

SCIENCE

VOL. 76

FRIDAY, NOVEMBER 18, 1932

No. 1977

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SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. MCKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal
Lancaster, Pa. Garrison, N. Y.
Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

A CONCEPT OF THE ULTRAMICROSCOPIC VIRUS DISEASES AND A CLASSIFICATION¹

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WE² have recently attempted to define a filterable virus as a particulate agent, probably endowed with life, of a size and carrying an electric charge which permits it to pass through the pores of ordinary filter candles, as a rule ultramicroscopic (though there may be exceptions), related in many instances to the formation of intracellular inclusion bodies (intracytoplasmic, intranuclear or both). Since disease phenomena have focused our attention upon them they appear to be capable of producing in many instances specific pathologic processes in several different forms of life, including man, lower animals, fowls, fishes, insects and plants.

It is exceedingly difficult to formulate a definition

¹ Address at the annual meeting of the American Society for Experimental Pathology, Philadelphia, Pennsylvania, on April 28, 1932.

² E. B. McKinley, *The Sci. Monthly*, 32: 398, 1931.

for this large group of agents, which we now, perhaps unfortunately, speak of as the filterable viruses. One may appear foolhardy in attempting such a definition until the exact nature of these agents is known. However, certain developments in the fields of pathology and bacteriology make it of paramount importance at the present time that even with our limited knowledge of the nature of viruses, we attempt to define our problems in order that in the future there may be less confusion than exists at the present moment concerning this group of disease-producing agents. For this reason we have attempted a tentative definition of the filterable viruses and will later present a classification which we suggest as a working basis in thinking of this group of agents.

The history of the virus group is well known and needs no repetition here. Suffice it to say that most

Science

76 (1977)

Science 76 (1977), 8-476.

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