which are much more extensive than those in most texts at this level. A brief treatment of sets and set notation is relegated to the appendix because it is really not essential to the development of the text.

The author introduces terminology consistent with modern curricular developments but at times appears to find their use somewhat cumbersome. For example, a function is defined early in the text as a special subset of the real Cartesian plane, but the author quickly points out that "equations" will, at times, be referred to as "functions," although such usage is not in strict conformance with the stated definition. The concepts of "variable" and "solution set" are introduced, but "unknown" occasionally slips into the writing.

The style of exposition is clear and concise, and the exercise sets contain many problems of a nonroutine nature. In fact, instructors should emphasize that many of the exercises are critical to the text development and very important for later study of the calculus. The author has made a fine selection of topics that need emphasis prior to a course in the calculus, and he seems to have developed his writing in a style which should be understandable by the intended audience.

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Second International Pharmacological Meeting

Drugs and Enzymes (Pergamon, New York, 1965. 516 pp., $15), edited by Bernard B. Brodie and James R. Gillette, presents a valuable record of symposia held in 1963. The discussions by many of the speakers, most of them authorities of world renown, were so filled with solid facts and sound speculations that much of the volume is stimulating reading today and an important reference for research worker, graduate student, and teacher, despite subsequent research in most of the areas. A thorough reading should greatly increase the sophistication in the approach of the pharmacologist who is trying to relate his observations to possible cause-and-effect involvement of enzymes.

The first section contains 20 papers on the relationship between biochemical effects of drugs in vitro and their pharmacological action in vivo. Brodie's introduction points up important considerations not recognized in the past and not always clear to investigators today. However, it does not make clear that tentative proposals about where a drug may act are determined to a significant degree by the methods of study available or being used at any given time. The net influences of reversible binding are considered in great detail by Gillette, some in detail unnecessary for the more sophisticated but perhaps important for neophytes. McIlwain's discussion of ion movements in the nervous system seems dated, but Repke's discussion of the cardiac glycosides and membrane ATPase is excellent. Greengaard and Giacobini's reports on the relation of metabolism to activity in nerve tissue are valuable. Bacq and Liebecq present a long and complete consideration of radio-protective materials. Spector summarizes the ramifications that result from monoamine oxidase inhibition. The detailed analysis of carbonic anhydrase inhibitors (by Wirz, Maren, and Wistrand) illustrates so clearly the depth of understanding that we must have before we can with certainty ascribe physiological effects to an observed effect on an enzyme.

The second section contains an important and timely series of 21 discussions of the biochemical mechanisms of drug toxicity. The rapid increase in our appreciation of hereditary factors in individual variation and what it does to the "normal distribution" and "average dose" is discussed by Kalow and Netter, while Fouts, Conney, and Remmer present an extensive discussion of the adaptive changes in drug metabolizing systems and how they affect individual responses. Axelrod, Adler, and Williams thoroughly cover the conversion of substances to active drugs and to more toxic products. The papers by Horning, Poggi, and Heimberg give an extremely valuable summary of the mechanisms by which CCl_4 and certain other substances influence liver lipids. This work has added significantly to our knowledge of normal lipid-transport processes. The cumulative effects of reserpine on the pituitary-adrenal system, drugs causing porphyria, and a very detailed discussion of photosensitivity to drugs are also included. The great problem in determining the biochemical mechanism when a drug, such as thalidomide, is converted to 12 metabolic products is carefully outlined by Faigle and others.

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An Introduction to Genetics

Faced with two more books on the history and significance of genetics, a reviewer cannot help but ask, "Is this book necessary?" With several excellent books of this sort already at hand, a new entry into the field should justify its existence either by unusual excellence or by unique qualities.

F. A. E. Crew's **The Foundations of Genetics** [Pergamon Press, New York, 1966. 202 pp., $3.75 (paper)] covers familiar ground, from plant hybridization before Mendel to the human implications of genetics. It is almost entirely concerned with transmission genetics; less than 4 percent of the book is devoted to molecular genetics. There are 20 portraits of prominent geneticists, only two of whom are still alive (and both have retired). Within this framework, Crew's book is a good, though not inspiring, work. It might be useful to a student who wanted to review the development of genetics to 1953, but the general reader is not likely to find the book of much interest.

Broadly the same ground is covered in **The Language of Life** [Doubleday, Garden City, N.Y., 1966. 256 pp., $5.95] by George Beadle and Muriel Beadle—but in a completely different manner. To begin with, it is a rare example of a book that is consistently addressed to the same audience throughout—the ignorant but intelligent layman. The authors are unusually suited to the task they undertake, one being a Nobel laureate in genetics, and the other a former newspaper woman. As they explain in the foreword: "The writing was done by Muriel, who is not a scientist; in fact, until she attempted this book, she had learned only enough jargon to know that geneticists who refer to their children as F_1's are describing them quite precisely—if in scientific shorthand—as 'first generation hybrids.' The theory behind our collaboration, therefore, was that if George could explain genetics in terms simple enough for Muriel to grasp, *anybody* could understand it. It was our hope, initially, that we could