Microbes Have Invisible Stage

Bacteriology

Many Bacteria May Lead Protean Lives

SCIENTISTS have often been baffled in their search for disease germs because germs have a stage or stages of development in which they are too small to be recognized by microscopic examination, filtrable through fine filters and, for a time at least, non-cultivable by ordinary methods. This is the opinion of Dr.. Philip Hadley of the Medical School of the University of Michigan.

Dr. Hadley, internationally known for his studies on the curious transformations which bacteria undergo in artificial cultures and in the body, told a gathering of scientists at Ann Arbor that he had been successful repeatedly in causing disease-producing bacteria, appearing under the microscope and in cultures in the conventional form, to undergo dissociative changes which rendered them invisible, and filtrable through fine-grained earthen and porcelain filter candles. After further laboratory procedures these minute bodies were made to re-develop into the "normal" form. Sometimes weeks or months were required to effect this reversion.

Should Dr. Hadley's experiments and conclusions be correct—and it was admitted that it was more than possible that they were—a number of firmly held notions in present-day bacteriology would seem to demand some revision. This referred to such matters as valid criteria for judging the sterility of normal or pathological tissues and body fluids, criteria for judging when a bacterial culture was really dead, the true significance of so-called "bacteriolysis" and the bacteriophage phenomenon; also perhaps, the biological relation between the filtrable forms of bacteria and some of the so-called filtrable viruses.

Dr. Hadley emphasized the need of studying bacteria not alone with reference to the ordinary form that is well known to bacteriologists and described in the textbooks, but also with reference to the other cyclostages in which the organisms may masquerade for a time, and in which form they are seldom recognized. One of the most important of these is the filtrable form which occurs in the G-type culture.

The speaker voiced the opinion that, contrary to the common belief, any bacterial species in its entirety is not so simple a thing that it can be revealed by a study of a single cell or a single culture; but that it is highly intricate in its cellular organization. This might be taken to mean that far more remains to be discovered regarding the complex biology of many "well-known" microbes than is already known by bacteriologists today.

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Plant Patents

THE plant patents bill, which makes it possible for plant breeders to protect their new hybrids as though they were mechanical or chemical inventions, has been passed by both houses of Congress and signed by President Hoover, making it law. The terms of the act extend protection only to plants that are propagated by cuttings, grafts and similar asexual methods; not to new varieties of plants propagated by seeds.

Horticulture

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The common cold is more common among young men in their twenties than among middle-aged men, statisticians have found.

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