The high proteid concentration did not appreciably lessen the amount or rapidity of absorption, when no such reaction in the tissues took place. Contrary to the conclusion of Walbum the results obtained in four healthy men did not show any appreciable difference in absorption of antitoxin from an antitoxic globulin solution, the proteid concentration of which was equal to that of normal horse serum and one in which the concentration was double that amount.

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The influence of the vagus nerves on the faradized auricles in the dog's heart.

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The effect of vagus stimulation on the abnormal cardiac activity set up by faradization of the dog's auricle was studied in twenty-three experiments. Faradization of the auricles threw them into a tumultuous activity which in fifteen of the experiments persisted after faradization was discontinued from five minutes to over an hour. In these experiments opportunities were afforded for studying the nature of the abnormal auricular activity set up by faradization and for determining what effect stimulation of each vagus nerve had upon it. In several experiments the effect of cutting the vagi while the abnormal activity was present was observed. In eight experiments in which the abnormal activity could not be established independently, the effect of vagus stimulation was observed by beginning it before ending the faradization of the auricles. When this was done the abnormal auricular activity usually continued until after the end of vagus stimulation and was affected in the same manner as the continuous or established tumultuous activity.

The auricular activity resulting from auricular faradization consisted in very rapid movements, apparently contractions of the whole auricles, which were sufficient to produce definite movements of the recording tambour attached to the auricular myocardiograph. Beside this rapid auricular tachycardia, fine fibril-

latory movements in the various fibers could be seen. When the right vagus was stimulated with a faradic current of moderate strength, the coarser movements ceased and the typical fine fibrillations persisted, and when the stimulation was removed the coarser movements could be seen definitely, gradually returning and being coexistent with the fine fibrillation. This effect produced a change in the electrocardiogram and the undulations representing auricular activity became more rapid, blurred and often almost disappeared. This characteristic change in the electrocardiograms occurred in 89.5 per cent. of the experiments.

When the left vagus was stimulated the coarser movements of the auricles were not disturbed, but appeared sometimes perhaps even more distinctly than before. It was difficult to determine with certainty whether the fibrillatory movements ceased or were influenced. There was a definite difference in the electrocardiograms when the right and left vagi were stimulated during the abnormal auricular activity in 70.5 per cent. of the experiments, the larger waves of auricular activity being much less or not at all disturbed by stimulation of the left nerve.

Thus the difference between the action of the two vagi in the dog, pointed out by Cohn,[1] is further extended.

Cutting the vagi after the establishment of the abnormal auricular activity had little or no effect upon it, but the ventricular rate was sometimes much increased. Vagus stimulation increased the susceptibility of the auricles to faradization, and in four experiments the abnormal auricular activity could be made to continue after the faradization was stopped only by stimulating the vagi synchronously with or for a few seconds after faradization. In two experiments an auricular activity identical with that following faradization was set up by right vagus stimulation alone.

The normal sequential beat is also often restored by vagus stimulation. It replaces the abnormal auricular activity not during, but a few seconds after the termination of vagus stimulation. Left vagus stimulation seems somewhat more effectual in producing this effect than right vagus stimulation.

[1] Cohn, *Jour. Exper. Med.*, 1912, XVI, 732.