ABSTRACT OF COMMUNICATIONS.

Peking Branch.

Third meeting.

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18 (2250)

The protective action of gelatin for pneumococci in suspension.

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In order to carry out certain experiments in which very small numbers of pneumococci were to be used, it became necessary first to determine the type of non-nutrient fluid most suitable for preserving suspensions of pneumococci with a minimum amount of injury. For comparative studies, dilutions in the various fluids tested were made from a standard suspension containing approximately 1000 million pneumococci per cc. The preservative properties of each solution were judged by the length of time viable organisms could be recovered (in culture) from that dilution containing 0.000,000,1 cc. of the standard suspension. The hydrogen-ion concentration of the solutions, the temperature at which the suspensions were kept, and the culture media were carefully controlled. Furthermore, plates were made at the beginning of the experiment to determine the number of organisms present in a unit of suspension.

It was found that pneumococci suspended in 0.9 per cent NaCl solution, Locke's solution and water remained alive for only a few hours at most. Salt solution was shown to be the least suitable of these three; not infrequently by the time the 0.000,000,1 cc. dilution in this fluid had been reached, the suspension was sterile. The addition, however, of 0.1 per cent gelatin to any of the above fluids transformed them into highly favorable solutions for the suspension of this organism. Pneumococci suspended and diluted in gelatin-water and gelatin-

Locke's solution remained alive at room temperature for 6 to 7 days; in gelatin-salt for 2 days. Series of plates made at frequent intervals failed to reveal any growth in solutions containing this small concentration of gelatin. The beneficial effect of gelatin was found to lie largely in its protection of the pneumococci against mechanical injury, which occurs during the process of dilution in crystalloid solutions or water. Gelatin has in addition a well marked preservative action, the nature of which is uncertain.

ABSTRACT OF COMMUNICATIONS.

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Some experiments on the excretion of ammonia.

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In a previous article Hubbard and Munford[1] published the results of a study of the ammonia excretion in a series of cases; in the present article a similar study of a number of determinations upon a single subject is given. Determinations of the reaction and ammonia content were made upon samples of urine collected at hourly intervals through the morning from a normal man (one of the authors, E. G. A.). Experiments were carried out on thirteen days during a period of two and a half months

1 Hubbard, R. S., and Munford, S. A., The excretion of acid and ammonia. *J. Biol. Chem.*, 1922, liv, 465.