

many of the contributions of paleontology, anthropology, ecology, and the history of evolutionary thought with recent developments in population dynamics and adaptation.

There are a number of well-chosen illustrations that add to the interest of the text. In such a large framework, some subjects and much pertinent information is necessarily omitted in a short text. Nevertheless, the material covers most of the genetic and much other information that is very pertinent to an appreciation of current theories of evolution. The reader who is struck by Dobzhansky's optimism in his discussion of what is called "evolutionary ethics" may enjoy comparing his views with those expressed recently by Darlington in his volume *Facts of Life*. Evolution has produced mankind; in studying his greatness and limitations, we need to respect and understand evolution. Dobzhansky's *Evolution, Genetics, and Man* will help many students to do so.

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**The Recent Genera of the Caridean and Stenopodidean Shrimps (Class Crustacea, Order Decapoda, Supersection Natantia) with Keys for Their Determination.** (No. 26, Zoologische Verhandelingen) L. B. Holthuis. E. J. Brill, Leiden, Netherlands, 1955. 157 pp. \$3.60.

Students of the decapod Crustacea throughout the world will enthusiastically welcome this review of the recent genera of the caridean and stenopodidean shrimps of the world. Its keys bring up to date the corresponding portion of Borradaile's "Classification of the decapod Crustacea" [*Ann. and Mag. Nat. Hist.* 19, 457 (1907)] which, however, did not include categories below subfamilies; it goes beyond that classic endeavor in diagnostically keying out all known valid genera. For each genus, the type is indicated, and a pertinent though not exhaustive synonymy is given, which includes all changes in the spelling of the individual generic names. Highly commendable are the results of the effort that was made to illustrate each genus with a typical, where possible the type, species, usually by reproducing the original or best published figure or figures; the publications in which they appeared are conveniently listed by authors; in two instances, original drawings were prepared by the author for this paper. I find nothing to criticize in this exceptionally well done piece of work.

In itself a masterly contribution, it may be thought by some to be a relatively small one in view of the immense number of genera in zoology; however, in the ag-

gregate, it is an exceedingly significant basic step, one might say, toward the eventual realization of the much-needed synoptic treatment of the plant and animal kingdom that has been so earnestly advocated by T. K. Just of the Chicago Museum of Natural History before the National Science Foundation and elsewhere.

It is to be sincerely hoped that this is but the forerunner of a series of papers that, in time, will encompass, at least, the remaining genera of the Crustacea Decapoda.

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**Medical Research: a Midcentury Survey.** vol. I. *American Medical Research: In Principle and Practice.* xxxii + 765 pp. vol. II. *Unsolved Clinical Problems: In Biological Perspective.* xxxii + 740 pp. American Foundation, New York, 1955. \$15.

When a book fits no standard pattern, it is perhaps the reviewer's first duty to say what sort of book it is. The answer would be that this is a book of essays discussing medical research from every angle: scope, where done, support, objectives, and problems. They are good essays, not to be read at a sitting but to be savored of an evening. They are the product of 15 years of thought and compilation by Esther Everett Lape and her staff in the American Foundation, aided by consultants who included several Nobel laureates.

The thesis of the volumes is that medical progress comes through research and that, in the main, fundamental research at basic levels precedes clinical applications.

The first volume starts with and stresses medical research as related to biological, chemical, physical, and mathematical science. It goes on to a series of philosophical discussions of the meaning of research and to means of financing research, with particular reference to the influence of government. Then comes the principal section on the agencies that conduct research: universities, their medical schools, foundations, and institutes. This is really fascinating reading because of the illustrative detail from many institutions. Finally, there is a section on official and unofficial standardizing agencies and patent policies. One can pick nearly any subject in medical research, or in fact in medical education, and find it discussed in different settings through the various chapters. I cite the following examples of discussions on the problem of medical faculties and their teaching and service loads:

"The principle of full-time men as

heads of preclinical departments is everywhere accepted. In clinical departments, a major obstacle to full time has been the great disparity between a full-time salary and the amount a part-time clinical teacher can earn from private practice—according to some reports, from five to ten times the amount received for teaching. Yet of the value of full time in clinical as well as in preclinical departments there has been significant evidence. In one academic council debating whether or not to continue full time, a dean testified that by virtue of the full-time system the clinical departments of that school had become, in the broadest sense, university departments, carrying on teaching and research together, in accordance with graduate school standards" (p. 123). "Among dangers . . . in the practice of medicine by faculty members as a source of income for the medical schools is the possibility that the faculty may be selected on the basis of earning rather than of teaching capacity" (p. 153). ". . . all such arrangements simply put the medical school in the position of operating a business and sharing in the income; or of making the men who earn the income contribute to their own salaries or to the support of their departments. . . . All service beyond that necessary for teaching and research [is] alien to the primary function of education" (p. 272).

On the other hand, Phemister (University of Chicago) was quoted, ". . . under existing economic and social conditions in the United States, the most promising way of gradually placing education in clinical medicine on a uniform basis of organization and on an educational level that most nearly approximates the educational level of other university departments appears to be by the employment of full-time group practice for the clinical department of the medical school" (p. 272).

On university relationships, the following may be cited: "However remarkable the developments for enriching and enlarging observation outside the hospital, medical education designed to produce practicing physicians is not likely to dispense with the hospital . . . [but] there are those that would stress the need of drawing the medical school closer to the university for the stimulus and sustenance medical progress derives from biology, genetics, animal husbandry, chemistry, physics, psychology, anthropology. Medical schools today are, on the whole, better described as attached to rather than integrated with universities. The growing volume and significance of the contribution to medical research from non-medical university divisions and the advantages in the scientific training procurable in many of these divisions have prompted some to ask whether the urgent present need may not be a bold experi-