

Earth's axis to shift, and has thus changed the zodiacal sign in which the Sun is found at any particular time compared with two thousand and more years ago, although that sign is still used in astrology.

The Moon and planets

It is not possible to include the Moon or the planets on these charts. The Moon moves round the Zodiac once every four weeks (27.231 days), but the motions of the planets are less easy to describe since each has a different period and, combined with the Earth's orbital motion, performs movements which sometimes show apparent standstills and backward (retrograde) motions.

However, Mercury and Venus, being closer to the Sun than the Earth, are always near to the Sun in the sky, appearing as Evening or Morning Stars. On rare occasions they transit across the face of the Sun and some future transit dates are:

Mercury

1986 November 13

1993 November 6

1999 November 15

Venus

2004 June 7

2012 June 5

The other planets may be observed in the night sky when they are not on the sunward side of the heavens, although not all can be seen without optical aid. Mars, Jupiter and Saturn are clearly visible when above the horizon at night, while Uranus may just be picked out on a clear moonless night if one knows precisely where to look, although it will only appear as a very dim star of almost sixth magnitude. Neptune can only be observed with optical aid (magnitude 7.7) and Pluto requires a telescope of at least 300 mm aperture.

To find the positions of the planets for any date, the reader should consult the *Astronomical Almanac* or other annual astronomical data publications such as the *Handbook of the British*

