greenish-blue color. No further change was noticed until the third day, about seventy-one hours after the bite, when the snake was found bleeding from the mouth with its head inclining over the edge of an empty water pan into which approximately 20 cc of bloody fluid had fallen. It was very sluggish and responded only slightly when touched. When removed from the cage and examined, it was evidently almost dead. Occasional spasmodic twitchings of small portions of the body occurred, however, over a subsequent period of two and a half hours.

Post-mortem examination of the region of the bite revealed much discoloration, extravasation of blood and lymph, and evidence of general histolysis in all tissues of the body wall. Extending along the left side of the body cavity adjacent to the lung was another area which seemed to have been attacked by venom from another bite which probably occurred as the rattlesnake was being replaced in the box. Marked histolysis was evident in this region also. The lung was filled with blood which did not coagulate, extravasation in this organ being responsible for the bleeding at the mouth before death.

Almost every one who has kept living venomous snakes for study has observed that on occasion they fortuitously bite themselves or others of their own or closely related species without the occurrence of noticeable reactions. I have seen a timber rattlesnake, *Crotalus horridus* Linn., sink its fangs deeply into its own writhing body when pinned to the ground by a collecting hook; a western diamond rattlesnake, *Crotalus atrox* Baird and Girard, bite another of its own species, giving it two powerful strikes in quick succession; and a prairie rattlesnake, *Crotalus confluentus confluentus* (Say), bitten by a copperhead, *Agkistrodon mokasen* Beauvois, the fangs penetrating deeply enough to cause a distinct flow of blood from the wounds. Each of these snakes was examined frequently during the two or three days following the bites and none suffered apparent effect.

From the fact that the cottonmouth moccasin feeds very largely upon more or less aquatic, cold-blooded prey, it is perhaps to be expected that its venom would prove to be more toxic to other crotalids than that of species feeding chiefly or exclusively upon warm-blooded animals.

It is unfortunate that on a matter of so much popular interest so little definite knowledge exists. Some carefully controlled experiments by a properly qualified and adequately equipped investigator could be expected to produce interesting and useful results.

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THE EFFECT OF MORPHINE ON THE ANAL SPHINCTERS

IT is a well-known fact that moderate doses of morphine produce sustained contractions of the cardiac and pyloric sphincters of the stomach and of the sphincter of the urinary bladder. We could not find any data in the literature relative to morphine action on the internal and external sphincters of the anus.

In three cats and three dogs it was shown that doses of morphine varying from three to ten mgm per kgm of body weight administered intravenously produced marked and sustained contractions of both sphincters of the anus. The animals were under moderate ether anesthesia, the trachea clamped, and thus asphyxia was produced with simultaneous relaxation of the sphincters ani. This relaxation is maintained for some time after the animals are again allowed to breathe. However, if the animals had received morphine previously, there was either no or only an evanescent relaxation of the sphincters during and after asphyxia.

Double vagotomy had no influence on the effect of morphine on the sphincters, nor did the high thoracic transection of the cord at the level of the second thoracic vertebra prevent the contraction of the relaxed sphincters upon the administration of morphine. In one dog with high thoracic transection of the cord following morphine administration the relaxed sphincters immediately contracted but relaxed again upon induction of asphyxia.

These results might have some bearing on certain surgical routine procedures and throw doubt on the reliability of the state of the anal sphincters as an indication of the degree of anesthesia following premedication with morphine.

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QUOTATIONS

SIR WALTER FLETCHER

BY the death of Sir Walter Fletcher this country has lost one of the most devoted and most distinguished of its public servants. Alone, perhaps, among his contemporaries Fletcher recognized fully the need which existed for organization in the field of medical research. The opportunity to effect this organization came to him with his appointment as secretary of the newly constituted Medical Research