

**PHYSIOLOGY OF  
MAN AND OTHER  
ANIMALS**

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Physiology of man and other animals by Anne Moore

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BY

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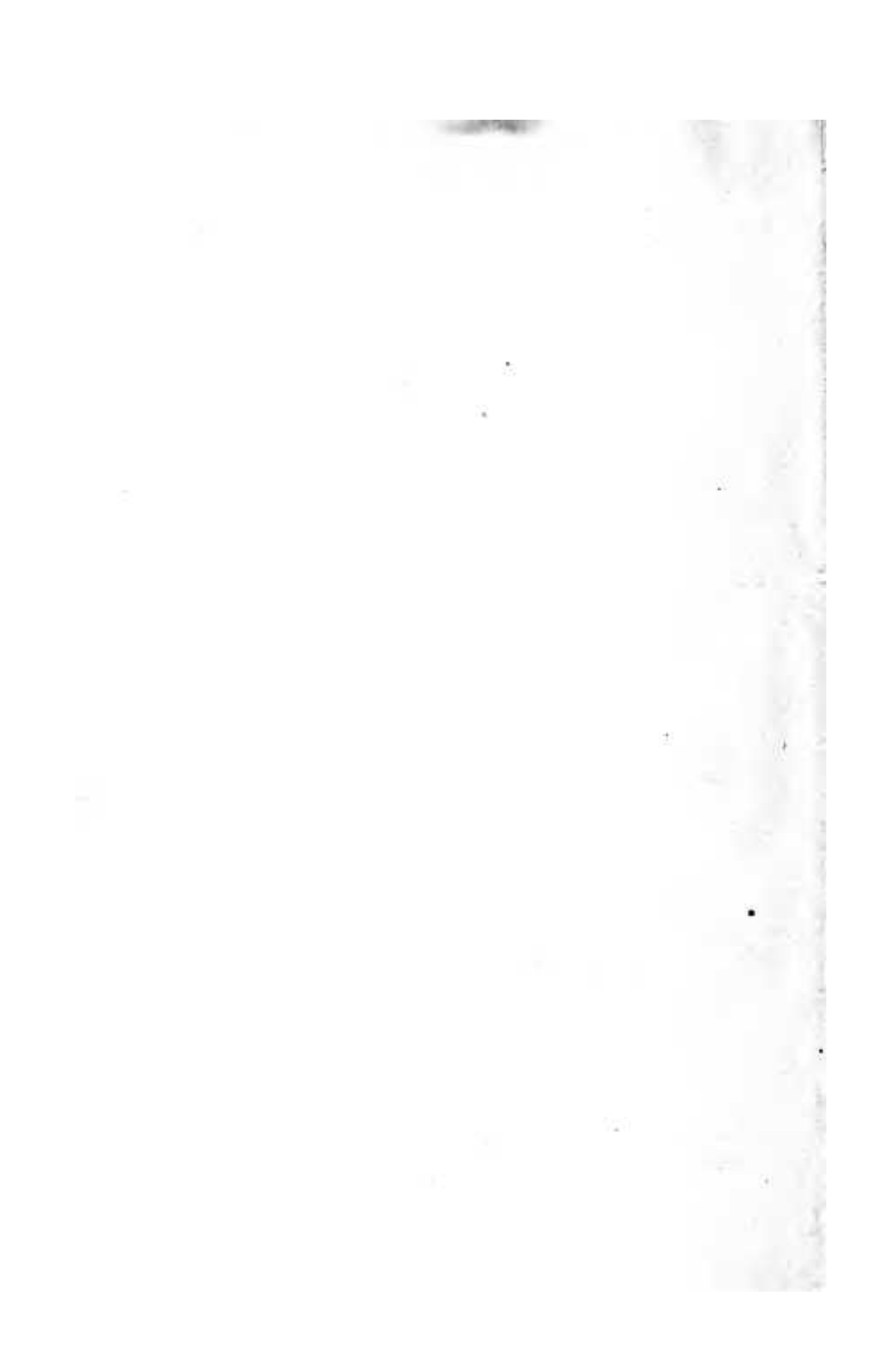
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TO  
THE CLASS I MOST  
ENJOYED TEACHING



## PREFACE

No new facts are presented in this book. Rather has an attempt been made to present simply from a physiological standpoint the well-established facts of physiology. To this end all details that might complicate the matter have been omitted and a few general principles have been emphasized.

Human physiology is frequently presented in our schools as an isolated subject unaffected by the laws of other sciences. For this reason it fails to produce an improvement in personal hygiene, and it fails to provide mental discipline. To the young student then the human body is apt to seem a unique development, its structure and its functions unwarrantably complex and its behavior quite independent of the ordinary laws of nature.

For four years in one of the best normal schools, the author struggled with this mental attitude in pupils coming from the lower schools. They seemed to have no conception of cause and effect in connection with the human body. The one idea most prevalent among them, most antagonistic to the understanding of the principles of hygiene and physiology and most difficult to eradicate, was the idea that things happen because the body needs them to happen. That the operation of definite physical and chemical laws might have an effect upon the



body seemed beyond their grasp. They had no difficulty in understanding that the ameba gets oxygen because a gas passes in a definite direction, for the ameba was unfamiliar and a new idea could be easily and quickly gained concerning it; but almost simultaneously they would assert that a human being gets oxygen, even in a vitiated atmosphere, because his system needs oxygen. Their minds stopped working logically as soon as human physiology, the familiar thing, was in question.

Until the simple fact that natural laws act upon all organisms alike is grasped there can be no intelligent comprehension of physiology and no intelligent application of its laws to the health of the body. This fact is the keynote of its rational presentation, and it should be emphasized from the beginning, for if a correct general impression is established, it may serve as a basis upon which it is possible to build without first tearing down and re-establishing the foundation.

The course suggested in this book can be covered by the work of a year. It divides itself naturally into two parts. In the first part certain general principles are defined and are shown to govern the functions of organisms. In the second part modifications of these functions resulting from structural development are considered in representatives of the great groups of animals.

It frequently happens that a teacher must make her pupils conversant with a certain phase of a subject when she knows that it will be better for them to have some other phase of it emphasized. By following some such

plan as the one indicated she may stick to the letter of the law and at the same time follow the spirit of her better judgment, laying, in each individual case, the stress where it is most needed.

This book has been written with the conviction that the development of a pupil's mind is more important than the accumulation of facts and with the conviction that physiology may be made to contribute to this mental development by the appeal which it makes to the reasoning power. Children like to reason, and a sympathetic teacher, interested in the subject, and prepared to teach it, can, by appealing to the reasoning faculty, change the study of physiology from a perfunctory compliance with the law to a real pleasure.

The manuscript has been read by Miss A. St. L. Eberle, to whom I am much indebted for criticism and suggestion. I am further indebted to Messrs. Henry Holt and Company for much courteous consideration, and for permission to use illustrations from some of their publications; especially am I indebted for the use of those from "A General Biology" by Sedgwick and Wilson; "Principles of Physiology and Hygiene" by Dr. George Wells Fitz; "The Human Body" by H. Newell Martin; and "A Manual of Zoology" by Richard Hertwig.

