ganic diversity and stability they have lost."

It will require time for this real contribution to be "discovered" and removed from the literature of geography to its proper position in the botanical and ecological literature of the Caribbean, because it is published in the University of California Publications in Geography.

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Handbook of Physiology

Respiration (Williams and Wilkins, Baltimore, Md., 1965. 778 pp., $28), volume 2 of section 3 of the American Physiological Society's **Handbook of Physiology**, is perhaps less organized than is desirable from the reader's standpoint, but to integrate the various facets of the more applied subjects would have delayed publication of these résumés and thus must be relegated to some future synthesist. Although several chapters in which the contribution is essentially a presentation of "concepts" of our knowledge might more properly have been included in volume 1, that already lengthy volume (900 odd pages) would thereby have become even more unwieldy. Thus the juxtaposition of applied research and more closely related concepts was carried into the 778 pages of volume 2.

There are 39 chapers, of which one is subdivided into distinct parts that constitute several more treatises, each with its own list of references. As the editors point out, the literature references are highly selective and thus represent only illustrative bases for the support of fundamental concepts, but by-and-large they also present the most sophisticated work in the field, and they are cited for continued reading as well. Approximately 4000 references are cited, although it must be assumed that many refer to the same paper or review.

The 39 chapters of this volume were contributed by 42 authors; six chapters have dual authorship, while three authors undertook two chapters each. In general the authors are recognized major contributors to the field, and it is important to note that an international representation has thus resulted, drawing from young and old where most appropriate. The contributors are Erling Asmussen, John E. Affeldt, J. Howland Auchincloss, Jr., Albert R. Behnke, Jr., William A. Briscoe, D. V. Bates, John Butler, Margaret R. Becklake, Hans G. Clamann, K. W. Cross, R. M. Cherniack, John A. Clements, Helen Conrad Davies, R. E. Davies, G. S. Dawes, Arthur B. DuBois, James O. Elam, Robert E. Forster, David G. Greene, Edward A. Gaensler, Robert E. Hyatt, Max Kleiber, T. W. Lamb, Christian J. Lambertsen, Ulrich C. Luft, Edward H. Lanphier, C. P. Larson, Jr., John C. Mithoefer, Robert Marshall, M. B. McIlroy, Johannes Piiper, S. Permutt, W. S. Root, R. L. Riley, D. W. Richards, H. E. Stokinger, J. W. Severinghaus, J. A. Schilling, S. M. Tenney, D. F. Tierney, J. B. West, and G. W. Wright.

The volume is roughly separated into three units: the first 18 chapters being devoted to evaluation of the effects of environment, including the fetal, and dealing with basic concepts; the next ten dealing with principles of methodology regarding measurement of pulmonary function and constitute critiques rather than expositions (although they are specific enough in the jargon of the field to be well worth studying by newcomers to the discipline); the third group (11 chapters) comprising clinical aspects of pulmonary function viewed in the light of these multifarious concepts.

It must be pointed out that this whole presentation summarizes a honing of traditional methods of study and analysis of pulmonary physiology, which has engaged the postwar generation of physiologists, partly through the stimulus of the many questions developed during that hectic period in which adaptation to, and protection from, hostile environments became a national necessity. It was, of course, made possible by the phenomenal advances in measurement techniques and ultrasensitive devices for the measurement of nearly all parameters previously only crudely appraisable. A few new concepts, such as surface effects and those of inert gases, have been rediscovered, but to date analyses of these concepts, are hardly comparable to those of the more traditional ventilatory and circulatory measurements. Despite the tremendous refinements in technique and reliability, application of the gamut of measurements is still on a statistical basis and the concept of specific ability for gas transfer is still a three-factor term of which functional area and thickness are as yet inseparable. It is also apparent that anatomists and pathologists are about the only ones who have acknowledged the function of the lymphatic system in the lung.

Inasmuch as the volume is not a compendium of research in the field (although some 14 chapters have extensive reference sections), the absence of an author index may be justified. The index would, however, have aided the teaching functions alluded to on the dust jacket.

This volume with its companion and the other parts of the *Handbook* will certainly be a practical guide to the field for some years to come. Although few students can afford to have copies of the *Handbook* on their desks, school and laboratory libraries should make it freely available to "students, young and old—who need to increase their understanding and sophistication to a level adequate for predoctoral study, for teaching, and for preliminary orientation in preparation for research."

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Fluorine Chemistry

Kaj Roholm's monograph *Fluorine Intoxication* (1937) has long been a classic in its field, and we have a volume dedicated to the memory of Roholm (1902–1948)—**Fluorine Chemistry**, vol. 4 (Academic Press, New York, 1965. 804 pp., $28), by Harold C. Hodge and Frank A. Smith.

The book contains two chapters: "Biological properties of inorganic fluorides" (375 pp.) and "Effects of fluorides on bones and teeth" (306 pp.). The material in each chapter is arranged under main subject headings, most of which also contain subheadings. Appended to each chapter is a list of supplementary reference material, 11 pages for chapter 1 and 9 pages for chapter 2. Listed under pertinent titles are names of authors whose papers are not cited in the chapter, with dates of publication, so that the citation can be found in the full bibliography. Papers are cited by name of the authors, and by the use of "*et al.*" and date of publication in the text but with the names of all authors and the first and last pages of the paper in the bibliography. Titles of the papers are omitted. It is stated that "The complete bibliography with titles upon which this volume is based has been deposited as