principle for *B. coli* occasionally gave a slight inhibition of *Bact. pullorum* in broth; also that the Shiga lytic principle sometimes gave temporary inhibition of *B. typhosus.*

We may conclude from these observations that a bacteriophage, evolved at the expense of an organism common to the intestinal tract of man, but absent from birds, may possess *at once and in full strength* (*i. e.,* without the need of "adaptation"), power to cause complete inhibition and lysis of organisms common to the intestinal tract of birds but, so far as I am aware, never found in the human intestine. Moreover, that there exists a curious parallel between the eccentric serologic and antigenic characteristics of *B. typhosus* and its mode of response in reactions, active and passive, to the bacteriophage. It is obvious that these results are difficult to reconcile with the ultravirus theory of the nature of the bacteriophage as maintained by d'Herelle.

3006

Injections of spermatozoa and testicular substance into male rats.

WM. J. QUICK. (Introduced by A. J. Carlson).

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In studying possible modifying effects on spermatogenesis, young adult male rats were injected subcutaneously and intraperitoneally with (1) freshly macerated testis suspensions and (2) with a suspension of rat spermatozoa. Subsequent matings were made with all injected males and the testes were later studied histologically. Agglutination tests were not made.

It was found that one to five relatively heavy injections of these materials produced no specific effect on testicular activity within the limits of the experiment (three days to four months after the last injection). Smears from testes of previously injected males showed sperm motility, and litters obtained from matings proved the spermatozoa physiologically normal.

Formed materials injected into the abdomen at times resulted in the production of cysts or abscesses sometimes located in the scrotum. When these latter were sufficiently large to cause displacement of the testis into the abdomen, the testis was found to be degenerate. Such degeneration, however, was not due to serological influences of the injected materials, but solely to the mechanical displacement of the organ; removed from the scrotal regulatory influences degeneration of the testis follows rapidly. In the abdomen degeneration is brought about through the exposure to higher than normal temperature for the testis and this degeneration should be carefully distinguished from supposed serological influences.

3007

Observations on the growth of yeasts in pure nutrient solutions.

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The multiplication of yeasts in pure nutrient solutions has already received much study; as a result there are many discrepancies in conclusions which have been reached. This brief report deals with two phases of the question: 1, the effect of concentration of an accessory containing substance, and 2, the effect of aeration on the multiplication of yeasts in pure nutrient solutions.

In both of these studies, Fulmer and Nelson's Medium E[1] was used. To study the first part of the problem Fred, Peterson and Davenport's yeast water medium[2] was added to medium E in different dilutions, as follows: 1, 100 cc. medium E + 10 cc. sterile water; 2, 100 cc. medium E + 10 cc. yeast water medium; 3, 100 cc. medium E + 10 cc. of a 1-10,000 dilution of yeast medium, and 5, 100 cc. of a medium E + 10 cc. of a

[1] Fulmer, E. I., and Nelson, V. E., *J. Inf. Disc.*, 1923, xxxiii, 130.

[2] Fred, E. B., Anderson, W. H., and Davenport, A., *J. Biol. Chem.*, 1920, xlii, 175-189.