

Aside from subject matter content, other features include a table of time allotted to each "experiment," a list of supply sources, a "materials needed" list, a much-too-limited appendix on metric equivalents and chemical solutions, and handy perforated pages for student reports. What is not included, but what would be a welcome improvement, is a more detailed and complete table of contents, or else an index to facilitate rapid location of particular exercises from among the many and varied choices.

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LIVING TISSUES, R. L. Holmes, 142 pp., \$2.95, Pergamon Press, New York, 1965.

This book is intended to serve as an introductory text for the study of structure and function of tissues and is to be supplemented by a fuller textbook of histology. Although the book claims to be concerned with functional aspects of living tissues, very little is presented which can be considered functional. In fact, about 25% of the text is devoted to a very general description of how tissues are prepared for histological study. This section is not sufficient to be used as a guide in tissue preparation.

In a brief text of this sort, selection of materials is inevitable and therefore it contains rather arbitrary inclusions and exclusions. For example: very little is found on the blood and lymphatic tissues. What is included, however, is clearly and accurately covered.

In general, although there is much that is interesting and enlightening in this text, it will not be helpful to one who lacks a basic understanding of histology. Therefore, this book will not serve as an adequate introduction to a course in histology.

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NERVE, MUSCLE AND SYNAPSE, Bernard Katz, 193 pp., \$2.25, McGraw-Hill Publishing Company, 1966.

This small paperback by Bernard Katz is the second volume published in the McGraw-Hill series in "The New Biology" edited by Professor George Wald of Harvard University. Professor Katz, a leading authority in the field of neurophysiology, intended this book for the college student in introductory biology. However, the material presented is much more than introductory; it is a rather extensive though compact presentation of the development of

current concepts on the physiological interaction and structural relationship of nerves and muscles. The author deals with topics of neuromuscular organization, the electrical phenomena involved, initiation and transmission of impulses across the cell membrane and neuronal synapses.

The book is valuable to the serious student in biology who may contemplate a career in neurophysiology. Senior biologists in less related specialties may also find the book useful in filling in gaps in their knowledge on this subject. Several tables and graphs taken from original sources help in summarizing data; over 150 references are included.

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HOMEOSTASIS, L. L. Langley, 114 pp., \$1.95, Reinhold Book Division, New York, 1965.

A paperback with the most lucid description of the concept of homeostasis this reviewer has seen. The author is in the NIH but he has a splendid gift of exposition which should put him in the classroom immediately.

The concept of homeostasis is introduced by a fascinating historical treatment and a description of the principal ramifications. Various aspects are described in detail: regulation of temperature, weight, blood pressure, respiratory, fluid, hormonal balance, and movement. The final chapter concerns speculations as to how the principle may be applied to other areas, such as population, buffers and circadian rhythms, and a most interesting treatment it is.

The book is illustrated and told in a most interesting manner. An excellent treatment.

HUMAN BODY COMPOSITION, Josef Brozek, Ed., 311 pp., \$12.00, Pergamon Press, Long Island City, New York, 1966.

For over 100 years, there have been attempts to assess the tissue constituents of the human body. Not until 1942, however, was a breakthrough made which has opened the way for techniques having greater accuracy and more sophistication to be brought to bear on this aspect of human biology. One consequence of this is the formation of a Society for the Study of Human Biology in 1958; another consequence is yearly symposia, informal at first but now annual under the auspices of the Society. This book is Volume 7 of a conference held in London in 1963.

By bringing symposiasts from a wide range of disciplines, laboratories, and countries, the presentation is enriched in presenting technical

papers in three broad areas. These are, (1) new approaches to description of the human physique (methods, chemical analysis, interpretations, standards); (2) factors affecting body composition (stores in the human body, sex differences, cultural environment, physical activity, "normal" adults, growth and aging); (3) applications to study of disease (nutrition, malnutrition, degenerative diseases).

This volume has many tables and graphs which those interested in growth and biology relating to the medical and paramedical sciences will find useful. As with any collaborative efforts such as this, some chapters are clearer, more concise and valuable than others. The value and clarity, however, will depend largely on what special interests and background in the subject matter the reader has. This would be an appropriate reference book for advanced biology, and professional school libraries; it's a must for research workers in the field.

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FANTASTIC VOYAGE, Isaac Asimov, 239 pp., \$3.95, Houghton Mifflin Company, Boston, 1966.

Here is a fantasy that should appeal to the biologically oriented reader of science fiction. It concerns a trip within the human circulatory system by the crew of the Proteus, a submarine reduced to the size of a bacterium. The goal is to clear a remotely placed blood clot from the brain of an eminent scientist whose survival is essential to "Our Side." This *coup d'état* must occur within one hour, before the miniaturized state wears off!

Our pressed and often quarreling crew represents a motley range of temperaments. There is the introverted neurosurgeon whose "scalpel" is a laser beam, and his loyal, efficient, but beautiful female assistant. There is the pilot-designer of the craft and a talkative M.D. who navigates using a 3-dimensional laser portrait of the circulatory tree. Last, but most prominent, is the young, resourceful security agent sent along to monitor the others. This he does expertly, concentrating with particular gusto on the surgeon's assistant.

This minuscule task force encounters trouble from the start. Shortly after being injected into the carotid artery, they make an unscheduled turn into an arterio-venous anastomosis. One crisis rapidly follows another: a detour through the venous side of the heart, and some scuba-diving encounters with antibodies and a white

blood cell, to mention a few.

The scientific detail is scanty, but much more probably would have fettered the story which is fast moving and brief. Still, it would have been intriguing if Asimov had been more explicit here and there: for example, in depicting how the Proteus entered the cochlear duct en route from the vicinity of the ear drum! The miniaturization process is panned off by Asimov with able verbal legerdemain. Here, to get on with the story, the reader must accept it or leave it. One aspect this reviewer found detracting and trite was the boy-meets-girl routine. Perhaps this is a carry-over from the movie scenario (something for everybody?) which, according to a prescript, preceded the Asimov version. As a whole, however, the story absorbs and sustains the attention. It could provide a bit of leavening among the tomes that crowd a biologist's shelf these days.

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PREHISTORIC AND PRIMITIVE MAN (Landmarks of the World's Art), Andreas Lommel, 176 pp., \$5.95, McGraw Hill Book Company, New York, 1966.

This handsome book is different from many general works on primitive art in that it includes prehistoric art as well as the art of recent "primitive" peoples, but, more significantly, attempts to relate the art of ancient peoples to that of recent peoples by postulating that the latter are the descendants of the former. This is a position easily assumed by a diffusionist, and Andreas Lommel, the Director of the Museum of Ethnology in Munich, frankly states that as his credo. He holds that variations in the world's art styles can be understood as being linked in a world wide historical scheme.

Many anthropologists subscribe to *some* diffusion of aspects of cultures, but would balk at accepting the much greater degree of diffusion propounded in this book. Lommel suggests, for instance, that rock paintings of recent Australia, and of Africa, are descended from the cave paintings of the European Paleolithic and from the rock paintings of eastern Spain. He also suggests that certain motifs, the representation of squatting figures, and of bent-kneed figures, diffused from early Eurasian sources to the Pacific, Africa, and even touched the Americas.

To most anthropologists these ideas could be entertained only as hypothetical formulations subject to critical consideration, but at best as a stepping-off point for further study. In other words, there may well be something to such a