

study of photosynthesis it is emphasized that simple sugar is manufactured from the raw products carbon dioxide and water; also in the study of other synthetic processes it is found that starches and fats are made, and with the addition of more raw products, namely minerals, proteins are produced. In other words, we establish with emphasis a working definition that organic materials which are synthesized in living forms are foods, and that the inorganic materials which are used in the synthetic processes are raw products. The students readily understand the concept when they are asked whether a bale of cotton is a suit of clothes.

Later during the study of human physiology the teacher defines the word *food*: "A food is any material that supplies body energy, builds body tissue, or modifies body processes." With a few

carefully placed questions by the teacher the class usually will do some thinking:

"I thought water was a raw product. Are we going to call it a food now?"

"Isn't there only one right answer? What does the dictionary say?"

In one experience in class a student remarked, "You don't have a right to mix us up this way!"

When the class discussion reaches a climax the teacher will explain that at the particular time he is using a different definition for the word *food*; he will show the need for defining terms when the clarity of meaning is in question; and he will explain that we are a part of a dynamic, changing world and we must have an evolving language to meet our needs.

ROBERT C. McCAFFERTY,  
*Central High School,*  
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## Editorial Comment

The following letter, and the accompanying directive, arrived just as this issue was being prepared for press. Both the letter and the directive merit the careful study of every biology teacher, whether in New York or in any other state. When problems of this sort arise they can be solved only by action based on careful group thinking.

ABRAHAM LINCOLN HIGH SCHOOL

Dear Mr. Breukelman:

I should like to call your attention to a matter which is affecting Biology teaching in New York State at the present time. It is a matter which to my mind deserves serious consideration since it can readily be a precedent for similar action in other states.

Please read carefully the enclosed mimeographed sheet. This is a copy of a directive from the Commissioner of Education of New York State. Note particularly the portions

in italics. You can easily see what serious consequences might ensue.

I am not so much worried about the effect of this ruling on the very small number of Christian Science children which we have in our school. Of course, this in itself is bad enough since it deprives some children of instruction in a vital field of knowledge. However, the wider aspects of the directive are somewhat appalling when you give them consideration.

For example, as soon as the State Regents Examination eliminates questions on health, bacteria, etc., as the directive states they will, it is more than likely that many schools in the state will drop these units from their courses of study. It is only a short step further for these units of work to disappear from text books as well. Thus, not only are Christian Science children deprived of this instruction, but all children are so deprived. The result is that a fund of vital information based on many years of study has been censored out of our teaching because it conflicts with what

a small minority group considers "A religious tenet".

I can also foresee that other religious groups may press for the elimination of other areas of work because of conflict with their "religious tenets".

I am certain that you will agree with me that this is a matter which requires immediate publicity and prompt action. I trust that you will see fit to editorialize about this situation in an early issue of *The American Biology Teacher*. I hope, also, that you will call it to the attention of the executive board of THE NATIONAL ASSOCIATION OF BIOLOGY TEACHERS and that some action will be taken promptly.

Thanking you for your indulgence and for your cooperation, I am

Sincerely yours,  
 PHILIP GOLDSTEIN, *Chairman*  
*for the Biology Department*  
 Abraham Lincoln H. S.  
 New York City

THE UNIVERSITY OF THE STATE OF  
 NEW YORK  
 State Education Department  
 August 11, 1950

TO: Superintendents and Principals

A law was passed by the 1950 Legislature amending section 3204, chapter 135 by adding subdivision 5 which reads as follows:

"Subject to rules and regulations of the Board of Regents, a pupil may be excused from such study of health and hygiene as conflicts with the religion of his parents or guardian. Such conflict must be certified by a proper representative of their religions as defined by section two of the religious corporations law."

To implement this legislation a Regents Rule has been adopted which defines the policy for administering this law (Chapter IX-A, section 170 of the Regents Rules):

"A petition, duly verified, may be filed with the Commissioner by a proper person authorized to represent a religious group on a state-wide basis asking that the children of parents or guardians professing the religion of such group may be excused from such part of the study in health and hygiene as may be in conflict with the tenets of the religion of such group. Such petition shall contain a statement setting forth the specific area of health and hy-

giene where such conflict is deemed to exist. The Commissioner may consider such petition on the verified statements therein contained or he may direct a hearing thereon upon such notice as he may deem necessary and appropriate. If the Commissioner shall find that there is a conflict he shall make an order setting forth specifically such portion or area of study of health and hygiene as he shall deem in conflict with the tenets of such religion. The Commissioner shall thereupon direct the local school authorities to excuse, upon written request, the child of any parent or guardian professing such religion from the study of that part of health and hygiene which the Commissioner found to be in conflict with such religion."

Acting in accordance with these Rules, Department officials have considered the request filed by the representatives of the Christian Science Faith for the exemption of children of parents and guardians of that faith from certain required instruction. The Commissioner of Education has approved the exemption of the children of parents or guardians of this faith from instruction in the units on *Disease Prevention and Control* and three other specified areas as outlined in Bulletin 1371, Health Teaching Syllabus for Junior and Senior High Schools, p. 109-13; 254-61; p. 100 section e; p. 238, line 13-18; and p. 240 section b.

In view of this decision, local school officials are advised to proceed as follows;

Children of parents or guardians of the Christian Science Faith may present to the local school administrator individual petitions to be excused from the instruction specified above. These petitions will be in the form of a card issued by the Christian Science Church and approved by the State Education Department. *These children will then be excused from this instruction wherever in the secondary school curriculum those units of study are offered to partially fulfill the health requirement.*

Pupils exempt from instruction in the specified areas are to be provided opportunity to study under school supervision.

Local school authorities are advised to evaluate achievement for pupil credit purposes in such manner as not to penalize pupils who have been excused from the specified units of study.

*Required sections of the Regents examina-*

tions as well as the State Scholarship examinations will be constructed so as not to penalize pupils who have been excused from instruction in the specified units of study.

School administrators and teachers will recognize the desirability of carrying out the provisions of this law in a way that will avoid causing embarrassment to any pupil or parent.

LEWIS A. WILSON  
Acting Commissioner of Education

## BOOKS

SNYDER, LAURENCE H. *The Principles of Heredity*. 3d ed. D. C. Heath and Company, Boston. xvi + 450 pp. illus. 1946. \$3.50.

The third edition of this excellent and widely used text has been improved in a number of ways, especially through a regrouping of topics and the addition of new material on such subjects as the Rh factor and the genetics of *Neurospora*. The fundamental plan of the book has not been changed.

The author, one of the leading students of human genetics in this country, uses numerous examples from man to illustrate various principles. Since this is a general text, plants and animals are widely used also. The three concluding chapters deal with human problems specifically: the titles of these chapters are *The Mutant Gene in Man*; *Eugenics*; and *The Analysis of Human Family Histories*. Principles and practical applications are discussed without presenting lists of human genetic traits. The book is illustrated with numerous line drawings and halftones and three color plates.

Although this book is intended for use in college classes much of it may be read with profit by the more intelligent high school students. It may be recommended as a valuable reference work for the high school library.

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*Chicago, Illinois*

GRIMM, W. C. *The Trees of Pennsylvania*. Stackpole and Heck, Inc. New York. xii + 363 pp. 1950. \$5.00.

The book is divided into six main sections:

1. The Study of Trees, 2. How Trees Grow, 3. Tree Identification, 4. The Distribution of Trees, 5. Species of Trees and 6. The List of Trees Arranged According to Families.

*The Study of Trees* describes the differences between the shrubs and trees, and also tells what is included in the book to aid in the study of trees. *How Trees Grow* is a description of photosynthesis and growth and very few technical terms are used in this section. The text is mainly composed of the description of the species of the trees, in which the distinguishing characteristics of each species are described, the keys by which the species may be identified and excellent illustrations of the leaves, buds, fruits, twigs and the leaf scars for each species.

The scientific terminology associated with the tree study has been limited to very few words, the meanings of which are defined in the glossary and described in the introductory text. Under the list of trees arranged according to the families, are the list of common names and scientific names of the specimens.

The paper of the text is fair and would withstand constant wear. However, in the reviewer's opinion the book is too large, each page about the size of an average notebook paper, and would not be easy to carry on a field trip, where it would be most useful. The text is fairly easily read and a person can quickly find the information on the specimens he wishes to look up. The table of contents lists all the species described in the text. The author concluded the text with a glossary, selected references and the index.

LOIS REDMOND,  
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*Emporia, Kansas*

SELECTED PROCEDURES IN TEACHING BIOLOGY, by E. Irene Hollenbeck and Elmo Nall Stevenson has just arrived at the editor's desk. It is a 56 page digest which has grown out of Miss Hollenbeck's master's thesis under Dr. Stevenson. A review will be published later.