

MEDICINE

Filtrable Germs Need Not Be Extremely Small

THE GERMS causing such diseases as infantile paralysis and herpes encephalitis may be invisible with ordinary microscopes and may be able to pass through the pores of very fine filters, but they need not be extremely small, as is universally believed. This conclusion was reached by Dr. Edward C. Rosenow of the Mayo Foundation after examining filtrates of cultures of these germs with the Rife microscope.

With this microscope, designed by Dr. Royal Raymond Rife of San Diego, Calif., Dr. Rosenow found in filtrates of cultures of the streptococcus and in filtrates of the "virus" from infantile paralysis, and in filtrates of herpes encephalitis "virus" cocci and diplococci which he had not been able to detect by ordinary means.

Dr. Rosenow suggested in a report to *Science*, that the filtrable, disease-causing agent of infantile paralysis may be the familiar streptococcus in a stage in which it cannot be stained to make it visible, and is highly plastic and semi-transparent. Or it may be that these unstained, invisible forms not revealed by ordinary examination are not the viruses which cause diseases, but merely a fil-

trable or other state of the streptococcus. Dr. Rosenow does not incline to the latter view, however.

Incidentally, Dr. Rosenow confirmed certain findings of Dr. Arthur Isaac Kendall of Northwestern University Medical School, who in 1931 reported that he was able by using a special medium to induce a filtrable phase of the typhoid bacillus, ordinarily a fairly large germ, easily visible under the higher-powered lenses of a compound microscope. With the Rife microscope Dr. Kendall saw in his filtrate small, oval, actively-moving bodies, turquoise blue in color.

Dr. Rosenow, working in Dr. Kendall's laboratory at Chicago, was able to see these same turquoise blue bodies. The reason that they are not visible by ordinary methods of illumination and magnification is not that they are too small but are of peculiar translucent, non-staining structure, he stated.

"Their visualization under the Rife microscope is due to the ingenious methods employed rather than to excessively high magnification," is Dr. Rosenow's opinion.

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ASTRONOMY

Height of Shooting Stars Measured With Wire Frame

HOW high and for what distance will the Leonid meteors shoot through the sky in a few days.

A definite answer to this question was given by observers of Perseid showers of meteors last August. They watched the sky through a wire frame 35 inches in diameter and located the paths of the meteors more accurately than would have been possible with the eye alone.

One party, from the University of Iowa Observatory, was stationed at Iowa City, while the other, from the Physics Department of Iowa Wesleyan College, watched the skies at Mt. Pleasant, 48 miles south of Iowa City. They observed during the same time, the Iowa

City station taking data on 27 meteors and the Mt. Pleasant post noting 22. Five meteors, they agreed, were undoubtedly observed in duplicate.

By geometrical calculation the height and length of each meteor path was determined. It was found that the meteors appeared from 71 to 92 miles above the earth and disappeared at heights ranging from 55 to 65 miles. The paths varied from 12 to 44 miles in length.

The Iowa City observer was R. E. Crilley, graduate student at the University of Iowa, and the Mt. Pleasant observer was James A. Van Allen, student assistant at Iowa Wesleyan.

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Whiskey-Jack

IN THE HIGHER lands of the West, and scattered widely through the big timber of Canada, there ranges an interesting gray jay, closely related to the common bluejay, but known locally as the whiskey-jack. Like the bluejay, this gray jay is a great thief, and appropriately he has several aliases including meat-bird, grease-bird and camp-robber.

He is smaller than the bluejay, and not nearly so noisy. Most of the time, indeed, he is very quiet, hopping around without saying a word, or talking gently to himself about inconsequential matters. But if you think he isn't paying attention to what you are doing, just relax your own attention for a moment. In a flash, Mr. Whiskey-Jack is off with a piece of food out of your very plate, or whips away with a spoon or even with your spectacles.

Yet, thief though he is, nobody in the West or North would think of killing a whiskey-jack. There is something in his lack of shyness, in the very audacity of his picaresque raids, that tickles the fancy of rangers and lumberjacks. In the Canadian camps he is regarded as an omen of good luck, and the man who raises a hand against one would be boycotted by his fellows.

Ranger "Scotty" Baumann, of Yellowstone National Park, thanks a whiskey-jack for keeping the roof over his head during a bitter mountain winter. He noticed one of the birds raising a bigger fuss than usual over his cabin, and when he inquired into the cause he found that the shingles around his chimney were afire. Scotty is fond of all living things except coyotes anyhow; but this little adventure naturally planted the whiskey-jack more solidly than ever in his affections.

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