It was completely isolated from the outside and washed and prepared air was supplied to it. The room was kept with conditions to insure the complete comfort of the volunteers who lived in it, four at a time. The temperature was between 70 and 71 degrees Fahrenheit with a relative humidity of 55 and an air flow of approximately 66 cubic feet

per minute. Barometric pressures showed a very slight increase over those in the outside atmosphere because of the constant flow of air into the room.

The volunteers who served as guinea pigs for the experiment were all normal men between the ages of 21 and 40. They gave a history of three or more colds a year, none of them having had a cold within recent weeks.

After they had been in the room from five to eight days, they were joined by another man but one who was suffering from a common cold in its early stages. This cold sufferer stayed in the

room for one or two days, coming into closest contact with the men who had no colds. They all drank from the same glass, sat around a table playing games, and the cold sufferer sneezed unrestrainedly, filling the air with droplets presumably full of cold virus.

Besides being exposed in this way to colds, some of the volunteers had secretions from other cold sufferers swabbed onto the insides of their eyelids. Neither these nor any of the other volunteers caught cold or had any symptoms of colds.

Dr. Kerr and his associate do not think that these experiments have settled the question. They believe these studies show that colds are not so easily caught when your body is in a comfortable environment. They suggest that environmental changes, particularly sudden changes in the weather or in resistance other than the type developed by vaccination, for example, allow disease germs or viruses to become active, giving the symptoms of a cold.

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COSMOLOGY

Our Cosmic Island Shaped Like Ball, Not Like Disk

WE LIVE in a great ball of stars and not in a watch-shaped stellar galaxy as astronomers have supposed. Dr. Harlow Shapley, Director of Harvard College Observatory, delivering the Darwin lecture in London, said there is now increasing evidence that some types of stars are so distributed as to make the Milky Way galaxy nearly spherical.

Our neighbor galaxy, the great nebula in Andromeda, is also a great ball of stars. As in our own Milky Way, the greatest portion of Andromeda stars fall into an elongated flattened spiral form with long diameter about four times the short diameter. When Harvard astronomers made measurements along the lesser axis with an instrument sensitive to very fine differences in light it was found to be about five times as long as previously shown on photographs made with large telescopes.

Ideas of the sizes of our own and other galaxies of stars must be revised upward, Dr. Shapley told the British audience. The dimensions of spiral nebulae must be increased by six-tenths,

and for other nebulae that look like great balls the dimensions must be tripled. It is now known that it takes light at least 75,000 years to cross our Milky Way.

Some 115,000 new galaxies were discovered on photographs made at Harvard's South African Station and at its new Oak Ridge, Mass., observing point. The most recent photographic plate taken, exposed three hours through the 16-inch Metcalf telescope, showed 1,700 galaxies, the richest region yet discovered during the extensive Harvard survey of northern skies for new "universes." Great clusterings of galaxies, each consisting of tens of thousands of galaxies and each measuring a thousand quintillion miles across, have been found, Dr. Shapley said, as a result of his inquiries into how the galaxies are distributed in the universe.

Dr. Shapley's address was made on the occasion of his receiving the gold medal of the Royal Astronomical Society, one of the highest honors paid astronomers.

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