precise position to be calculated for the actual date in question, and many of the large professional catalogues give the appropriate precessional corrections, which are applied to the listed positions for a given epoch. This is a particular instant of time which is used as a reference point. In the case of star charts and atlases where constant redrafting is impossible, and where the changes usually take some considerable time to become apparent, the epochs are usually 50 years apart. These charts are therefore drawn for the epoch of 1950·0, that is 00·00 hours on January 1, 1950, and are similar to those used by most amateurs. It has been decided that from 1984 all calculations and preditions will be based upon the new epoch of 2000·0, and star charts drawn for this epoch are becoming available. As the constellation boundaries are defined, by international agreement, in terms of Right Ascension and Declination, the designated areas of the particular constellations are slowly drifting with respect to the stars. This may mean that at the borders some individual stars with names referring to a particular constellation may now be found in a neighbouring constellation. In practice, however, this does not lead to any real confusion. It should perhaps be emphasized, as it is sometimes misunderstood, that precession does not affect the positions of the stars relative to one another – these only alter due to proper motion (page 12).

Intermediate epochs are frequently used for other calculations, and this sometimes causes confusion. They do not have any special significance, however, being merely convenient reference points in time for calculation purposes. In cometary orbital computations, for example, the quoted epoch is not necessarily related to a particularly important point on the orbit, unlike the time of perihelion.

MAGNITUDES

6 5 4 3 2 1 0 -1

VARIABLES

DOUBLE STARS

OPEN CLUSTERS

< 30'

> 30' on scale

GLOBULAR CLUSTERS

< 10'

> 10'

PLANETARY NEBULAE

< 1'

> 1'

DIFFUSE NEBULAE

GALAXIES

< 10'

> 10'

MILKY WAY ISOPHOTES

GALACTIC EQUATOR

ECLIPTIC

CONSTELLATION BOUNDAIRIES