water at 37° C. and filtered. Aseptic precautions were taken at every step, and the final solution was placed in sealed flasks in a refrigerator, for standardization.

Determination of Toxicity: Adult male rats were used to determine the toxicity of the solution and varying amounts of the solution were injected to see if there were any ill effects from the possible presence of spermotoxin. It was found that there were no ill effects from the injection of the solution prepared as above.

Measurement of Mormonic Value: Adult bull frogs in hibernation were used for standardization of the solution. These frogs were kept in winter temperature of about 10° C. Their body length was about 8 cm. and they weighed about 50 gm. each. Each frog was tested before injection for the absence of the clasping reflex. A tuberculine syringe was used, and one tenth of a cc. of the solution was injected into the dorsal lymph sac of each frog. The concentrated solution that would just bring the frog into a state of reaction to the clasping reflex was taken as the unit of measurement, and thus the unit of potency.

Conclusions: This is a preliminary report, and although the observations are rather conclusive it is felt that more work needs to be done before it is decided that the method outlined above is the best procedure for the extraction of the male hormone, although it is felt that the clasping reflex is a valuable index for standardization of the potency of the extract.

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A Practical Method for the Immunization of Horses by Type Specific Pneumococcic Pleural Exudates.

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(Introduced by G. B. Wallace.)

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Following the intratracheal injection into horses of virulent pneumococci of the 3 fixed types in broth cultures, there develops frequently a massive pleural effusion either as a purely local phenomenon or associated with underlying pulmonary consolidation grossly resembling lobar pneumonia, the pleural surfaces of the animals showing all the gross and microscopic evidence of an acute serofibrinous inflammation with the presence of as many as 30 litres of

exudate at a time. This exudate besides showing the cellular products of inflammation contains viable pneumococci corresponding to the type injected intratracheally. We have accordingly attempted to immunize horses with this exudate, using ascending doses of the material intravenously. By this method we have been able to produce potent antisera to Type I, and Type II organisms as tested by the mouse protection method. With Type III pleural exudate the resulting antiserum has exhibited same protective value but this has been uniformly low.

The production of type specific antisera by this method presents certain advantages which seem to favor its use in preference to the methods at present in practice. Thus after the exudate has been withdrawn under sterile conditions from the infected animal the material is stored in the ice-box in its native state to be later used in the required dosage for immunization of the serum-producing animals. This naturally lessens the numerous technical steps that are necessary for preparing the immunizing doses of the organism by the present methods.

Besides the technical ease of preparing the antiserum the factor of the length of time taken to produce a potent product is important. From the result of our present observations we are led to believe that this will be materially shortened by this newer method.

Furthermore the degree of antigenic response in our immunized animals is in no way proportional to the number of organisms introduced in that the doses of exudate given intravenously have contained much fewer organisms per cc. than do the immunizing doses of the present methods.

Since the principle of the method described is based on the conception that the antigenic complex that produces immune body response in the course of lobar pneumonia must include certain of the products of tissue cell destruction, we believe that this method has a better biological foundation than the ones in general use at present.

* We beg to express our sincere gratitude to the Lederle Antitoxin Laboratories for providing us with the facilities of their farm, as well as to Dr. Henry Gordon for his invaluable assistance in the experimental work.