POLIOMYELITIS (INFANTILE PARALYSIS)

By Dr. SIMON FLEXNER

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH, NEW YORK, N. Y.

The essential nature of infantile paralysis has been determined within the twenty-year period during which the disease, escaping from its endemic home in Norway and Sweden, has made its epidemic progress over the world. Only the tropics, and even they not wholly, have been spared its ravages.

It is probably just because infantile paralysis had never before prevailed in a world-wide epidemic that we are witnessing the periodical outbreaks which are so tragic in their consequences. On the whole, the outbreaks have been larger and more severe in North America than elsewhere and for reasons, as will appear, which are bound up with the nature of the disease.

Infantile paralysis is a disease long known to physicians, although its infectious and communicable nature was established only about forty years ago during an epidemic in Stockholm. Hence it is known to be a disease of microbe origin. The microbe or microorganism which induces infantile paralysis is so minute that it is not certain that it has ever been seen under the microscope. Because of its minuteness, it can pass through filters of earthenware which hold back, and prevent from passing, ordinary microorganisms, such as the bacteria.

The microbe of infantile paralysis differs in another way from the usual bacteria. While bacteria are easily made to grow outside the body, the microbe can be made to multiply in this way only under special conditions. These conditions are provided by growing and multiplying tissue cells taken from warm-blooded animals and propagated in tissue cultures. When the invisible microbe of infantile paralysis is cultivated with tissue cells, both increase together, the microbe probably within the cells.

There are many other kinds of invisible microbes