# Biogeography

*Plant Geography. (The Field of Geography)* By Martin C. Kellman. Pp. xv+135+12 plates. (Methuen: London, January 1975.) £3.20 boards; £1.50 paper.

*Terrestrial Environments. (Biology and Environments.)* By J. L. Cloudsley-Thompson. Pp. 253. (Croom Helm: London, March 1975.) £5.95 boards; £3.25 paper.

THESE two books represent very different approaches to the task of conveying to the student in a concise form some elementary introduction to the study of biogeography. When confronted with this task, an author may present an account of general principles, illustrated by carefully chosen examples, or he may prefer to document as much factual information as possible and then attempt to stimulate the student into the formulation of general concepts for himself. Both approaches have their dangers; the former may result in an unbalanced coverage, whereas the latter may be indigestible.

Kellman's book has an honest, if traditional, title. It describes and illustrates what the author regards as the more important principles of plant geography. He begins, very sensibly, with a consideration of those aspects of the environment which influence the geographical distribution of a species both at the continental and at the habitat and microhabitat level. The importance of scale in plant geographical study is thus emphasised very effectively. Plant mobility is then considered very briefly, but could have been more profitably fused with a later chapter on terrestrial vegetation history, which protrudes rather prominently from a very mixed section labelled 'Other themes in plant geography'.

Another chapter within the 'Other themes' section covers the ecosystem concept. It is very difficult for biogeography texts to avoid such a chapter in these days as systems analysis, along with multivariate statistical analyses, are currently regarded as a panacea by many biogeographers. I do feel, however, that the relevance of the concept to plant geographical studies could be conveyed more convincingly, perhaps in connection with human management of plant species and vegetation in general. A large, central section of the book deals with vegetation analysis from a practical point of view and is concerned chiefly with methods of the description of vegetation at the habitat level. Many books already exist which cover this subject in far greater detail.

*Plant Geography* is one of a series of university level geography texts which are designed to introduce modern developments in geographical studies and which market at a low price. Judging the book in this light and regarding it as lead towards more detailed and specialised literature, it can be considered a successful enterprise.

Cloudsley-Thompson's latest book illustrates the other approach to the transmission of biogeographical information. Its title, *Terrestrial Environments*, is trendy but misleading. It is a book about animal geography, so why not entitle it accordingly? The basic approach is encyclopaedic; the author deals with each of the major biomes in turn and provides an anecdotal, annotated list of the more interesting animals occurring within them, concentrating upon the vertebrates. Vegetation, particularly its structural aspects, is dealt with briefly and mainly from the point of view of climatic adaptation and its potential as a source of animal microhabitats.

As a botanist, I find much of the information fresh and interesting, but I wonder whether the author falls between two stools. The information-packed nature of the text, together with the fair sprinkling of unexplained technical jargon, make difficult reading. The information given is often lacking in depth and, in spite of the very extensive bibliography, is likely to leave the enquiring student somewhat dissatisfied. Given patience and a good library for supplementary reading, however, the book could be useful. The final chapters, on such biogeographical/ecological principles as successional developments of habitats and population regulation, do not deal at all adequately with these subjects. If the author's hope is that the student who has assimilated the text will be in a position to formulate his own concepts, I fear that I disagree with him. However educationally improper it may seem, I feel that the average undergraduate needs to be fed principle as well as fact, and that factual information needs careful selection and predigestion. The practical limitations of teaching time usually force such an attitude upon us. On the whole my sympathy lies with Kellman's approach.

**Peter D. Moore**

# Broad telescopic view

*The Astronomical Telescope.* By Boris V. Barlow. Pp. viii+213. (Wykeham: London and Winchester, January 1975.) £3.25 cloth; £2.50 paper.

THE large modern telescope is as much a product of engineering as optical science, so it is fitting that this excellent new book on telescopes has been written by B. V. Barlow, a mechanical engineer specialising in design specification. It has been written with the science student at universities and polytechnics in mind but it is an ideal introduction for any astronomer interested in the design and capabilities of optical telescopes. After an introduction to the history of the telescope and basic concepts in optics, image formation, interference and aberrations, the chapters deal with eyepieces, seeing and instrumental losses; telescope engineering, mirror production, mountings, tube and cell deflections and axis bearings; drive, time-keeping and computer control; ancillary equipment, spectrographs, image slicers, interferometers, photometers and bolometers; site selection and observatory buildings. There is a review of large telescopes, including the 200-inch Palomar, the Isaac Newton, the 60-inch infrared flux collector at Tenerife the Anglo-Australian, The AURA and the 6-m USSR. Extraterrestrial telescopes are also considered and Stratoscopes I and II, ESRO's ultraviolet telescope, and the NASA large space telescope are discussed. The book ends with a chapter on new developments in the use of telescopes. It is well indexed with a useful glossary and reference section and is profusely illustrated with photographs and line drawing.

The astronomy community has needed a book like this for a long time and Mr Barlow is to be congratulated on his excellent achievement.

**David W. Hughes**