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INFECTION AND RESISTANCE IN THE BLOOD-INHABITING PROTOZOA¹

By WILLIAM H. TALIAFERRO

PROFESSOR OF PARASITOLOGY AND ASSOCIATE DEAN OF THE DIVISION OF BIOLOGICAL SCIENCES, UNIVERSITY OF CHICAGO

CERTAIN of the blood protozoa, because of their size and easily accessible location, offer unique opportunities for the study of the effects of acquired resistance on the parasites and of the humoral and cellular bases for these effects. This evening I propose to discuss two of these in detail, *Trypanosoma lewisi* of the rat and *Plasmodium cathemerium* of the bird, and to consider a few others comparatively. Specifically, I plan to describe the normal course of infection, to analyze the effects of the host's resistance on the parasites, to describe the antibody bases for some of these effects and to correlate the antibody and other immune responses with the cellular reactions

¹ Harvey Lecture delivered before the New York Academy of Medicine, December 17, 1931.

of the host. I sincerely hope that these facts will be of intrinsic interest to you and in addition that they will illustrate the methodology which we have found successful in our immunological studies of protozoan infections. But, above all, I hope that the facts will bring out the peculiar advantages of these protozoa as material for certain immunological problems.

The fundamental methods which we have used in analyzing the effects of resistance will become apparent in the discussion of the specific infections. A few words should be said, however, regarding the method of reproduction in the blood protozoa and the meaning of changes in numbers of the protozoa throughout the course of an infection. Among the trypanosomes reproduction is practically limited to binary

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