[Interscience (Wiley), New York, 1965. 267 pp., $6.75], K. W. Bentley considers the basic chemistry, and within each group the structural interrelationships, of imidazole, quinazoline, pyrrolizidine, amaryllidaceae, steroid, lycopodium, and diterpene alkaloids. More recent advances in the chemistry of the indole group are also outlined.

A volume that was published almost simultaneously, volume 8 of R. H. F. Manske's series, *The Indole Alkaloids* [reviewed in *Science* **151**, 317 (1966)] covers much of the same ground as Bentley's book. However, despite this overlap, the second part of *The Alkaloids* is a most welcome addition to the pedagogical armamentarium in alkaloid chemistry, particularly because, in this part as in part 1, the author strikes to the heart of the degradative and synthetic stages which were employed in the structural determinations of these natural products. This book will therefore be most useful to graduate students in chemistry, to biochemists, and to other nonspecialists in the art of alkaloid chemistry who wish to obtain a rapid insight into the structures and reactions of representative members of the foregoing groups. In conjunction with this clear and purposely nondetailed delineation of alkaloid chemistry, hand-drawn formulas are used throughout the book. This unusual presentation, which was also used in the previously published volumes of this particular series, makes the assimilation of natural-product chemistry much easier and actually prolongs the attention-span of the reader.

A final chapter, concerned with the biogenesis of alkaloids, completes the text. The author continues largely to ignore the considerable body of isotopic tracer work that has been carried out. Hence this chapter looms as a disappointment to the chemist who is seeking a résumé of this field. Fundamental experimental studies on gramine, ajmaline, ibogaine, and morphine biosynthesis from smaller labeled precursors, and the polyacetate route to coniine, for example, are excluded in favor of considerable "graphite-cellulose" chemistry with formaldehyde, prephenic acid, dopa, and tryptophan. Thus, the opportunity to modernize the Schöpf-Robinson approach of the comparable chapter of part 1 has been missed, and the content of this particular chapter mars an otherwise excellent up-to-date teaching text.

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Wheat: A Comprehensive Treatment

Wheat: Botany, Cultivation, and Utilization [Leonard Hill, London; Interscience (Wiley), New York, 1965. 448 pp., $16], by R. F. Peterson, covers almost everything having to do with wheat. To do this in fewer than 400 pages of actual text is no small achievement, considering the fact that wheat is, with the possible exception of rice, the most important plant in the world. Of necessity the coverage is not exhaustive, but it is adequate.

To understand the botanical portion, which includes taxonomy, morphology, physiology, cytology, genetics, and evolution, the reader is not required to have a background in botany. The author even explains what chromosomes and genes are and how radiocarbon dating is accomplished. Although emphasis is placed on recent findings, a conservative viewpoint is maintained. For example, the still controversial proposal to include all the wheats in just three species, according to chromosome number, is discussed favorably but not followed. I noted only one significant error—the speltoid effect is attributed to the gene *Q* rather than to its allele *q* and the locus is assigned to chromosome 5D instead of to 5A.

In the section on production (including also diseases and breeding), the types and varieties of wheat, the methods of production, and the conditions affecting production are given for all the wheat-growing countries of the world. In an interesting aside, the author discusses Lysenkoism and the detrimental effect it has had on wheat breeding in Russia.

Under utilization are treated storage, nutritional aspects, milling, and marketing. As in the other sections, there are many excellent illustrations, mostly photographs, well chosen and well reproduced. A concluding chapter very briefly summarizes the book and calls attention to the anomaly of bothersome wheat surpluses in some countries and hungry people in others, with suggestions for alleviating this unhappy situation.

This book is well organized, well written, and authoritative. It should be of value to general readers and students, and particularly to wheat specialists who wish to round out their knowledge of the plant with which they work.

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Cultural Anthropology

The 24 essays collected in **Culture and Society** (University of Pittsburgh Press, Pittsburgh, Pa., 1965. 388 pp., $7), by George Peter Murdock, are a distillate of the research and theory of a major figure in contemporary American anthropology. Trained initially as a sociologist in the Sumner-Keller tradition at Yale, Murdock brought to anthropology a strong commitment to the comparative method, an insatiable curiosity about the wide range of patterned human behavior, and a keen sense of problem. The articles presented here evidence these characteristics and, perhaps even more, the theoretical stimulation achieved through the author's participation in the interdisciplinary atmosphere of the Yale Institute of Human Relations. As a consequence of the latter experience, Murdock came to consider himself a behavioral scientist with a specialization in anthropology; this orientation is reflected in much of his research on social organization and the dynamics of culture change.

The six sections into which the book is divided provide a roughly accurate classification of the problem areas of concern to the author. The sections are Anthropology and its Sister Disciplines; The Nature of Culture; Dynamics of Cultural Change; Social Organization; Religion, Ceremonial, and Recreation; and Cross-Cultural Comparison. A partial list of the topics discussed in particular papers illustrates Murdock's breadth of interest: waging baseball on Truk; anthropology and public health; political moieties among southeastern American Indians and North African Berbers and in modern democratic states; universal features of culture;

Haida rank and potlatch; cultural evolution; and cross-language parallels in parental kin terms.

Many of the reprinted papers are widely known among anthropologists; there is space to comment on only a few specific contributions. A recent study of Tenino shamanism exemplifies the author's sensitivity to ethnographic problems. Murdock saw that there was a discrepancy between the usual stereotype of the shaman as a neurotic witch doctor and the upright, responsible character of his Tenino shaman informant. Convinced that personal characteristics such as honesty, responsibility, and judgment were typical of shamans in this culture, he sought an explanation for the apparent anomaly in other customs. Two features were particularly significant: (i) the selection process whereby neophyte shamans were examined by established practitioners and unstable candidates eliminated; (ii) the part played by shamans in social control through the practice of in-group sorcery, which served a judicial function among the loosely organized Tenino. The author's long interest in the clarification of concepts in the field of social organization is well represented by one paper, "Cognatic forms of social organization" (1960), where refractory problems in the analysis of non-unilineal descent are reassessed, and an important typology of cognatic systems developed.

The problem of family and marital instability in non-European cultures offers Murdock an opportunity to demonstrate the efficiency of the Human Relations Area Files for cross-cultural comparison. In an incredibly short time, a sample of 40 representative cultures was assembled from the file, data on divorce was analyzed, and a paper was prepared for publication. In addition to documenting cultural extremes in divorce practices (from no permissible divorce among Inca to a premium on brittle marriage among Crow Indians), the author explodes the myth of the "oppressed aboriginal woman," for she has rights with respect to divorce equal to those of her husband in most societies; and he shows that the incidence of divorce in the United States is not alarming when viewed in the context of the incidence in other, presumably stable, societies.

The book contains only one article that has not been published previously; in that article Murdock attacks the concept of cultural relativity with his customary vigor. Rejecting both the "sentimental" formulations of Herskovits ("that all cultures must be accorded equal 'dignity' and equal 'validity,'" p. 146) and the more "hard-boiled" version of Sumner, he proposes an attempt to salvage the concept by means of research anchored in established principles of culture change. Scientific exploration of the choices people actually make when there is an opportunity for decision may yield valid measures of "the adaptive value and satisfaction-yielding quality of different ways of life and their component elements" (p. 150).

Readers need not agree with the theoretical stance espoused in these papers to find stimulation and value in them. Dealing with theoretical and methodological issues, Murdock is forthright and often convincing; in controversy, he is a doughty antagonist. The hortatory tone that obtrudes in some essays is, perhaps, not unbecoming in one who has devoted himself so wholeheartedly to making anthropology a science.

Alexander Spoehr, a colleague at the University of Pittsburgh, has written an appreciative foreword. Brief introductory comments by Murdock help to place each essay in perspective, and there is an informative autobiographical sketch.

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History of Medicine

Malaria in Vietnam and epidemic cerebrospinal meningitis in American army camps at home remind us that the battle against the microbial agents of disease is another human conflict that is far from won. In fact, the war against disease is perhaps man's most ancient struggle.

In straightforward prose, P. E. Baldry, the author of this book, **The Battle Against Bacteria** [Cambridge University Press, New York, 1965. 112 pp., $1.95 (paper); $4.50 (cloth)], tells the story of man's early attempts to deal with epidemic diseases, of Antony van Leeuwenhoek's discovery of microbes in 1676, and of the establishment of a causal relationship between bacteria and disease, 200 years later, through the efforts of Robert Koch, Louis Pasteur, Joseph Lister, and others too numerous to mention here.

This part of the story is told in 26 pages of adequate but well-compressed text. The rest of the book is devoted to an account of the discovery of defensive measures, especially chemotherapeutic agents and antibiotics. In the final chapter Baldry, who is an English physician, points out that, although many infectious diseases have been brought under control, the battle is far from won because drug-resistant germs continue to crop up and thereby force us to develop new and more potent drugs. Furthermore, the conquest of many infectious diseases has contributed greatly to the population explosion, resulting in far-reaching and complex social problems, thus giving these victories a Pyrrhic aspect.

This is a nice little book, and the availability of the paperback edition affords it a good chance of reaching the wider audience that it deserves.

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Modern Biology

The primary aim of L. L. Langley, the author of **Homeostasis** (Reinhold, New York, 1965. 126 pp., $1.95), is to present the concept of homeostasis to undergraduate students of biology. In this he succeeds.

A number of examples of homeostatic mechanisms are presented. These examples vary in effectiveness. The chapters on blood pressure, respiration, and body fluid are, on the whole, well done. The remaining chapters could be improved.

The preface states this is not a text in physiology. Complete coverage is therefore unnecessary. The chapter on hormones, for example, discusses the control of menstruation far too briefly to provide real understanding for the uninitiated. The chapter would be much more effective if the control of one endocrine gland were discussed in depth. As presented, the endocrine system is comprehensively reviewed but in a manner so abbreviated that it is difficult to understand.

Because temperature control involves several organ systems, it would be advantageous to present it later in the volume. With this exception, the principal defect in this chapter is the failure to provide a clear treatment