the irritability of the peripheral end of the sciatic nerve during the entire course of the experiment. It was found in every experiment that stimulation of the sciatic nerve even at the time of complete paralysis of respiration did not fail to elicit a definite motor response. This disposes of the second hypothesis; the paralysis is surely not due to a curare-like action of the sodium chloride. The first hypothesis we have tested in various ways. It is known that the twitchings of frog muscles in sodium chloride subside when calcium is added to the solution. We have therefore tried to introduce at some stage of the experiment solutions of calcium chloride into the circulation. In none of these experiments were the twitchings or the convulsions affected in any way by the addition of the calcium solution. Furthermore when the sciatic nerve was cut on one side the muscles innervated by this nerve did not take part in the twitching and convulsions. This fact was more strikingly demonstrated in experiments in which the lower half of the spinal cord was removed. In these cases the contrast between the convulsing upper half and the paralyzed lower half of the animal body was striking indeed.

It is therefore evident that the convulsions and paralysis caused by hypertonic solutions of sodium chloride have their origin neither in the muscles nor in the peripheral nerves; they originate in the spinal cord.

We may append here the brief remark that the convulsions under discussion can be greatly inhibited by intravenous injection of a non-fatal dose of potassium cyanide. We were stimulated to this latter observation by the known experiments of Loeb on the action of cyanide upon the fertilized and non-fertilized sea-urchin eggs.

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Simultaneous graphic registration of gastric and duodenal peristalsis in rabbits; a demonstration.

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The graphic registration of gastric or intestinal peristalsis is usually obtained from an animal with an opened abdomen while

in a saline bath and more or less under the influence of an anesthetic. This method hardly reproduces the normal condition as the act of laparotomy reduces and modifies greatly the peristalsis. In some instances the movements of the stomach have been studied from a gastric or œsophageal fistula and in the rabbit the movements can be studied graphically, as it has been discovered by Auer, in the perfectly normal and unanesthetized animal.

In the April meeting of last year we presented some tracings showing the effect of magnesium upon gastric and duodenal peristalsis. At the present time we wish to explain more fully the method we have used and to demonstrate the act of obtaining the peristaltic tracing. This rabbit was operated four days ago. The movements of the stomach and of the duodenum are transmitted to the kymograph by means of catheters which carry at one end small balloons of thin rubber. The balloon end of one catheter is introduced and secured in the pyloric part of the stomach and that of the other in the descending part of the duodenum through openings made directly in each of these parts. By means of a manometer and a rubber bulb which are interpolated between the catheter and a Marey's tambour the little balloons in the gut can be distended. When not studying the peristalsis the soft catheters are secured by means of a bandage around the animal. The peristalsis is usually obtained when the animal is in a normal crouching position. Soon after the operation there is very little peristalsis to be noticed. In the first few days the peristalsis improves from day to day in character, intensity and regularity. Three to five days after the operation the peristalsis seems to assume a normal character, which, however, we shall not discuss in the present communication. We wish to state, however, that in our earlier experiments in which the duodenal balloon also was introduced through the stomach we lost most of the rabbits within 24 or 36 hours after the operation. The administration of a small dose of physostigmin soon after the operation improved our results greatly. At present we introduce the catheter into the duodenum directly through an opening in the wall of the latter. Our results are now very satisfactory.