

**NEW CENTURY SERIES OF
ANATOMY, PHYSIOLOGY AND
HYGIENE. ELEMENTARY ANATOMY,
PHYSIOLOGY AND HYGIENE FOR
HIGHER GRAMMAR GRADES**

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WINFIELD S. HALL

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OF
ANATOMY PHYSIOLOGY AND HYGIENE

BY

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PHYSIOLOGY AND HYGIENE**

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HIGHER GRAMMAR GRADES

BY

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INDORSEMENT

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We, the undersigned, have carefully examined the school text-book entitled

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ELEMENTARY ANATOMY PHYSIOLOGY AND HYGIENE FOR
HIGHER GRAMMAR GRADES

by PROFESSOR WINFIELD S. HALL, M.D., with reference to the following points:

1. Fullness and accuracy of subject-matter relating to the nature and effects of alcoholic drinks and other narcotics upon the human system.
2. Amount of matter on general hygiene.
3. Presentation of matter with regard to its adaptability to the class of pupils for which it is designed.

We are satisfied that on all of these points, as well as in the regular anatomy and physiology, the treatment is as complete as is required for a book of this grade, and fully in harmony with the results of the latest investigations. We therefore heartily indorse the book for Higher Grammar grades or pupils.

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Text-book Committee of the Advisory Board.

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HALL BL. BURE.
W. P. 12

PREFACE

No field of school instruction has in recent years undergone a more radical change in the method of presentation than that of the *natural sciences*. This change has been a progressive one, and each year has recorded some advance. In all nature work in the grades as well as in all natural science work in the secondary schools and colleges *the pupil is brought into contact with the material studied*. This is effected either through demonstrations before the class or through laboratory or field work in which the individual pupil, under the direction and inspiration of the teacher, observes or experiments with the material.

Physiology is a most important branch of the biological division of the natural sciences. Besides making a large part of both botany and zoölogy, it is set apart as a science by itself, devoted to the discussion of the functions of living matter. The nature work of the lower school grades leads naturally and logically to physiology, for which it forms a necessary basis.

The subject of human physiology is the most important part of the nature study of the schools. It introduces the pupil to the physical house in which he must abide while he lives in this world and, with hygiene, to the essential conditions of highest attainment.

With these principles in view, the subject of human physiology has been introduced with a brief treatment,

largely experimental and practical, of the physiology of a growing plant. Through this means one can best show the interdependence of plant and animal kingdoms, and the unity and harmony of nature.

Attention is called to the experiments suggested and described in the text. The appliances and material suggested are readily procurable; and the experiments described may easily be performed by any bright and energetic teacher. Taught in this way physiology becomes a living and intensely interesting science. The problems given for solution by the pupils will tend to fix indelibly the hygienic principles involved in them.

Especial attention is called to the lessons on *Domestic Economy*. This work has never failed to arouse the interest not only of the pupils, but of parents also, their feeling being that the school work in physiology is being made practical as life itself is and must be. This chapter and that on plant physiology is the work of Mrs. Winfield S. Hall.

The author is indebted to Professor Wilson of Columbia University, to Professor Piersol of the University of Pennsylvania, and to Professor Williams of the University of Buffalo for several valuable figures. Acknowledgment is due also to Messrs. Lea Brothers, Philadelphia, for permission to reproduce several figures from the author's *Text-book of Physiology*, of which they are the publishers.

WINFIELD S. HALL.

CHICAGO, June, 1900.

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