material from the second parrot, again filtered, caused the disease and death in a third parrot.

These observations indicate that from the original parrot and also from the human contact we obtained a filtrable virus and that this virus is the primary etiological agent of the disease.

This virus will kill mice whether the material be filtered or not. The virulence for mice does not seem very great, as a few mice survive.

There is an inherent source of error in observations of this character, *viz.*, the danger of "picking up" a virus in the experimental animals used. This possibility has been excluded as far as possible by using parrots from sources free of disease and parrots which had been imported sometime before the appearance of the disease.

As this preliminary note was being prepared a short report in the *Lancet*, February 1, 1930, of the work of Bedson, Western and Simpson came to our attention. They, likewise, believe that they have demonstrated a filtrable virus in parrots. They do not report a similar demonstration in the case of human materials.

We also have caused the death of a parrot with emulsions of the organs of a fatal human case, but filtration experiments on this presumed virus are not completed.

Our observations and those of the English investigators seem for the first time to offer definite indications as to the etiology of the disease psittacosis.

CHARLES KRUMWIEDE
MARY MCGRATH
CAROLYN OLDENBUSCH

BUREAU OF LABORATORIES,
DEPARTMENT OF HEALTH,
NEW YORK CITY

BACTERIUM GRANULOSIS AND TRACHOMA OF AN URBAN WHITE POPULATION

IN a recent issue of SCIENCE[1] a brief note has been published extending the original publication of Noguchi on *Bacterium granulosis* (*nov. spec.*) in relation to the trachoma occurring among the Indians in New Mexico and Arizona. The present report has for its purpose to record the isolation of *Bacterium granulosis* from cases of trachoma occurring in New York City and further experiments on contact infection.

Through the kindness and cooperation of Dr. Martin Cohen, we obtained specimens removed for curative purposes from two patients who had suffered from trachoma two and ten years, respectively. In both patients the pannus and scar-formation, characteristic sequels of the trachomatous disease, were present.

The specimens were employed in the preparation of cultures according to the original Noguchi methods, and from both bacteria were isolated which conformed in all biological properties with *Bacterium granulosis* as obtained from cases of Indian trachoma. Moreover, when the cultures obtained from the New York cases of trachoma were inoculated into monkeys by the Noguchi method, they gave rise in from seven to thirty-three days to the granular conjunctival condition characteristic of experimental trachoma and resembling closely trachoma in man.

Tyler[2] had found that when monkeys in which the the experimental granular, trachomatous lesions are present and normal monkeys with smooth conjunctivae are caged together, the previously healthy animals acquire the experimental disease. Noguchi had previously observed the extension of the lesions from the inoculated to the uninoculated eyes of *Macacus rhesus* and chimpanzees. This presumable contact infection was shown by Tyler's experiments to be possible between inoculated and uninoculated animals.

We have since found that when the secretions from monkeys with the granular lesions are taken on cotton swabs and transferred directly, by rubbing, to the eyes of normal *Macacus rhesus*, the experimental trachomatous disease is promptly produced. In addition, it has been found that when cultures of *Bacterium granulosis* are instilled into the conjunctival sac of normal monkeys and the eyelids gently massaged, infection also occurs and the granular lesions appear quite as early (thirteen days) as after subconjunctical injection.

PETER K. OLITSKY,
JOSEPH R. TYLER

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

ACCUMULATION OF GAS IN CLOSED COLLODION SACS IMMERSED IN FLOWING TAP WATER

IN SCIENCE for September 20, 1929, there appeared an article by Stacy R. Guild with the title given above. The essential experimental fact reported is that when a closed collodion sac containing water or an aqueous solution is immersed in running water under some circumstances a bubble of air will be slowly formed within the sac, and grow at a rate proportional to its own surface, while at other times a bubble already present will dwindle away. The experiments suggest

[1] E. B. Tilden and J. R. Tyler, SCIENCE, 71: 186, 1930.

[2] J. R. Tyler, SCIENCE, 70: 612, 1929.