PRACTICAL ANATOMY OF THE RABBIT AN ELEMENTARY LABORATORY TEXTBOOK IN MAMMALIAN ANATOMY

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AN ELEMENTARY
LABORATORY TEXTBOOK IN
MAMMALIAN ANATOMY

By
B. A. BENSLEY, Ph.D.
Associate Professor of Zoology in the University of Toronto

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PREFACE.

The object of the present book is to set forth the chief facts of mammalian structure in an elementary, practical form; further, to use the anatomy of a typical mammal as a means of applying the more useful definitions of human anatomy and, so far as the limitations of a single type permit, also the broader conceptions of morphological zoology. On the practical side, its chief aim is to place before the student the materials necessary for a practical study of the type, rather than a descriptive account of its organization, though in some cases, notably in the treatment of the skeleton, it has been possible to follow a descriptive method without departing from the original plan.

The inclusion of a section devoted to certain general aspects of the structure of the rabbit will, it is hoped, encourage the student to prosecute his practical study with a more liberal point of view. As to the subject-matter of this section, its selection has been a matter of no little difficulty, and, doubtless, in many respects it might have been improved upon. One must feel, however, that the first question is not one of detail, but of general principle. Progress depends to a considerable extent on the ability to attack small problems with a large spirit. At the present time a vast amount of effort is being devoted to the planning of laboratory courses, and with increasing specialization it becomes more than ever the duty of the instructor to see that the student does not leave the laboratory, provided with a mass of detailed information, but with general conceptions as crude as when he entered it.

As a laboratory type the rabbit has been made familiar to students through various zoological textbooks and especially through the "*Zootomy*" of Parker. The use of the animal, however, so far as one may judge, has not been as extensive as its general convenience would seem to warrant. It may, therefore, be of some value to direct attention to this form by providing more facilities for its study. It is unfortunate, in many respects, that no recent and adequate account of the anatomy of the rabbit is available, as is the case with other mammals used for laboratory study, the classic "*Anatomie des Kaninchens*" of Krause, published in 1884, being still the common source of information.

Mammalian dissection is probably of most value to two classes of students, namely, medical or premedical students using it as an introduction to human anatomy, histology, or physiology, and zoological students using it as an introduction, or as part of the laboratory practice of vertebrate zoology. For the latter class two aspects of the subject are especially worthy of consideration. One is the more or less detailed study devoted to a single type; the other, the study of a specialized type, the latter point being of more importance if the sub-

ject is being used as an introductory one. In many respects the continuous study of a single animal is a good corrective for the rough general kind of dissection as suggested by the zoological textbooks, and may be made to share the well-known merit of human anatomy as a laboratory discipline. Again, for the student who afterwards is concerned with vertebrate evolution, the study of a specialized type, such as a mammal, gives him, at the outset, something definite and concrete on which to base his conceptions of sequence. Primitive structure is of great value as a means of explanation, but the question, now as heretofore, is whether or not the study of primitive animals as a preliminary step represents the correct procedure from a laboratory standpoint. The more the student becomes interested in tracing sequence, the more he will be convinced of the necessity of stating his problem before he begins to solve it.

The practical outlines on which the present book is based have been used for several years and in different forms in the laboratories of the University of Toronto. It would be difficult to make due acknowledgments to those colleagues and students who at one time or another have assisted in its preparation. Indeed, our chief obligation is to Professor Ramsay Wright, who, in establishing laboratory courses of this kind, has laid the foundation on which we have tried to build.

B. A. BENSLEY.

University of Toronto,
January 3rd, 1910.

CONTENTS

PART III. DISSECTION OF THE RABBIT.

INTRODUCTION.

AS a laboratory exercise, the anatomical study of an animal is largely a matter of applying a certain practical method of exposition, the student's attention being concentrated on those facts which may be made out by direct observation. For this reason, and also because continuity is a prime consideration, various important aspects of structure are of necessity left in the background. It is to be considered, namely, that in studying the structure of any organism, the final object is not simply to determine in what its structure consists, that is, its anatomy in a restricted sense, but also to understand what the latter signifies when considered either as functional mechanism or, in general, as a product of the various factors underlying it. Every organism reflects in its structure the operation of a variety of influences, and consequently one cannot form an adequate conception of animal organization without considering it from various points of view. In many respects, as indicated below, the interpretation of structure is not simply a matter of what is to be found in a given form, but also of what the latter represents in comparison with others. Assuming, as in the present case, that the student is principally occupied with the routine of a type dissection, the question of how far he may go afield in the consideration of accessory facts is one which must be determined by his own inclinations. His first need, one which the present book endeavours to fill, is to understand the sources of information. Part I, therefore, the subject matter of which has been selected especially with reference to the student who has had no previous experience in the biological sciences, is designed to indicate some of the possibilities in this connection, and also to serve in other ways as an adjunct to the practical account of the structure of the rabbit as outlined in Parts II and III. With the introduction obtained in this way by using the rabbit as an object lesson the student should be able to extend his information independently, using for this purpose special textbooks in the respective subjects.