

The monosaccharide galactose provides a natural bridge between lipids and polysaccharides, since it is a common component both of plant glycerides and of pectins, gums and mucilages. Unlike the other two books under review, G. O. Aspinall's *Polysaccharides* does not aspire to be comprehensive; it is meant to be a general survey suitable for both students and interested research workers. There is perhaps a slight emphasis in the book on plant polysaccharides, but this does no more than reflect the research interests of the author. It is an excellent volume and should be very useful, for example, as a supplement to any teaching course in plant biochemistry. It should also be read more widely, since it provides within the compass of 200 odd pages an illuminating and spirited account of the variety of structural types found among these biologically important macromolecules.

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Salinity and Water Use: edited by T. TALSMA and J. R. PHILIP, Macmillan, London, 1971, 296 pp. £8.00.

IF WE wish to manipulate a land area subject to excessive saline input then we must know something about water movements in the area, both above and below ground and how this movement will effect the transport and deposition of salts. We cannot plant crops or graze animals in such an area, unless we know about the effect of salts on the soil and how these salts will affect the living organisms in the ecosystem. This book, which contains papers presented at a National Symposium on Hydrology, sponsored by the Australian Academy of Science, held on 2-4 November 1971, attempts to tell us how we should undertake the manipulation. The approach is more by principle than by precept, but that in itself should make the book attractive to scientists. The book certainly attempts to provide a total view of the subject, which is very much one requiring interdisciplinary attack if further knowledge is to be gained.

Ostensibly the papers are supposed to be understandable not only to fellow specialists but also members of other scientific disciplines. I found the book hard going. It suffers very much from the lack of a good introductory chapter which would set the scene and indicate to the reader what each paper contributes to a total understanding of the properties and utilization of saline soils. For instance, I am still at a loss to understand the real significance of the contribution of Denholm and Potter on the principles of metallic corrosion and its control in saline waters. I also do not understand why a contribution by MacFarlane talks about excessive salt uptake and is followed by one by Gage which is concerned with the classic story of sodium and membrane potentials, when he could have used the opportunity to indicate how excessive salt uptake affects nerve and muscle.

Indeed this book is just one more example of the unsatisfactory nature of published symposium papers. I would, therefore, recommend that only departments concerned with soil science should purchase it, for the very good (but fairly technical) papers, seven in number, on the nature and origin of salinity in soils and the chemistry and chemical and physical processes occurring in these soils. Specialists will find these papers valuable and I personally found the papers by Quirk, Phillip and Peck, on the physical chemistry of saline soils with special reference to their swelling and transport of salts very interesting. But I read them with a considerable amount of prior knowledge. Readers of *Phytochemistry* would gain benefit from the papers by Robinson on salinity and the whole plant, and by Campbell and Pitman on salinity and plant cells. In the former article, however, the effect of saline conditions on the water balance of plant gets little mention and the latter article

does not lay enough stress on the need to know how plant metabolism can become adapted to saline conditions. The fact that plants *can* grow on highly saline soils should be a challenge to us. I think it will be more valuable for planning the utilisation of saline soils to know how such plants as the shrubby species of *Atriplex* function than what happens to a mesophyte when it is subjected to salt stress.

Of the papers not so far mentioned, there are two on the nature and origin of salinity and three papers on the management of saline soils, but these relate mainly to the Australian situation.

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