of a very interesting experiment which bears out this theory. By ligating all the muscles and blood vessels in the leg of a guinea pig and then injecting the guinea pig with over a hundred fatal doses of tetanus toxin below the ligatures, the pig did not develop tetanus, but they were able to demonstrate a slight amount of tetanus toxin in the sciatic nerve; in other words, all flow of lymph to the limb was prevented except that which entered through the skin, and therefore there was only a slight flow of lymph up to the nerve.

The conclusion is then that tetanus toxin does not travel up the nerve by reason of any specific attraction of the nervous tissues, but because the lymphatic flow in the nerve is from the periphery toward the center.

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On the formation of a specific precipitin in rabbits after inoculation with colloidal platinum and colloidal silver.

By **CYRUS W. FIELD.**

[*From the Research Laboratory of the Department of Health, of New York City.*]

Some time ago in testing the precipitating effect of rabbit serum on various positive and negative colloids I found that such serum precipitated colloidal platinum and colloidal silver to a fair degree. Serum from one rabbit precipitated colloidal platinum completely at 1–100, slightly at 1–200 and not at all at 1–500. This serum precipitated colloidal silver completely at 1–10, partially at 1–100 and not at all at 1–250. After receiving three injections of colloidal platinum in three weeks this rabbit's serum then precipitated colloidal platinum completely at 1–1,000, slightly at 1–1,250 and not at all at 1–1,500. Whereas it precipitated colloidal silver completely at 1–100, slightly at 1–250 and not at all at 1–500.

Serum from another rabbit originally precipitated colloidal platinum completely at 1–50, partially at 1–100 and not at all at 1–250. The same figures held good for colloidal silver. After three injections of colloidal silver during three weeks, this rabbit's serum precipitated the colloidal silver completely at 1–500, partially at 1–1,000 and not at all at 1–1,250, whereas colloidal

platinum was completely precipitated at 1–200, partially at 1–500 and not at all at 1–1,000.

In other words the precipitating power of the serum of the first rabbit, after it received three injections of the colloidal platinum, had increased from 1–100 to 1–1,000 or ten times, whereas for the colloidal silver there was only a very slight increase. Serum from the second rabbit, which received colloidal silver, increased its precipitating power from 1–100 to 1–500, whereas for the colloidal platinum, from 1–100 to 1–250. In both these rabbits there was then an increase in the precipitating power of the serum after injection with these colloidal metals, and it would seem that they increased more for the metal injected than for the other.

Unfortunately both of these rabbits died before I was able to complete this work. Nevertheless I have thought it best to report to this society the results of this study, for they seem very interesting. Other animals are undergoing treatment with these and other colloids and I hope that I shall be able to report more fully at our next meeting.

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Remote results of transplantations of blood vessels.

By **ALEXIS CARREL.**

[*From the Rockefeller Institute for Medical Research.*]

This communication deals first with the evolution of the anastomoses, and secondly with the modifications of the walls, of the transplanted vessels.

The results of the arterio-arterial, veno-venous and arterio-venous anastomoses remained excellent after many months. No stenoses or aneurisms have been observed on the arterial anastomoses six to seven months after the operation. No stenosis occurs after the venous anastomosis: a cat, in which an Eck fistula was made eighteen months ago by Guthrie and myself is still in good health. The same is the case for the arterio-venous anastomosis: the jugular vein and the carotid artery of a dog were anastomosed by Guthrie and myself twenty two months ago and now strong thrill and pulsations are easily detected by palpation of the jugular vein.