

Biology as an Upper Grade Subject

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Does a tenth grade student learn all that he should know about biology? It would seem that the answer generally accepted as true is Yes; for in most high schools biology is accepted as a tenth grade subject, and no provision is made for any further acquisition of biological knowledge.

In examining any of the more widely-used textbooks one will find an attempted summary of almost every conceivable biological topic. Concrete and abstract, practical and theoretical, all are lumped together and thrown at the head of the tenth grade youngster. The author apparently hopes that the teacher will in some miraculous way be able to make the alternation of generations, the application of hereditary principles, and the relation of environment to heredity, comprehensible to a tenth year mind. This attitude of the author is perhaps excusable because forced on him by the publisher who feels that his text must contain all of the biological material that any other publisher's text contains—and a bit more.

There is a marked differentiation between the mind of the lower-grade student and that of the upper-grade student. It is conceded, of course, that there is no sharp dividing line at the end of the tenth year, and also that some individual students accomplish this differentiation at varying ages. But the fact remains that most tenth grade students are interested in *concrete* things and that they think in these terms. It is only in the eleventh and twelfth grades that most students begin to generalize and to think in the broader terms of the abstract. The

practical comes before the theoretical, the concrete before the abstract, particulars before generalizations. In the tenth year a cow is a particular creature that gives milk. To talk of a cow as a mammal which developed certain characteristics because of the influence of environment and heredity, to discuss why these two factors worked as they did, and to inquire about the relationship of the cow to the human race physically and economically—all this, while important, is like laying a steak before a three-year-old child equipped with a spoon.

There is enough concrete material in the living world to interest a tenth grade biology class for many times forty weeks—and all of it vitally important. Why attempt the impossible by feeding them food which they cannot yet assimilate?

But if we take away from tenth grade biology the generalizations, relationships, theories, hypotheses, and evolutionary developments, are we not losing most of the values of high school biology, which should come to a focus in the relationships of the living world to man? The answer is NO. But it indicates that there should be an advanced high school biological course in which this type of material should be considered.

A few years ago biology was a comparatively small body of knowledge, and it was largely in the concrete descriptive stage. Genetics and all which that implies, evolutionary theories, paleontology, and anthropology, have been added to that meager store of knowledge. And no high school graduate can afford to be without a knowledge of eugenics and

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A Plan for Biology Textbook Reviews

We have purposely excluded textbook reviews from *The American Biology Teacher* until we could develop a plan that gave promise of producing evaluations worthy of consideration. We have developed an approach to this problem of evaluation that is different from the traditional one. Whether it is more valuable remains to be seen. Suggestions for revising our present method of obtaining reviews and general criticisms of it are always welcome. With your cooperation we are ready to introduce the plan outlined herewith.

Each textbook review will consist of five sections contributed by five separate reviewers working independently. Each section of the review will deal with one of the following aspects of the book:

- 1.—Mechanical Make-up and Cost.
- 2.—Pedagogical Soundness.
- 3.—Subject Matter.
- 4.—Literary Style.
- 5.—Learning Exercises and Teacher Helps.

Our present task is to establish a committee of reviewers. We urge all secondary school teachers of biology who are interested in taking part in this work to send their names to the chairman of this committee with a brief statement of the elements of textbook evaluation to which they would like to be assigned. Arrangements have been completed with many publishers to provide an adequate supply of copies of the texts under consideration for the reviewers.

We appreciate that this work is of general interest and we hope that many of our qualified readers will avail themselves of this opportunity to render a valuable

service to biology teaching. The committee on textbook reviews should be large so that points of view expressed be representative of the country as a whole. We should start with a committee of at least a hundred names. We urge that all interested members communicate without delay with the chairman of the textbook reviewing committee:

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A NEW CHAPTER

The first meeting of the Southern California Association of Biology Teachers, a chapter of the National Association of Biology Teachers, was held January the ninth at the John H. Francis High School in Los Angeles.

The officers elected were Miss Edith A. Kraeft, President; Mr. George F. Hottfrerich, Vice-President; Mr. Robert P. Hays, Treasurer; Mrs. Karyn B. Sanders, Recording Secretary; and Mrs. Doris C. Siddall, Corresponding Secretary.

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eugenics, Mendelian laws and their application, allergy and immunity, paleontology and migrations, mutation and the gene theory, adaptation and environment—to mention only a few topics. But these topics can be adequately taught only to those students whose minds have developed the capacity to think in broad terms. They should, with others of a similar nature, form the core of an *upper-grade* course in biology.