Book Reviews

The Dancing Bees. An account of the life and senses of the honeybee. Karl von Frisch. Harcourt, Brace, New York, 1955. xiv + 183 pp. Illus. + plates. $4.

This book is a translation of the 1953 edition of von Frisch's *Aus dem Leben der Bienen*. It includes much fine material not previously available in a comparable context in the English language. The translation is excellent, having been made by Dora Ilse of the University of Poona, India, one of von Frisch's students and herself a student of bees. The style is easy and such technical terms as are used are fully explained.

The first 40 pages, approximately, contain descriptions, with adequate illustrations, of the major features of the life-history and structure of honeybees. Such chapter titles as "The brood" and "The swarm" indicate the type of material contained in this section of the book. The next 100 pages are the heart of the book, containing a fine account of the work for which von Frisch has become famous. Such topics as the chemical senses, vision, orientation, and communication of bees are very interestingly discussed. The accounts of the dances concerned with communication are as excellent as could be expected. The last part of the book consists of miscellaneous short chapters on such matters as enemies and diseases of bees and other insect communities. Some of these chapters are so brief that they might better have been omitted.

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Elements of Servomechanism Theory. George J. Thaler. McGraw-Hill, New York–London, 1955. x + 282 pp. Illus. $7.50.

This volume is planned as a textbook for a one-semester undergraduate course in servomechanisms. Operational calculus is avoided, and frequency-response methods are emphasized, in both polar and logarithmic form. Familiarity with differential equations is assumed. Of the 10 chapters intended for the course, seven have problems for assignment to students. The student's grasp of the material will be easier if he has had some network theory. Indeed, many of the problems assume such background.

The author uses the problems to instruct the student in the field of carrier frequency servos and the compensation of such systems. This is questionable procedure: a few paragraphs on that subject would help even the brightest student. For instance (problem 4-3), the equation of a loaded parallel "T" network, with source impedance included, is a tedious derivation, and the mere instruction to "Derive appropriate transfer function" will probably not produce the form that is most instructive.

It is quite apparent that the material in the book has been used in actual classroom practice. The presentation is elementary, patient, and thorough. An interested college student should be able to follow the material easily. The book should fill the existing need for an elementary college textbook and should find wide use in the courses that are being set up in many schools.

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Biology of Deserts. J. W. Cloudsley-Thompson, Ed. Institute of Biology, London, 1954. iv + 224 pp. Illus. 14s.

With increasing problems arising from world overpopulation, attention of scientists in various lines is turning to interdisciplinary study of marginal regions, particularly deserts, and their possibilities for occupation and exploitation, as was exemplified by the recent International Arid Lands Meeting in New Mexico, at Albuquerque and Socorro, 26 April–4 May [*Science* **121**, 659; **122**, 61 (1955)], and by the earlier symposium whose proceedings are published in this report—a conference on "The biology and productivity of hot and cold deserts," held in London, 25–27 September 1952, organized by the Institute of Biology and supported in part, as was the recent New Mexico gathering, by UNESCO funds.

Five topics were covered in the several sessions of the conference, as follows (the number of papers for each is given in parentheses): "Climate and physical environment" (4); "Plant ecology" (6); "Entomology and ecology" (5); "Economic aspects" (4); "Mammalian physiology and ecology" (9). Six pages of discussions are also included.

The second half of the last subject (4 papers) is concerned with adaptability of one particular mammal, our own species. The conclusion is indicated that men of various races can, with proper precautions, live and work in hot arid country and in cold environments as well as in the humid tropics.

The four papers listed under "Economic aspects" deal with man-made deserts, desiccation caused by deforestation, cultivation, burning and overgrazing, and programs for halting the march of the deserts. Discussions of insects and of plant diseases are also particularly good to have.

These, and the other, general and biological, papers are all interesting and valuable, forming a most important compilation.

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Solubilization and Related Phenomena. M. E. Laing McBain and E. Hutchinson. Academic Press, New York, 1955. ix + 259 pp. Illus. $7.50.

Although our factual knowledge of the theoretically and practically important subject of solubilization has vastly increased during the last decade, it is still impossible to give an exact interpretation of the experimental results. The main reason is that knowledge of the intimate structure of micelles is lacking. This situation has led to many ad hoc interpretations of the experimental data.

Evidently there is a great need for a book on solubilization which summarizes systematically all experimental data and discusses the interpretations in a fair and critical way. McBain and Hutchinson have succeeded admirably in providing us with such a book, and it will be of great service to anyone interested in the subject.

After a concise treatment of the historical developments in Chapter I there is a brief description of solubilization as a sorption phenomenon in Chapter II. This is followed by a concise chapter dealing with the thermodynamic properties of solutions of colloidal electrolytes. Extremely valuable is the long Chapter IV (more than 100 pages), which summarizes and discusses in a systematic way the host of experimental data found in the literature. Many clear graphs facilitate the reading of this factual chapter. The various views dealing with the mechanism of solubilization are discussed in Chapter V. Phenomena related to solubilization as cosolvency, blending, and hydrotropy are presented in Chapter