

courses, despite the obvious differences in the audiences. Schriever places before us the question whether science teaching can have any goals other than familiarity with certain technical information. This question is being faced squarely by all those concerned with the part science might play in general education. Both collegiate and secondary school science teachers must continue to explore what might be done and struggle to develop reasonably effective methods to accomplish their goals, for this effort is part of the moral obligation undertaken by everyone who becomes a teacher.

Many strains and some pangs develop during the teacher's reorientation from a high valuation of scientific knowledge per se to some broader picture of how science instruction may reveal the scientist as a person working within the philosophical bounds of his culture, afflicted with prejudices, juggling inadequate and confusing data in an effort to create a bit

of order among the multitudinous events in the world around him. Furthermore, our students must recognize the ways by which scientific discoveries and inventions are developed through technology for social good or ill. That the strains are severe is apparent from reactions to some of J. B. Conant's publications, which some contend are "not real science." To many scientists "real science" is embodied in their present courses, which stress technical information. To escape from the problem by such self-congratulation is no solution. Sincere and thoughtful consideration of what may be accomplished through science instruction could result in constructive changes in course objectives and procedures. Despite a growing number of publications and courses illustrating possible changes, ultimately course orientation rests with the individual teacher and his view of his responsibility.

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## Book Reviews

*Cowdry's Problems of Ageing: Biological and Medical Aspects.* 3rd ed. Albert I. Lansing, Ed. Baltimore: Williams & Wilkins, 1952. 1061 pp. \$15.00.

The first two editions of this book were published in 1939 and 1942. The present edition, under the able editorship of Professor Lansing, of the Department of Anatomy, Washington University School of Medicine, has undergone such extensive revision that it is practically a new book.

The volume is divided into three sections: "Biological and Cellular Problems of Aging," "Clinical and Organic Problems of Aging," and "Social and Economic Problems of Aging." Of these, the second section, of 742 pages, accounts for the major content of the volume. Unfortunately, of the 47 contributors, only 6 or 7 are actually practicing clinicians. Thus the claim in the subtitle that this volume presents the "medical" aspects is not fully justified. Most of the discussions in this section are essentially considerations of the anatomical and physiological changes observed in senescence and senility. As a basic foundation for geriatric medicine this material is most valuable.

The last section, dealing with the social and economic problems of an aging population, is decidedly sketchy; the four chapters merely scratch the surface of this immensely significant area of gerontology. The omission of any comprehensive discussion of the psychological, including both intellectual and emotional, aspects of aging is most unfortunate. Not only is there no consideration of the changes associated with so-called normal aging, but the section devoted to the psychiatric aspects of aging is but 1½ pages!

What material is presented is invaluable to students

and investigators of the complex and urgent problems of gerontology. The volume sins by omission of significant material rather than by commission. A minor but annoying editorial defect is that there is no consistency in the spelling of the oft-recurring word "aging." Even in the text of a single chapter it is sometimes spelled with an "e" and sometimes without.

Typography, illustrations, and binding are excellent, and a great improvement over the bulky second edition. The editor is to be congratulated for the comprehensiveness of the subject matter included. It is not an easy task to bring up to date a book "inherited" from a previous editor and to modify it without destroying the original scheme. If the present volume were to be limited solely to the biology of aging change, the reviewer's praise would be unstinted. As it is, the plan to encompass all the three major aspects of gerontology (the biology of senescence, geriatric medicine, and sociologic gerontology) falls short of the promise in the title. As a reference book, however, this volume should be on the shelf of every serious student of human aging.

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*Antennas: Theory and Practice.* Sergei A. Schelkunoff and Harald T. Friis. New York: Wiley; London: Chapman & Hall, 1952. 639 pp. \$10.00.

Most recent books on antennas have been written primarily either for the practicing engineer with a good deal of experience in radio techniques, or for the advanced research worker with a considerable mathematical background. The present text is written primarily for the student and gives him not only an excellent description of current antenna practice but