chances of missing pertinent sections.

The results of a second test, a search for analogies to unusual reactions encountered or suspected in research, were less rewarding for the following reasons: (i) the lack of a reagent index made the search a little awkward and, probably, incomplete; and (ii) the organization of the chapters made it difficult to find reactions that gave rise to unexpected products, if, indeed, such reactions are provided in the book.

The value of the book to the "literature browser" is mixed. Although it is certainly less time consuming to browse through Djerassi's book than through the steroid literature in search of stimulating problems, some may prefer to spend their browsing time on something less rarefied than 600 pages of structural formulas. With respect to this, it should also be noted that much of the material seems to be trivial—for example, the multitude of nearly identical reactions of peracids with olefins. Djerassi commented on this intentional nonselectivity in his preface and suggested a more selective companion volume, with more discussion. I would welcome such a volume.

I noted a few misprints: for example, on page 464, structural formula 45 should be an epoxide, not a tetrahydrofuran; on the last two lines of page 539, the numbers 344, 345, 509, and 514 should be 347, 348, 512, and 517, respectively.

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Experimental Biology

Biological Receptor Mechanisms. Symposia of the Society for Experimental Biology, No. 16. J. W. L. Beament, Ed. Academic Press, New York, 1962. viii + 372 pp. Illus. $13.

This volume, a typical symposium publication, is composed of the papers presented at meetings held at Birmingham, England, in September 1961. An unusual feature is that the receptor mechanisms discussed include those of plants as well as those of animals, a welcome contribution toward reunion of fractionated biology.

The contributors were invited to deal with any "mechanisms whereby living organisms transform or transduce the information in their environment into that form to which they respond internally." Obviously, no single volume of this size could cover so vast a field; only scattered aspects are considered.

Papers on photoreception occupy about half of the book: functional anatomy of the vertebrate retina is considered in two papers (by W. A. H. Rushton and by G. Wald, P. K. Brown, and I. R. Gibbons); photoreception in arthropods, in three papers—electrophysiological explorations of the resolving power (by E. T. Burtt and W. T. Catton), spectral sensitivity of the compound eyes of three species of insects (by D. Burkhardt), and a study of the optical properties of the compound eyes of various arthropods (by J. W. Kuiper); and two papers deal with nonphotosynthetic effects of light—on higher plants (by O. V. S. Heath and D. Vince) and on fungi (by C. T. Ingold). The utilization of light in photosynthesis is considered by C. P. Whittingham.

There are only two papers on chemoreception: one presents a theory of olfaction (by J. T. Davies) and the other describes mostly electrophysiological studies on the chemoreception of flies (by V. G. Dethier). The papers that follow are on various subjects: gravity receptors of plants (by L. J. Audus); electrical receptors of fish (by K. E. Machin); temperature receptors of animals (by R. W. Murray); external and internal hearing in man (by G. v. Békésy); transduction in the vertebrate labyrinth (by D. E. W. Trincker); and mammalian mechanoreceptors (by D. R. Inman).

There is a short discussion of coding in receptor cells (by J. A. B. Gray), a prologue on the input element (by J. W. S. Pringle), and a brief epilogue (by O. Lowenstein). Each article has a bibliography; the author and subject indexes are adequate. The book is neatly produced, and the illustrations are excellent.

The papers, in most cases, are well-written reviews of recent work, usually with individual research results of variable novelty. In this volume, as in most symposium volumes, no integrated picture of the field emerges. If one is interested in the particular aspects covered, or is looking for short reviews of selected topics in the general field, this book should be stimulating and helpful.

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Desalinization

Saline Water Conversion–II. Based on symposia sponsored by the American Chemical Society. Robert F. Gould, Ed. American Chemical Society, Washington, D.C., 1963. x + 199 pp. Illus. Paper, $6.

The field of water desalinization is in a period of extremely rapid growth. Work is being carried out in diverse locations and under many different authorities. This situation creates a problem with respect to the effective dissemination of information; for example, it is unlikely that any one author could turn out a comprehensive textbook, and, in any event, such a book would soon be outdated. For this reason, publishing collections of papers accomplishes a twofold purpose—development and design information from different projects is made available for general consumption, and the group of papers serves to give a detailed overview of the present status of the field.

This volume contains 14 papers originally presented at meetings of the American Chemical Society—at St. Louis in 1961 and at Washington in 1962. Several of the papers are valuable reviews of specific desalinization techniques; most of the others are concerned with design and pilot plant data rather than with the results of more basic research. By far the most coverage is accorded to processes based on distillation and electrodialysis, the two schemes which are currently the most favored and for which the techniques are most developed. Eight papers deal with distillation; among these papers there is an excellent review of the field by B. F. Dodge, a series of four papers that deal directly with problems of scale formation, and discussions of newer techniques, such as thin-film distillation and the diffusion still. Electrodialysis is treated in four papers that deal primarily with plant design and economics. Still another paper covers osmotic membranes.

Unfortunately solidification processes (freezing and hydrate formation) are treated in only one paper—the paper that deals with thermodynamic properties of two fluorocarbon hydrating agents. Still, this compendium represents a valuable survey of the present status of the field of water desalinization.

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