The contractions reported by McMaster and Elman[6] as being efficient in expulsion of bile represent no greater volume change in the gall bladder than takes place in strong tonus rhythm. It is doubtful whether rhythmical tonus contractions can play any part in the expulsion of bile, since they disappear when the pressure in the gall bladder rises to the height necessary to overcome resistance at the duodenum.

These experiments, which will be published in detail in the *American Journal of Physiology,* seem to warrant the conclusion that the gall bladder is incapable of contractions that might be construed as being of major importance in the flow of bile. This is a preliminary report.

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[2] Copher, G. H., and Kodama, S., *Arch. Int. Med.*, 1926, xxxviii, 647.
[3] Boyden, E. A., *Anat. Rec.*, 1926, xxxiii, 201.
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3475

What Causes the Psychic Secretion of Saliva in the Dog?

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It is a well known fact that a dog, when hungry, will salivate in the presence of food. Pavlov called it a natural conditioned reflex, developed in the animal as it learns to recognize certain matter as food. But is this salivation caused by the sight or the odor of the food? To answer this question I employed a number of dogs with fistulae of the submaxillary glands. These dogs were starved for a couple of days and then placed into a stand and a collecting tube attached to them in the manner described in another communication.[1] They were allowed to remain in the stand for varying lengths of time, as a control. In 30 to 60 minutes they generally secrete one or two drops of saliva. A perfectly transparent glass museum jar of prismatic shape was partly filled with cooked bread and meat, the fare that the dogs subsisted on for a year. The flat ground edges were covered with a slab of plate glass and sealed by means of vaseline.

The jar was placed in front of the animals at a distance of 2 to 3 inches from its snout. In another half hour there was no secretion of saliva. If at the end of this period the cover was taken off the jar, the animal immediately changed its indifferent attitude, became agitated, began to sniff and to stretch its neck toward the food. Saliva began to flow through the fistula and drip from the mouth at once. In 15 minutes it generally secreted from 0.5 to 2.5 cc. of saliva from the fistula alone. Since all these animals were accustomed to the appearance of the food, it is clear that the dog does not recognize food at sight, and that the natural conditioned reflex or psychic flow of saliva is due to the odor of the food only.

[1] Kleitman, N., and Crisler, G., *Am. J. Physiol.*, 1927, lxxiv, 571.

3476

Effect of Intraperitoneal Magnesium Sulphate on Parathyroidectomized Rats.

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Having been engaged in an experiment which was hampered by the high death rate among thyroparathyroidectomized rats, the authors have developed an exceedingly simple and convenient method for reducing this mortality. This method was suggested by the work of Luckhardt, Waud, and Brannon[1] on the effects of magnesium chloride given *per os* to dogs.. The method consists in the intraperitoneal injection of magnesium sulphate. For a rat weighing 150 grams the injection consists of 5 cc. of a 1 per cent solution of the crystalline salt. Experience has shown that asepsis is unnecessary here, so that the dosage can be given to any number of rats with greater speed and accuracy than would be possible by oral administration.

A normal rat can easily tolerate as many as 5 hourly injections of this quantity. After each injection one sees the manifestations of the well-known anesthetic and curare-like actions of magnesium. The rat becomes unable to raise its body off the floor of the cage, and may cease to right itself when laid on its back. If, instead of the divided doses, one gives a single dose of 25 cc., the above symptoms are followed by death.