

were then carefully closed. Next day and on the following days the catheters were connected with Marey tambours and the peristalsis studied graphically. The tracings show well defined characteristic waves produced by the contractions of the duodenum and stomach. These waves became greatly influenced — aggravated — by barium as well as by physostigmin. We shall not discuss here the character of these influences. We wish to point out only the effect of magnesium upon the peristaltic movements.

The tracings show in an unmistakable manner that the intravenous or intramuscular injection of a magnesium salt abolishes completely and for some time the normal peristalsis as well as the contractions of the duodenum and the stomach caused by barium and physostigmin. We shall not enter here upon any particulars. We wish, however, to add that our method differs from other methods employed for similar purposes in that (1) the intestines are not handled at all, and that (2) the peristalsis can be studied when the animal has completely recovered from the effects of the operation. We are utilizing this method for studying various phenomena pertaining to normal peristalsis and shall report our observations in later communications.

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Recovery from fatal doses of strychnin by the aid of curarin and artificial respiration (insufflation method).

By **A. O. SHAKLEE** and **S. J. MELTZER**.

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In a series of twenty-seven experiments upon dogs and cats we tried to develop a method by means of which life can be saved after fatal doses of strychnin. In all cases the strychnin was administered intravenously. In control experiments 0.4 mg. per kilo was invariably fatal, killing within an hour. By the aid of the method which will be described presently fourteen of the twenty-seven dogs used in developing the method survived the administration of fatal doses of strychnin. Of these fourteen five received 0.5 mg., three received 0.75 mg., and six received 0.8 mg. per kilo, that is, all animals received doses of strychnin which were in

excess of a fatal dose and which undoubtedly would have killed every one of these animals in less than an hour.

The method which we have employed consists (1) in instituting and keeping up artificial respiration by the continuous insufflation method; (2) in the intravenous administration of curarin from time to time in doses sufficient to control the convulsions; (3) in the injection of a small dose of atropin to meet the slowing of the circulation, and (4) in the infusion of a liberal quantity of Ringer's solution.

Against the fourteen survivors we had thirteen failures. An analysis of these failures, however, shows, first, that in most of these cases the insufflation was improperly adjusted or prematurely discontinued; second, that these animals received only a small quantity of Ringer's solution and in some instances no atropin. In other words, in the failures the method was not properly carried out. We, therefore, believe that we have good reasons for the hope that the above described method, when carried out properly, will prove successful in most cases of strychnin poisoning.

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Intracellular proteolytic enzymes of liver.

By **A. R. DOCHEZ.**

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The influence of reaction upon autolysis of animal tissues has been exhaustively studied. All observers agree upon the favorable influence of a weak acid medium, and upon the inhibitory effect alkaline reaction. As an example of the influence of reaction upon autolysis, 2.5 grams of liver after five days at 37 degrees yield the following equivalents of ammonia by the Kjeldahl method; in 0.4 per cent. acetic acid, 35.6 cubic centimeters $N/10 H_2SO_4$; in 0.2 per cent. acetic acid, 34.8 cubic centimeters $N/10 H_2SO_4$; in neutral, 11.3 cubic centimeters $N/10 H_2SO_4$; in 0.2 per cent. sodium carbonate, 4.8 cubic centimeters $N/10 H_2SO_4$; and in 0.4 per cent. sodium carbonate, 0.6 cubic centimeter $N/10 H_2SO_4$.

When normal liver is allowed to stand on ice for many days, the power to digest in alkaline medium increases markedly from