opment or "Origin and Evolution," which eventually, and as revised by the authors, may be assembled in book form.

DR. ALBERT W. HULL, assistant director of the research laboratory of the General Electric Company, lectured before the Franklin Institute, Philadelphia, on February 19 on "Vacuum Tube Research."

PROFESSOR G. W. STEWART, head of the physics department at the State University of Iowa and national president of Sigma Xi, addressed the Iowa State College Chapter of Sigma Xi at Ames on February 17. He spoke on "The Liquid State of Matter." The following day Dr. Stewart spoke before the graduate school and the physics seminar on "Experiments in X-ray Diffraction."

PROFESSOR S. R. WILLIAMS, of Amherst College, was the guest of the Rosa Club at Wesleyan University on February 25. Following dinner at the Eclectic Fraternity, Professor Williams addressed the club members on "Teaching and Research in the Field of Physics." Other guests included the faculty committee on vocational guidance and all undergraduates who are interested in physics.

ON February 15 Dr. H. T. Barnes, professor of physics in McGill University, delivered a lecture before the Royal Canadian Institute on "Winter Waterways of Canada."

DR. A. LANDÉ, visiting professor from the University of Tübingen at the Ohio State University, gave a lecture at Ohio University, Athens, on February 20 entitled "Recent Advances in Atomic Structure."

A SYMPOSIUM upon "Evolution and Human Life" was held by the Philosophical Union of the University of California at Los Angeles on February 28. Papers were presented by Dr. J. Arthur Thomson, of the University of Aberdeen, who will be one of the principal speakers at the formal dedication of the new campus and buildings of the university on March 27 and 28; by Dr. Thomas Hunt Morgan, of the California Institute of Technology, and by Dr. Herbert Wildon Carr, who has been a member of the faculty of the University of London.

THE fifteenth annual meeting of the American Association of Petroleum Geologists will be held at New Orleans, Louisiana, from March 20 to 22. The Roosevelt Hotel is headquarters for the convention. Arrangements are in charge of the executive committee composed of the five elected officers of the association, with the cooperation of the New Orleans Convention and Publicity Bureau, Inc., and the management of the Roosevelt Hotel. Nearly a hundred papers are being offered for the program, so that concurrent sessions will be necessary, the several different phases of geological science as applied to the petroleum industry being separated for special sessions in separate rooms. The membership now numbers 2,300. Geophysicists and paleontologists will also have special programs at this convention, the latter group being organized as an affiliated society of the American Association of Petroleum Geologists and known as the Society of Economic Paleontologists and Mineralogists, of which the officers are: *President,* Marcus A. Hanna, Houston, Texas; *Vice-president,* John B. Reeside, Jr., Washington, D. C.; *Past-president,* R. C. Moore, Lawrence, Kansas; *Secretary-Treasurer,* F. B. Plummer, Austin, Texas, and *Editor,* Joseph A. Cushman, Sharon, Massachusetts.

THE laboratory of animal nutrition at Cornell University has recently moved into new quarters provided at the cost of $30,000. Facilities are provided for the study of the fundamental phases of nutrition in both its chemical and physiological aspects. The work of the laboratory is being developed under the direction of Dr. L. A. Maynard and Dr. C. M. McCay.

DISCUSSION

THE ETIOLOGY OF THE DISEASE PSITTACOSIS

THE recent outbreak of human disease associated with disease in parrots resembled in its clinical aspects the disease psittacosis. The etiology of this disease has been in doubt, largely because of the failure to find an agent common to all or most of the cases examined and in the associated ill parrots.

Our investigations were started about January 15. We obtained material from a series of cases and in none were we able to find any evidence that infection by the *B. psittacosis* existed. A sick parrot in a family where there were two ill adults was the only instance where both sources of material were available for laboratory study. The parrot died and an emulsion of the organs fed and injected into another parrot reproduced the same disease picture. The organs of this parrot were emulsified and filtered through a Berkefeld V filter. This when inoculated produced the same disease picture. The materials from this parrot, filtered in the same way, again produced the disease.

The sputum and blood from one of the cases mentioned above were fed to a parrot and a disease picture resulted resembling that of the parrot which presumably infected this case. The organs of the inoculated parrot were used to infect another parrot, after the material had been filtered through a Berkefeld V filter. The disease was again produced. The

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.

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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.

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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.