Text book of comparative general pathology, for practitioners and students of veterinary medicine

Kitt Theodor
TEXT BOOK

OF

COMPARATIVE

GENERAL PATHOLOGY

FOR

Practitioners and Students of Veterinary Medicine

BY

PROFESSOR DR. TH. KITT

OF MUNICH

Authorized Translation

BY

DR. WILLIAM W. CADBURY

Assistant Demonstrator of Pathology in the University of Pennsylvania

Edited with Notes and Additional Illustrations

BY

DR. ALLEN J. SMITH

Professor of Pathology in the University of Pennsylvania

Illustrated with Four Colored Plates and One Hundred and Thirty-one Text Illustrations

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PREFACE TO GERMAN EDITION

The introduction of students of veterinary medicine to the study of pathology, because of the lack up to the present time of a German text book of general pathology adapted to diseases of animals, has depended chiefly upon works written for the practitioner of human medicine; the lectures of instructors in veterinary medicine and students' notes, made with more or less accuracy, supplying the necessary additions and explanations.

Only one work, the Text Book of General Pathological Anatomy by Birch-Hirschfeld, has been amended from the standpoint of our special branch of medicine, by the addition of veterinary-medical paragraphs from the facile pen of Johne, so as to seem adapted for students in veterinary schools; but it is confined to pathological anatomy, and the physiological and etiological features, the manifestation of functional impairments, pathogenesis, etc., require further reference to special works.

As an introduction and foundation for appreciation of the practice of veterinary medicine, to be studied and put into application in the latter portions of the college curriculum, after completion of the courses in anatomy, physiology and the natural sciences, the student should be given a general idea of the meaning of disease, the etiology of diseases, of the make-up of our medical knowledge and of the principles of classification, as well as a general familiarity with the alterations in structure and function met in disease. It is for this reason that lectures on general pathology are provided, introductory to the special applied branches of study. The need of a work concisely comprehending such features has determined me to undertake the task of preparing a condensed outline of the fundamental facts of pathology with special adaptations to the requirements of veterinarians. Of course, it has been necessary to make use of much material from works intended for the student of human medicine, and I am vividly reminded of the old sentence in the Latin grammar—"Plinius
nullum librum legit, ex quo non scripsit." I therefore acknowledge at the outset and at various places in the text, that I have freely employed in the preparation of the following textbook the works of Ribbert, Perls, Krehl, Durk, Samuel, Thoma, Birsch-Hirschfeld, Johne, Uhle and Wagner, as it is in fact practically impossible to write an authoritative work on general pathology without dependence upon other authors.

The scientific development of veterinary medicine depends primarily upon the same principles which obtain in human medicine. The propositions and methods of research which were originally employed in the study of human pathology, are for us, too, fundamentals for the appreciation and investigation of the nature of the animal diseases. Every new advance in human medicine in the fields of anatomy, physiology, the use of the microscope, technique of clinical study, surgical and therapeutic methods, bacteriological and practical hygiene, has been of advantage to comparative medicine, and, mutatis mutandis, has found an application in veterinary practice, and has pointed out the way for advanced work in our own branch. There has been much assistance afforded, too, in the fact that many of the discoveries of value to human medicine have been made from experimental studies upon animals, and the principles of general pathology particularly have been fundamentally proven by comparative study of the anatomy and physiology of animals; both branches of medicine, therefore, drawing from the same sources and having a common field of work.

Apart from these considerations, however, the representatives of veterinary medicine have, by their independent achievements, built up the pillars and walls of their own scientific temple, with such multiplicity of specialized purposes and requirements that the method and practice of veterinary medical instruction have come to have a peculiar character of their own. Consideration of these requirements is attempted in this volume.

It is well known to every teacher who is required to act as an examiner, how difficult it often is for the candidates in an examination to express what they well know and how, no matter how clearly the questions may be presented, or what statements are made suggesting a proper answer, this or that really capable student finds himself forced to struggle with words and is handicapped in expressing his ideas. In order to lessen these difficulties for students, I have endeavored to frame my definitions
concisely, to present the positive facts in as clear and as brief a manner as possible, and to limit to what is absolutely essential the incomplete, uncertain and controversial points of study, the elaborate discussion of which is usually confusing and tends to weary the student. Of course, important objections and questioned points in theories have been noticed, lest the student be led to mere memorization and superficial study, and in order that he may be stimulated to think. I believe that the work will be found useful to the practising veterinarian as well, as a general presentation of the most recent position of the science.

I have omitted description of the individual types of animal parasites and bacteria and taken up only in this connection their bearings upon general pathology. The scope of the work would otherwise have been too large; and full details upon these subjects may be found in the part devoted to special pathology (Lehrbuch der pathol. Anatomic der Haustiere. II. Aufl. 1901. F. Enke, Stuttgart) and in my Lehrbuch der Bakterienkunde und pathol. Mikroskopie (IV. Aufl. M. Perles, Wien, 1903). The subject of malformations is also treated of at the beginning of the special section just mentioned, and a repetition is therefore superfluous.

The publisher has presented the volume in an excellence of style which places me under special obligation to him.

Numerous new illustrations are included, prepared by the artistic hand of K. Dirr; some of the cuts I have borrowed from the works of authors cited in the text. For a number of photographs I must thank for their kindness the veterinary physicians Dr. Jakob and Dr. W. Ernst, the latter of whom, a skillful microscopist and bacteriologist, has been engaged for a number of years in my institution and has aided me in a most valuable manner in carrying on investigations bearing upon my studies.

Munich.

TH. KITT.
PREFACE TO AMERICAN EDITION

The work of translating and preparing for publication the following edition of Kitt's General Pathology has been a pleasure, because of the real value of the work and because both editor and translator have believed the labor a service to the profession. As Professor Kitt states in the preface to the German edition, it is practically the only work devoted to a discussion of general pathology from the standpoint of the veterinarian; and the need of such a work has long been manifest to every teacher of pathology in charge of students of veterinary medicine. The impressions given by any book upon pathology, even the best, which has been framed primarily for use in connection with human medicine, are often unfortunate from the inaptness of the descriptions of lesions for the needs of men studying comparative medicine. It is undoubtedly true that the general processes of disease are fundamentally the same in whatever subject they occur; but the varieties of appearances of one and the same type of lesion in different species may well be sufficiently marked to make the descriptions based upon the changes met in any given animal confusing and perhaps inadequate for students, whose experience in the earlier years is anything but extensive. The differences, for example, in the appearances of a tuberculous caseated area in man, in the cow, hog, horse, or in carnivora, well illustrate the point in mind; or the differences in bulk and in other characteristics of various tumors as met in man and in the large domestic animals serve as an example. The adaptation of the present volume to the needs of students who, as Professor Kitt points out, have had to accept, as a rule, the descriptions of lesions as seen in man and then amend them by notes from lectures, has strongly appealed to us as instructors of veterinary students, and will find, we believe, an equal appreciation from others whose work has fallen in similar lines.

The book reflects well the tendency of modern pathological
teaching to devote considerable effort to direct the thought of the reader along lines of pathological physiology, to make the student reason for himself from given anatomical data and appearances as to the necessary functional faults and failures which would follow. Pathological anatomy is, of course, fundamental and finds its place on every page; but the author has had in mind the application of pathology to the living diseased animal, and the anatomical descriptions and discussions serve as a basis for explanation of the development of the processes and the functional faults the diseased animal must necessarily manifest. The chapters on disturbances of the circulatory, respiratory and other functions are, of course, brief, but they are by no means superficial and indicate well the lines of necessary study for the practicing physician and are stimulative to thought on the part of the student.

The value of such a work is not confined to the veterinarian; the intimate relations comparative pathology bears to the study of human medicine and the need that experimentalists should be in the best possible position to appreciate the reactions peculiar to various species of experiment animals require of pathologists broader and broader powers of recognition. Much of the criticism against animal experimentation has its only force in that in the hands of men unfamiliar with the animals utilized, both in their normal life and in their pathological reactions, the best results are not obtained, at least not appreciated, by such workers in return for the sacrifice entailed. The best is accomplished, other things being equal, by men whose training comprehends a broad biological and physiological experience and who are familiar with the peculiarities of physiological reaction and anatomical changes to be met in the animals employed under the operation of given pathogenic influences. Such works as the present volume, introductory to the fuller Special Pathology in the companion volumes of the German edition, have therefore a proper place on the shelves of every pathologist, whether his work deals with human or with comparative problems as its major field.

In presenting the book to our English-speaking colleagues and students, the editor and translator have endeavored to follow closely Professor Kitt's language, although no attempt to be absolutely literal in the translation has been made. Doubtless the effort to translate the German idiom to its English equivalent has often failed; and we both appreciate the fact that unwittingly the