and instrumentation theory and practice to enable him to build, operate, and understand such electronic instrumentation as is necessary for his research. This book is probably the best single answer available to the demand for a do-it-yourself guide to biophysical instrumentation. In addition, it is, for the expert, a fine compendium of know-how and references, and it contains succinct résumés of specialized techniques and mathematical developments of basic electrical and electronic theory at a level just sophisticated enough to take care of most needs without requiring the use of advanced mathematics.

The American reader will find three substantial shortcomings in the book, only one of which could possibly be charged against the author: it is written in British, not in American, English; it is too expensive for use as a textbook or as a book to be bought by the neophyte researcher for his personal bookshelf; and it stops 3 to 5 years back in several areas where electronic technology has been dashing forward.

The language problem is not trivial, for electronic jargon *is* substantially different in England and the United States, and a term often has very different meanings in the two countries. Both "static" and "dynamic" transducers, for example, are special types of "active" or "passive" transducers in our usage. Components and circuits have different names, for example, "tagboards" for "tiestrips," "concertina phase splitter" for "split-load phase inverter," "brimistors" for "surgistors," and so forth. These differences seem merely amusing when we understand them, but they are highly confusing when we do not. In addition, examples taken from commercial components are not always applicable to American products, nor is there always an equivalent product.

The neglected, recently-developed areas are particularly those having to do with solid-state devices and the logical circuitry and control-system devices which have arisen out of electronic computer advances and military-industrial control instrumentation. There is a last-minute chapter on transistors which is sound and pertinent, but it stops substantially behind the present state of the art. Masers, nuclear resonance and molecular resonance equipment, magnetic amplifiers, precision function potentiometers, core memories, storage tubes, modulation codes—none of these is more than barely mentioned. Printed circuits and modular construction have been severely neglected. Workhorse computer elements that are entering most up-to-date biological laboratories are conspicuously scarce. Hybrid vibrator-stabilized amplifiers, precision integrators and differentiators, adders, multipliers, rooters, curve tracers, digital-analog converters, direct digital read-outs, and print-outs should at least be mentioned.

Pointing out these shortcomings is, however, in effect praising the book with faint damns. The 280-page section on "Theory" is a splendid introduction or refresher on electronic theory. The 50-page section devoted to "Practice" (components and laboratory procedure) is good but differs substantially from American standards. The 252-page section on "Transducers, electrodes and indicators" covers its chosen material well but falls short of ideal choice of subject matter. Its treatment of microelectrode techniques is outstanding. The material on light sources, temperature and humidity control, and strain-gage transducers includes much material not readily available elsewhere. A final 126-page section on "Complete apparatus" discusses power supplies, bioamplifiers, some recording and timing devices, and it has an unusually appropriate section on interference control. The short chapters on trouble shooting and instrument design are too abbreviated to be of much use.

Over-all the book is undoubtedly the best and most complete source of information on electrical instrumentation currently available to the experimental biologist.

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Encyclopaedia Zoologica Illustrated in Colours. vol. 2. "Pisces" by Ichiro Tomiyama and Tokiharu Abe. "Prochordata" by Takashi Tokioka. Hokuryukan, Tokyo, Japan, 1958. 478 pp. Illus. $25.

The first volume of this popular series includes the mammals, birds, amphibians, and reptiles of Japan. Volume 2 illustrates the fishes and prochordates. Volume 2 is divided into three sections, of which the first two were written by Tomiyama and Abe. The first section covers 912 species of marine fishes, illustrated in color; for each, the common and scientific names, a brief description, maximum size, and distribution, are given; for fish of economic value, the texture of the flesh is given also. The second section, on aquarium fishes, covers 108 species, illustrated in color, and gives information of importance to an aquariist. The section on the Prochordata, by Tokioka, contains illustrations, in color and in black and white, of 135 species, and for each one the scientific and common names, a brief description, and size and distribution are given.

The fishes are carefully illustrated by the following artists: Yoshikichi Makino, Ketsunori Tateishi, Mitsuo Shirao, Tadanao Hayabuse, and Masaru Goto. The colored photographs were taken under the supervision of Tadashi Tomura.

This gorgeously illustrated volume was intended to be a popular account of the fishes and "prochordates" of Japan, and without doubt the authors have succeeded in fulfilling this intention. In general, this is a basically accurate work, with only a few instances of careless spelling of scientific names. We disagree, for only a small number of the species, with the scientific nomenclature used for the marine and aquarium fishes. The authors should be proud of this book.

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Heredity and Evolution in Human Populations. L. C. Dunn. Harvard University Press, Cambridge, Mass., 1959. 157 pp. $3.50.

This, the first of the "Harvard Books in Biology," sets a nice tone for a series of books designed for laymen. In his interesting preface, Dunn acknowledges that his writing is not colorful, saying that this is as it should be, that he prefers an accurate statement to a fine phrase. Having set the stage thus, the author proceeds to the essentials of genetics and evolutionary principles. The implications of the sickle-cell trait are well presented. The variation in the distribution of the blood-group genes is posed as a problem in selection that is yet to be solved. Dunn's study of the Jewish community in Rome is retold. Restraint marks the discussion of methods of consciously altering human gene frequencies. The only objectionable statement made is the one at the bottom of page 88 that implies that *gene* frequencies can be altered by prohibiting the marriage of cousins; in truth, only genotype (and phenotype) frequencies are affected by the mating system used.

Since this is the first of a new series, a suggestion may be in order regarding style. Dunn's book contains no bibliographic citations whatever. The thinking behind this is obvious. But is it not possible that the publishers have underestimated "the layman"? At this moment, grocery stores all over the country have on sale cartons of Coca-Cola in which there is a little leaflet discussing nutritional matters: the effect of sugar on teeth, the nutritional identity of "natural" and artificial sugar, and so forth.