

as "an ovoid, musculomembranous pouch."

The illustrations—all black-and-white—are excellent and well integrated with the text. Most are simple line drawings, but photographs of diseased persons and organs and some photomicrography add spice.

The book ends with a very good glossary of some of the more commonly used words in the text and a very lengthy, detailed, and accurate index—an absolute necessity for a book of this kind. The book's only failing is its rather dated approach and spellings. For example, the terms "electron shells" and "valance" fill the introductory chapters, while the chapter on vitamins does not mention vitamin overdoses. Marijuana use barely rates mention.

While the language and clinical approach exclude it from use in most high school courses as well as most college physiology courses, the fine index and detailed descriptions of malfunctions of the human body make it an excellent reference book for teachers of these subjects.

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**HUMAN ENGINEERING: THE BODY RE-EXAMINED**, by John Lenihan. 1974. George Braziller (One Park Ave., New York 10016). 207 p. \$7.95 hardback.

For the high school student who has not thought of the human body as an engineering feat, this book is interesting, understandable, and easy to read. It presents a fresh and very needed approach to anatomy and physiology. Various systems and organs such as the skeleton, muscles, skin, ear, and central nervous system are dealt with, thereby illustrating the application of various aspects of engineering (mechanical, chemical, electrical) to the body.

The book is intended primarily for the beginner since it lacks depth and detail. Chapter 1 on the skeleton is well done, but as the book continues the text becomes more and more superficial, leaving many unanswered questions in the reader's mind. In dealing with the nervous and circulatory systems, the author tries to include so much material that the text becomes collages of brief paragraphs. In the discussion on the respiratory system, the actual mechanics of breathing have been omitted. The last chapters, "Spare Parts" and "Can Man be Improved?" are very short and do not satisfactorily cover material of great interest to the average reader. The last pages on reproduction are printed and positioned so that they seem almost ostracized from the rest of the text.

There are some gross errors; for example, the elbow is included as a ball

and socket joint and the bird as a cold blooded animal. There are 13 illustrations, many of which do nothing to clarify the text because they have no labels. While the book attempts to bridge the gap between biology and engineering, it is an expensive bridge without a strong foundation.

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**NEW PARTS FOR OLD**, by John G. Deaton. 1974. Franklin Publishing Co. (P.O. Box 765, Palisade, N.J. 07204). 160 p. \$7.40.

This is a simple but intensive story of the history and current status of organ transplantation. Readers will be surprised to learn how ancient the practice, including that of skin transplantation, is. There is good descriptive material on pioneer researchers of the subject, stressing the great reliance on fundamental and basic research. Much could not be accomplished until such technical advances as the development of the heart-lung machine.

The book is highly recommended for secondary school readers as well as biology teachers.

*Paul Klinge*  
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#### Related Fields

**PROBABILITY AND CHI-SQUARE FOR BIOLOGY STUDENTS**, by Sandra F. Cooper and Thomas R. Mertens. 2nd ed., 1974. Educational Methods (500 N. Dearborn St., Chicago 60610). 118 p. \$3.75 softback.

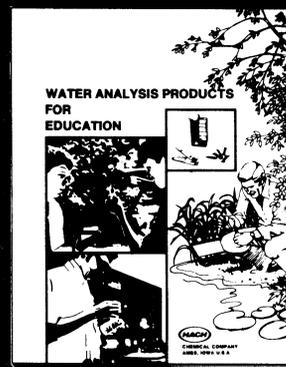
In this programmed approach to elementary probability and the application of the Chi-square procedure to hypothesis testing, some acquaintance with Mendelian genetics and elementary algebra is assumed. The material is presented in frames, with answers to frame questions occurring directly after each frame. There are also three progress quizzes and a comprehensive review. A table of Chi-square is included.

The frames read easily, and generally there is sufficient repetition to assure drill learning. The coverage of probability goes through the binomial expansion, but the binomial distribution as a statistical concept is not covered. While the methodological instruction seems sound, some fundamental concepts, such as independence or the choice of an appropriate significance level, are passed over very lightly.

In most cases, the book will be of best use in a genetics course in which the textbook does not cover the equivalent material adequately.

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