

*Radiological Monitoring of the Environment* is arranged in two parts, the first containing the papers and the second the actual proceedings of the symposium. For most sessions, these comprise a rapporteur's account of a group of papers, followed by discussion. The book is well produced, but it is regrettable that its publication date is two years later than the date of the symposium.

L. BURKINSHAW

### Primary Photoprocesses in Biology

By J. B. Thomas. Pp. x+323. (Amsterdam: North-Holland Publishing Company; New York: Interscience Publishers, a Division of John Wiley and Sons, Inc., 1965.) 72s.

PROFESSOR THOMAS, who is professor of biophysics at the State University of Utrecht, has here written a careful survey of photobiological reactions. It begins with a clear, though necessarily brief, discussion of mechanisms of molecular excitation by light, energy and charge transfer in condensed systems, and the mechanisms of photochemical reaction.

After this introductory material, there is a detailed review of the pigments and light reactions in photosynthesis. This is the longest and most sophisticated section of the book, not surprising since here Professor Thomas deals with his own field.

There follow reasonably detailed and up-to-date reviews of the chemistry of vision, phototaxes and phototropisms, animal and plant, light effects on reproduction and development in animals and plants, and bioluminescence. All these subjects are discussed critically and with some insight, though, in covering so broad a range, the author when outside his own field is sometimes a little at the mercy of the literature, as in taking too seriously an alleged demonstration that rhodopsin is an ATPase (p. 163), or that illumination crumples the outer segments of rods (p. 195).

The treatment is comparative in so far as that is possible, the comparisons of similar processes in different organisms, animal and plant, providing one of the most stimulating features of the book. There is an excellent table of references through 1963. The style is for the most part clear and readable, with an occasional lapse from English that will not bother anyone ("dialization" for dialysis (p. 139); "luminicity" for luminosity (p. 201)). On the other hand, I doubt that Professor Thomas meant to say, on page 55, that "all known visual pigments are aldehydes of vitamin A", rather than saying that of their chromophores; or "certain salt-water species, for example the sea lamprey" (p. 158), when the point is that this cyclostome spawns in fresh water and can live there permanently, though capable of migrating to the sea as an adult.

Altogether this is an interesting and valuable book and, in addition to providing useful surveys for specialists making excursions outside their own fields, is well suited as a text to introduce students to photobiology.

G. WALD

### The Biology of Cancer

Edited by E. J. Ambrose and F. J. C. Roo. Pp. v+237. (London: D. Van Nostrand Company, Ltd.; Princeton, N.J.: D. Van Nostrand Company, Inc., 1966.) 60s.

THIS book is based on a course of lectures for science and medical graduates. It opens with a general chapter on cancer as a disease, followed by nine other chapters, on chromosomes, metabolic processes, surface properties of cells, invasive properties, tumour immunology, role of viruses, chemical carcinogenesis, chemotherapy, and a final chapter on "Future Strategy".

The authoritativeness of the book is ensured by the excellent collection of authors—Prof. P. C. Koller, Prof. J. Paul, Dr. G. C. Easty, Dr. P. Alexander, Dr. K. E. K.

Rowson, Dr. D. B. Clayson and Dr. J. A. Stock. The editors have contributed a chapter each and they have written the joint final chapter.

Apart from and above the great deal of valuable information presented, the editors and authors are to be congratulated on the eminent readability of the book. The material is laid out clearly and is treated lucidly. Each chapter is followed by a good select bibliography.

The one criticism which may be raised is the lack of a chapter on tumour cell population kinetics, a subject usually treated in radiobiological or radiotherapeutic publications. In a book on the biology of cancer, in which chemotherapy is discussed, it might have been appropriate to devote some space to cell population kinetics, even if—quite rightly—radiotherapy as such is not included. This is, however, a minor criticism of a very good book which should be of great value to biology graduates, medical students and practitioners alike.

L. G. LAJTHA

### Chemistry of Vegetable Tannins

By E. Haslam. Pp. viii+179. (London: Academic Press, Inc. (London), Ltd.; New York: Academic Press, Inc., 1966.) 47s. 6d.

THERE is a long felt need for a book of this kind, which gathers together the work on vegetable tannins in a concise form. The book is a fitting tribute to R. D. Haworth, to whom it is dedicated.

The introductory chapter gives a short account of the structure of collagen, leading on to a discussion of how the vegetable tannins react with collagen in the tanning process. This serves to put the subject in perspective, but the scope of the book is wider; it is valuable reading for anyone with a general interest in plant phenols. Plant phenols of low molecular weight, for instance, their structure and analysis, and the subject of lignin biosynthesis also receive adequate treatment.

Given a working knowledge of chromatographic methods, the newcomer to the subject should have no difficulty in starting laboratory work without recourse to the original references once he has read the sections on the isolation and identification of condensed and hydrolysable tannins.

The chemistry and structural determination of the hydrolysable tannins (thirty-three pages) and the condensed tannins (twenty-three pages) are dealt with meticulously. There is no bias towards Haslam's own school in Sheffield; the contributions of all workers are included in a balanced account, and no essential information has been omitted.

Many of the schemes of biosynthesis are still hypothetical, but again the account is well written and the reader's appetite is whetted for more research in this relatively new field.

THOMAS A. SCOTT

## OBITUARIES

### Prof. W. J. Tulloch

PROF. WILLIAM J. TULLOCH, who occupied the chair of bacteriology in the University of St. Andrews for just over 40 years, retired in 1962 and died on August 26 this year. The combination of a Scottish father and a Belgian mother blended to produce a man of singular ability, energy and charm.

His outstanding services as teacher, investigator, administrator and adviser of students and colleagues have already been emphasized elsewhere. Rather than try to draw up a catalogue of his numerous researches, I shall endeavour to give some account of the way in which two of his most important contributions were developed. In view of his background, it is not surprising that in the