and sixth days. After the third injection the temperature fell to  $102 \cdot 9^{\circ}$  F. Another injection was now given and the temperature fell to 101.5° F., reaching the normal on the eleventh day after delivery. While the temperature was falling, she was seized with bilious vomiting and meteorism, the pulse remaining as before, about 120. The vomiting became uncontrollable; she became comatose, and died on the thirteenth day. Gaulard believes that the serum was the cause of the vomiting. He fears that too much serum was injected, for at the autopsy there was no sign of suppuration or of peritonitis. The question of the maximum dose of the serum has yet to be determined. Gaulard is of the opinion that the serum does not do away with the necessity of using the curette, but if the germs have already entered the blood it may be employed against them and their toxins.

Quite recently Bar and Tissier\* have reported further experiences with the treatment of puerperal infection by antistreptococcic serum. They report, in a preliminary announcement, the treatment of ten cases of streptcoccus infection by the antistreptococcic serum. Of this number five died and five recovered. Those that ended in recovery were comparatively light, and one would expect a good result in such cases from the older plans of treatment. They were, moreover, all treated with intra-uterine irrigations, which seems to me to have had more to do with their recovery than the serum injections.

Among the fatal cases was one that received the first serum injection three-quarters of an hour after labour, and another in which the patient died apparently from toxemia after the symptoms of the streptococcus injection had subsided.

One cannot avoid the thought, in reading the history of this case, that the serum was the cause of death rather than the original disease. Its clinical features resembled closely those of Gaulard's fatal case.

After an earnest study of this subject, for it is of transcendent importance to a man engaged in work like mine, it seems to me that our judgment on the serumtherapy of streptococcus infection must run as follows in the light of our present knowledge : It requires a long time, and especially virulent inoculations, to obtain a serum with antitoxic and germicidal properties. It should be prepared, therefore, with great care, and should be obtained from a thoroughly reliable source. There is a possibility that this serum may contain dangerous toxins, and that the treatment may be more dangerous than

the disease. There is a streptococcic infection so virulent that the antitoxin will be of no avail, no matter how strong it may be. There is an undeterminable time in streptococcic infections when the serum will be used too late. The antistreptococcic serum has no antagonistic power over other pathogenic micro-organisms. It is not easy to determine during life whether the infection is pure or mixed, though the majority of puerperal infections are due to streptococci. Therefore, the use of the serum must be more or less empirical. Finally, the clinical results of the serumtherapy for puerperal infection have not been as yet at all encouraging.

The Treatment of Septic Infection by the Artificial Production of a Hyperleucocytosis.—A large and influential school of pathologists regard phagocytosis as the agency by which an infectious disease is spontaneously cured. It is logical, therefore, in those holding this belief to attempt the treatment of septic infection by stimulating the production of white blood-corpuscles that shall serve as phagocytes. There are several agents administered internally that have leucotaxic powers, such as pilocarpine, albumose, and nuclein. The first, however, is not advisable in sepsis on account of its depressing action.

Hofbauer, from Schauta's clinic in Vienna, reports the results of employing Horbaczewski's nuclein in seven cases of puerperal infection. The cures effected in some of these cases certainly warrant a further trial of the method. To my mind, this plan of treatment gives greater promise of practical results than does the serumtherapy.

## A Public Protest.

## To the Editor of " The Nursing Record."

DEAR MADAM,—I believe that a large number of Nurses will feel grateful to you for your articles upon the proposal to register Lunatic Attendants as trained Nurses.

I have made a formal protest against this scheme to the Executive Committee of the Royal British Nurses' Association, and have received in reply merely a curt acknowledgment of the receipt of my letter; so that it is evident that we have nothing to hope for in this matter from the Executive Committee. The General Council is composed of the nominees of the officials, and only possesses one Matron of a Metropolitan Training School, owing to the unjust exclusion of the *ex-officio* Matrons. We have, therefore, nothing to hope for from a General Council so composed;

<sup>\*</sup> Faits pour servir a l'Histoire du traitement de l'Infection puerpérale par les Serum antistreptococciques, L'Obstétrique, March 1st, 1896, p. 97.



