particular, the book is very weak on the astronomy of China and other East Asian countries (and, incidentally, that of Babylon, another great civilization with a long astronomical tradition in the ancient world). Hence the scope is much narrower than might be expected in view of the title, the main emphasis being on Indian and Islamic astronomy.

The contents are somewhat loosely divided into three main sections: ancient astronomy and its characteristics; ancient elements and planetary models; and medieval astronomy. Also included are several papers on the uses of ancient observations in modern astronomy, a subject of increasing importance today.

Although most contributions are in the form of research papers, there are some sound review articles as well—notably by O. Pedersen (Greek astronomers and their neighbours) and V. N. Sharma (Astronomical efforts of Sawai Jai Singh). Specialist contributions, some of which are very brief, vary in quality from the decidedly mediocre to the outstanding. In the latter category must surely be included the paper by R. Mercier (the meridians of reference of Indian astronomical canons).

This book will provide a useful reference work for researchers in the history of Indian or Islamic astronomy. However, because of its rather specialized nature its circulation is likely to be very limited.—F. RICHARD STEPHENSON.


A recurring problem when comparing results from various studies is how significant are the differences. Do they represent real differences or are they merely artefacts of the analyses? Previous attempts to address this problem include the calculation of a standard solar flare for the Solar Maximum Mission workshops and a model atmosphere for the first Harvard–Smithsonian conference.

This workshop organized by the Ap-star working group of the IAU also investigates this problem. Approximately 15 groups of independent research workers were asked to reduce identical spectra of two Ap stars, calculate model atmospheres with given atmospheric parameters and then derive element abundances from selected spectral lines. The comparisons were encouraging with generally good agreement between the results obtained by the different participants. Equally important when discrepancies were discovered, it was normally possible to identify their causes.

This book will appeal principally to the experts in the analysis of Ap spectra (most of whom were no doubt present at the workshop!). For the rest of us, the sections most likely to appeal are those on the measurement of line strengths and the effects of noise, and on the reliability of the atomic data used in the model atmosphere analyses.—P. L. DUPTON.


From before history's dawn the Moon has fascinated mankind; until comparatively recent times it was never less than second in importance to the Sun in the awe and speculation it inspired by virtue of its unchanging enigmatic features and its cyclically-changing phase linked to the waters of the Earth, with new and full Moon drawing them into very high spring tides. Tally marks found on mammoth tusks may have been early researchers' attempts to discover periodicities in lunar phenomena. Even in recent times it has remained an important