determined by our technic from that found in the ordinary room temperature (70° F., 70% humidity). The same subjects placed in hot rooms (95° F., and 90% humidity) show a retardation in the removal of sprayed bacteria. After 45 minutes to one hour the bacteria have disappeared but the curve is nearer a straight line. The rapid reduction of 90% of the inoculated dose within 5 minutes does not usually hold for the hot room environment.

This self-disinfecting power of the mucous membrane of the nose of healthy volunteers may play a major rôle in explaining the failure to seed the nose and throat with bacteria in influenza and other respiratory epidemiological studies.

Summary: 90 to 95% of the viable bacteria placed upon the mucous membrane of the nose are rendered non-viable within 5 to 10 minutes. Repeated application of bacteria to this mucosa is not associated with an exhaustion of this disinfecting mechanism. Cultures obtained from bacteria that have survived the initial period of disinfecting action are removed as promptly as the original strain from the nasal mucosa. Repeated applications did not lead to the development of a resistant strain.

"S" and "R" types of *B. coli* are removed at the same rate. Isolated instances of the appearance of an "R" variant from an "S" type of *B. coli* and also of lysogenic *B. coli* colonies were observed.

We were unable to demonstrate growth inhibiting substance in nasal washings and secretions *in vitro*.

Subjects in warm rooms showed a retardation in the disappearance of the bacteria from the nasal mucosa.

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Influence of Local Application of Fresh Animal Serum, "Complement," on Acute and Chronic Gonorrhoeal Infections.

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Human serum has no complement for gonococci (Scaltritti[1]). This fact gives us a new viewpoint in the treatment of gonorrhoeal and blenorrhoeal conditions. With the expectation of a mild reaction I (Pribram) tried this treatment in a 4-year-old girl who had a

[1] Scaltritti, A., *Annales de l'Institut Pasteur*, 1925, xxxix, 865.

gonorrhoic infection for 4 weeks. I introduced a few drops of a fresh animal serum into the urethra and the vestibulum of the vagina. The discharge became abundant the next day. The microscopic inspection revealed pus cells filled with gonococci. I stopped the treatment in this case and continued with an argyrol salve in the usual way. The first attempt showed that we are able to induce an acute exacerbation of a subchronic gonorrhoeal process by means of the application of fresh animal serum. Besides this it became evident that the serum had a strong chemotactic action on human phagocytes and increased their opsonic index.

The further investigations were carried on by Dr. Jonas on male adults with acute and chronic gonorrhoeal affections. The method consisted in a very cautious instillation of a few cubic centimeters of fresh animal serum into the urethra. The serum was allowed to remain in the urethra for a few minutes. The discharge, absent or very poor in chronic cases, became abundant and showed many phagocytized gonococci. It disappeared after 1 to 3 days almost completely. We had the opportunity to treat 2 patients with a fresh, hitherto untreated gonorrhoea. No other treatment than the local application of fresh animal serum on 5 successive days was instituted in this case. The abundant discharge of phagocytosis following the treatment stopped completely after the instillation of the serum had been discontinued.

Further studies will be necessary in order to state exact quantities of the complement which have to be used, furthermore the most effective serum species must be determined and the number of instillations which are necessary for a complete cure. This effect can only be expected in fresh uncomplicated gonorrhoeal conditions, because the bacteriolytic action is localized and cannot have any effect where the serum has no direct contact with the microorganisms. The phagocytosis depends also on the presence of the serum. Our treatment has been performed without the addition of an antigonococcic serum as yet and it is very probable that the effect can be improved and the quantity of the complement can be decreased by the application of a bacteriolytic serum activated by a suitable complement.

The fact that complement for certain human bacterial infections is present in fresh animal serum but absent in human serum may prone to be an initiative for an attempt for a "complement treatment" of different local bacterial infections. Working along this line will bring us to the consideration of the treatment of the blenorrhoea of the eye with a similar method. I further started with analogous investigations in other diseases, especially in those infections in which a phagocytosis is desirable.