with the cations but depend to a large extent on the three-dimensional structures of the whole molecules. There are numerous, mostly very clear, line-drawings of the structures and a few less successful half-tone pictures of space-filling models. The reasons for the ion-selectivity of the various compounds is discussed in some detail.

A brief chapter on the applications of macrocyclic complexones in chemistry and technology points out the possibilities of using them in the selective extraction of alkali and alkaline earth metal salts and the solubilization of these salts in weakly polar media, of interest in a number of chemical syntheses. To biochemists the most directly interesting chapters are those devoted to the actions of complexones on artificial and natural membranes and to their other biological properties. These review the large amount of experimental work that has been done with metal ion-complexing antibiotics and the insights it has given into the nature and working of mitochondrial, red-cell, bacterial and other membranes and into the energy-linked processes that occur in many of them.

The book is well written and has cohesion and perspective. The subject index is very good. It will surely prove invaluable to chemists and biochemists for a long time to come. The translation by G. Peck is felicitous.

S. P. Datta

*The Phagocytic Cell in Host Resistance*

Edited by J. A. Bellanti and D. H. Dayton
North-Holland Publishing Co.; Amsterdam, Raven Press; New York, 1975
xv + 348 pages. Dfl 65.00; $ 24.95

This volume represents the proceedings of a Conference held at Winter Park, Florida, in March, 1974. As befits a monograph sponsored by the National Institute of Child Health and Human Development, its central theme is the integration of current basic research findings on phagocytic cells into the clinical context of the ontogenic development of immunocompetence, and the pathogenesis of immunodeficiencies known to involve the phagocyte system. Thus, the conference included sessions on the physiology and biochemistry of mononuclear and polymorphonuclear phagocytes, the role of complement and lymphokines, and analyses of the current state of knowledge on the clinically defined defects of phagocyte function, such as chronic granulomatous disease. Appropriate attention is paid to the possible biochemical events accompanying chemotaxis, phagocytosis and intracellular destruction of microorganisms, e.g. the role of the peroxide-peroxidase-halide system, and of the superoxide anion in the microbicidal activity of polymorphs.

This is therefore a useful reference work both for research workers interested in phagocyte function, and for clinical specialists concerned with immunodeficiency states, especially since the literature on these areas is so widely spread. The emphasis of the conference inevitably leaned towards the pathophysiology of the polymorph, since most phagocyte-based immunodeficiences seem to involve granulocytes rather than macrophages. Indeed, in this light, this volume admirably complements a similar one just published, which is concerned primarily with macrophages (Mononuclear Phagocytes in Immunity, Infection and Pathology, R. van Furth, editor, Blackwell Scientific Publications, Oxford, England, 1975).

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