Dissection of the dog as a basis for the study of physiology

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DISSECTION OF THE DOG

E. L. Mark

AS A BASIS FOR THE STUDY OF PHYSIOLOGY

BY

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PREFACE.

It is admitted beyond all question that even an elementary study of human physiology ought to be preceded by a more or less thorough dissection of some mammal. This little book, prepared originally for the author's own class, is intended to give this necessary anatomical basis to those who have not the opportunity of dissecting the human body. With this purpose in view, attention has been directed to those organs which are the chief objects of physiological study, rather than to those which have mainly an anatomical interest. One chapter has been inserted treating of the anatomy of the muscles of the shoulder and arm, but the author does not think it advisable to require this of a class unless there is abundance of time at the teacher's disposal. The anatomy of these muscles is of no particular importance in general physiology, and even from the standpoint of comparative anatomy it has but little value owing to the incomplete knowledge possessed with regard to muscle homologies among the mammalia. With reference to the muscles of the abdomen and the thorax the case is very different: these muscles play an important part in the performance of the respiratory movements, and their position and relations ought to be known by the student. Descriptions of these muscles, therefore,
have been inserted in connection with the chapters on the abdominal and thoracic viscera.

The dog has been selected in preference to the rabbit or the cat, the other animals usually employed for such purposes, for several reasons. In most respects its anatomy corresponds very closely to that of man; the size of the blood-vessels and other organs is relatively large, and this is especially true of the thoracic viscera and the neck region, which can be dissected with more success by the beginner upon the dog than upon the rabbit or the cat; if small dogs are selected, they will be found to be of a convenient size for general laboratory use; finally, most of the usual physiological experiments and demonstrations are made upon the dog, and a knowledge of its anatomy will therefore prove particularly valuable to those who intend to make a special study of physiology.

The directions for dissection have been divided into seven chapters, with the idea that a fresh dog would be used for each chapter with the exception of those upon the muscles of the shoulder and arm, the brain, and the eye, requiring therefore four dogs for the entire work, though a smaller number may be made to answer. To obtain the most satisfactory results, however, one must be careful not to attempt to dissect too much upon a single animal. When the student is at work upon the blood-vessels he should not be required to dissect at the same time the peripheral nervous system. A much better knowledge of the circulatory organs, especially of their relations to each other, will be obtained if they are dissected as a whole. After learning the anatomy of the blood-vessels the nerves can be dissected with greater success, and their relations to the arteries and veins determined more easily.