BOOK REVIEWS

CALCULATING ASTRONOMERS


One cannot help, in looking at the pages and pages of Kepler's longhand calculations preserved in Vienna, wondering what Kepler might have accomplished if he had had today's pocket calculator. Frequently his procedures stumbled because he used only four-place accuracy in his trigonometric functions when the sensitivity of the solution demanded more.

Of course, the pocket calculator or personal computer alone is generally not quite enough, and that is where this group of books comes in. At various levels they can save an amateur or professional astronomer or historian of astronomy much time and frustration by providing basic procedures in lucid, simple form. Peter Duffet-Smith's various editions have dominated the field. His Practical astronomy with your calculator is very well laid out, complete with glossary and index, and it ranges from calculating the date of Easter to simple procedures for finding the lunar orbit and solar eclipses (good to about 15 minutes in time). Conversions of time and coordinates take up over a quarter of the volume.

Aubrey Jones's Mathematical astronomy with a pocket calculator is a more advanced book, with "the working astronomer" as its stated audience. Thus, its eighth problem is already concerned with ephemerides of comets. On the other hand, it spells out in much more detail the actual calculator keystrokes, shown