

operations. Some significant reactions like the hydrocyanation and hydrosilylation of olefins are omitted and others are simply mentioned. However, the reactions that are included are discussed expertly and with sufficient detail to satisfy the reader who is just becoming acquainted with the field.

The book closes with analysis of research trends in homogeneous catalysis. Nitrogen fixation, C-H bond activation and CO hydrogenation are cited as well-studied areas in which the crucial discoveries have yet to be made. Other topics such as bimetallic catalysis are suggested as profitable areas for research.

*Homogeneous Transition-metal Catalysis* will probably be used largely as a reference or introductory text for the

industrial chemist working in this field. It may also be used in teaching graduate-level courses in catalysis or organometallic chemistry. The emphasis on understanding and on research should appeal to the student.

Dr Masters has succeeded nicely in his objective to convey enthusiasm for homogeneous catalysis. It is a dynamic subject from both scientific and practical viewpoints and this emerges clearly from the text. The reader should be both stimulated and informed by perusal of this book. □

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colleagues and consultants. Written by a single author, the book's structure and style are unified and integrated to a degree that multi-author publications rarely achieve.

Brown divides his subject matter into 12 chapters, two of which form essentially the first half of the book and provide a systematic synopsis of African freshwater snails; two short chapters cover snail-borne parasites of medical and veterinary importance in Africa, and the remainder deal with ecological, physiological and biogeographical aspects of snail biology, stressing snail hosts of schistosomes and approaches to snail population control.

The synopsis of more than 300 gastropod species is efficiently and accurately presented, including carefully documented descriptions of morphological and ecological characteristics, plus (usefully) a brief statement of their parasitological importance as real or potential intermediate hosts. The text is thoroughly illustrated with 128 photographic plates, line drawings and distribution maps, all arranged to maximum advantage. Here, as in all chapters, a comprehensive, well-selected citation of literature stresses work done in Africa or on material of African origin; inclusion of a large number of contributions from publications in southern Africa will be of special interest to readers unfamiliar with the volume and quality of this body of literature.

The two chapters on snail-borne parasites of medical and veterinary importance concentrate on snail-parasite interrelationships. The account of snails and schistosomes is, justifiably, given prominence since the impact of schistosomiasis on human beings is so great, and because so much more data is available for discussion of this complex. One deficiency in this section is the omission of the human disease, heterophyosis (admittedly referred to in the systematic description of its snail host, *Pirenella*), in favour of veterinary parasites such as paramphistomes, and a *potentially occurring* human disease, angiostrongylosis. Overall, I felt that the parasitological section was disappointingly brief, seeming as it did to be included as a kind of (unnecessary) justification for the rest of the book.

The remaining six chapters on ecological, physiological and biogeographical aspects of African snails are excellent; particularly outstanding is that on the biology of the genus *Bulinus*, a subject of great complexity and interest to biomedical scientists. Completing the book are a unique appendix, in which major methods of field and laboratory studies of snails and parasites are presented, and taxonomic and general subject indexes; I found the latter extremely useful and accurate, and reflective of the general editorial excellence of the book.

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## Illumination on the light reactions

J. Barber

*Photosynthesis: Physical Mechanisms and Chemical Patterns.* By Roderick K. Clayton. Pp.275. ISBN hbk 0-521-22300-8; pbk ISBN 0-521-29443-6. (Cambridge University Press: 1981.) Hbk £17.50, \$32.50; pbk £6.95, \$11.95.

CONSISTENT with Roderick Clayton's outstanding talents as a scientist and author, I judge this, his latest book, as being first class. He has written a lucid and well-structured text which makes marvellous reading for the expert and also will satisfy the requirements of non-specialists and students. He achieves this, in part, by "digressions" and by giving background "notes" in an appendix. The overall effect is to pass on the excitement of an active scientist who, with the qualities of a talented teacher, instinctively takes the reader through logical developments calling on the basic laws of photophysics, photochemistry and thermodynamics wherever necessary.

From the title it is clear that Clayton has concentrated on the "light reactions" of photosynthesis and consequently has restricted his discussion of carbon fixation (the "dark reactions") to one short chapter at the end of the book. It is inevitable that in producing a modern text on the light reactions of photosynthesis he should not only deal with oxygen-evolving organisms, but also with photosynthetic bacteria. The book has been divided into four distinct parts, each consisting of several chapters. Part I gives a historical account which introduces the reader to the basic concepts of the light reactions, including the nature and properties of the pigments and the existence of different types of photosystems. Part II then concentrates on the organizational aspects, while Part III deals with the photochemistry and associated transfer of electrons and protons. Part IV

is concerned mainly with photophosphorylation. At the end of each chapter the author has listed a few selected references for further reading. Also, the background notes in the appendix cite other key work.

Without any hesitation, I thoroughly recommend this book to specialists and non-specialists alike who have an interest in the more biophysical aspects of photosynthesis, whether it be from the research or the teaching point of view. I also think that those working in other areas of photobiology may find much of the basic substance of the book useful. □

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## Medical malacology

Frank J. Etges

*Freshwater Snails of Africa and their Medical Importance.* By David S. Brown. Pp.487. ISBN 0-85066-145-5. (Taylor & Francis, London/American Malacologists Inc., Melbourne, Florida: 1980.) £25, \$55.

DAVID Brown is to be congratulated on writing an exceptionally fine treatise on the gastropod fauna of Africa, a reference book which will be set a standard of quality and content for many years. His stated goal of presenting a "comprehensive" account of this subject which will be of value to specialists and students of taxonomy, medical malacology and freshwater biology has surely been attained. This achievement is a tribute both to the broad experience of the author, and to the abilities of his many acknowledged