

The infective nature of viral nucleic acid was first discovered in TMV, information later extended to other plant and animal viruses, and of great value in understanding their properties.

TMV is a molecular parasite. It is a rod-shaped particle about 100,000th of an inch long, consisting of 95% protein and 5% nucleic acid. Its nucleic acid is RNA, or ribonucleic acid, which in TMV is the sole repository of genetic information.

Dr. Reddi and his coworkers explored the biochemical events within the cell following infection with TMV. They found that the reproduction of RNA within the host cell does not proceed by way of cellular DNA, or deoxyribonucleic acid, which controls the synthesis of the RNA present in the normal healthy cell.

Viral infection of a cell means the introduction of a foreign genetic code, Dr. Reddi said at the meeting of the National Academy of Sciences in Washington, D. C. Competition for the control of the cell's metabolic machinery goes on between cellular and viral nucleic acids after the foreign code is introduced.

The infecting virus uses cellular mechanisms for synthesis of its own kind after changing the host RNA to a less complex compound.

Much remains to be discovered about the biochemical events that take place within the host cell following infection with TMV, Dr. Reddi said, and the "unsolved problems are full of exciting possibilities."

This study is supported by a Research Career Development Award and a research grant of the U.S. Public Health Service.

• Science News Letter, 85:291 May 9, 1964

Blue of Blue Ridge

▶ THAT BLUE HAZE of the Blue Ridge Mountains or the hazy days of summer are partly caused by the sweet and pungent odors of plants.

The blue summer haze is remarkably like the smog hanging around our big cities, Drs. R. Rasmussen and F. W. Went of Washington University, St. Louis, reported to the National Academy of Sciences annual meeting in Washington, D. C.

The organic volatile substances that fill our air with blue-gray haze are composed partly of gasoline vapors around the cities, but most of them in the country come from the odors which make plants smell and which man uses as turpentine and in perfumes.

By analyzing air far removed from industrial activities, in spots such as the Smoky Mountains, the Ozarks and the Rocky Mountains, the scientists found that plants were the sources of most common volatile substances in the air, such as isoprene, alpha-pinene, beta-pinene, limonene and myrcene.

Concentrations of these volatiles vary, rising during the day and decreasing during night, the scientists said.

Laboratory and field experiments show that these plant volatiles are changed to sub-microscopic particles by sunlight or a strong light from a carbon arc in the presence of nitrogen oxide or iodine vapor.

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GENERAL SCIENCE

NAS to Form National Academy of Engineering

▶ THE NATIONAL ACADEMY OF SCIENCES, which has existed since the days of Lincoln, has taken steps to form a National Academy of Engineering.

A committee of 25 of the nation's leading engineers, picked by Dr. Frederick Seitz, NAS president, will seek a Congressional Charter for the proposed Academy.

Committee officers are: chairman, Dr. Augustus B. Kinzel, vice president for research, Union Carbide Corporation; vice chairman, Dr. Eric A. Walker, president, The Pennsylvania State University; and executive secretary, Dr. Harold K. Work, director of the research division and associate dean, school of engineering and science, New York University.

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GENERAL SCIENCE

Five New Trustees For Science Service

▶ FIVE NEW TRUSTEES have been elected to the governing board of SCIENCE SERVICE, Inc., the non-profit institution for the popularization of science founded in 1921.

The National Academy of Sciences has named to the board its former president, Detlev W. Bronk, president of the Rockefeller Institute, New York.

The American Association for the Advancement of Sciences has nominated Dr. Athelstan F. Spilhaus, dean of the University of Minnesota's Institute of Technology and director of the U.S. Science Exhibit at the Seattle World's Fair, and Dr. Bowen C. Dees, associate director of the National Science Foundation, Washington.

Dr. Eric C. Walker, president of Pennsylvania State University, prominent in organizing the National Academy of Engineering, was elected upon nomination of the National Research Council.

Edward W. Scripps II joins the board as a representative of the E. W. Scripps Estate.

Ralph B. Curry, editor of the Flint, Mich., Journal, was reelected.

The other trustees of SCIENCE SERVICE are: Dr. Wallace R. Brode, Washington, D. C., chemist; Dr. Henry Allen Moe, Clark Foundation, New York City; Dr. Harlow Shapley, Harvard College Observatory; Dr. Benjamin H. Willier, Johns Hopkins University biologist, and Dr. Leonard Carmichael, psychologist, just retired as Secretary of the Smithsonian Institution; also O. W. Riegel, director, Lee Memorial Journalism Foundation, Washington & Lee University; Gordon B. Fister, associate editor, Call-Chronicle of Allentown, Pa.; Edward J. Meeman, editor emeritus of Memphis, Tenn., Press-Scimitar, and Ludwell Denny, Scripps-Howard Newspapers.

The officers of SCIENCE SERVICE are: President, Dr. Carmichael; vice president and chairman, Mr. Scripps; treasurer, Dr. Brode; and secretary, Dr. Watson Davis.

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Questions

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BIOLOGY—What factor is missing in the blood of human hemophilia victims? p. 295.

GEOPHYSICS—What is the new theory about the structure of the earth's core? p. 291.

PHYSICS—What is the most effective sound for use as a warning signal? p. 294.

PUBLIC HEALTH—What deadly parasite is housed in the snail "Australorbis"? p. 302.

ZOOLOGY—How large is the heart of a sea urchin? p. 297.

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