SKYNOTES for January 2018

An easily printable version to encourage active observing among members of the Nottingham AS

All times given below are in Universal Time (UT)

Earth will be at **perihelion** at 3:17am on January 3rd. The centre of the Earth will then be 147,100,176 km from the centre of the Sun, which is about 800 km closer than we were at perihelion in 2017.

PHASES OF THE MOON

Phase	*Date and time*
Full Moon	2:25am on January 2nd
Last Quarter	10:26pm on the 8th
New Moon	2:18am on the 17th
First Quarter	10:22pm on the 24th
Full Moon	1:28pm on the 31st

…and by some people's reckoning, the second Full Moon in the month is designated a "Blue Moon".

This month the Moon is closest to the Earth on the 30th (following a previous perigee on January 1st), and furthest on the 15th.

THE PLANETS

Mercury begins the year at greatest western elongation (23 degrees from the Sun), which means that the first week of January will be one of the best periods of the whole year to observe this planet in the morning sky. It will be low in the southeast before sunrise, shining at magnitude –0.3 and reaching an elevation of about 5 degrees by 7:15am. By the end of the second week of the month Mercury will be diving back into the solar glow as it heads toward superior conjunction in mid-February.

Venus must be regarded as unobservable in January, as it passes through superior conjunction on the 9th.

By mid-January the angular diameter of **Mars** begins to exceed 5 arcseconds for the first time for nearly a year, and so under favourable conditions hints of surface detail may become visible through moderate-sized amateur telescopes. The main disadvantage for UK observers is the fact that Mars is heading relentlessly southward, reaching –20 degrees declination by the end of the month; and it will not be until next October that Mars will again move north of –20 degrees. However, a noteworthy phenomenon occurs on January 7th, when Mars will pass one-fifth of a degree south of Jupiter (see below).

Jupiter continues to draw away from the Sun in the morning sky, and by the end of January will be rising more than 5 hours before sunrise. Throughout the month it will be about 16 degrees south of the celestial equator in the constellation of Libra, and shining at magnitude –1.9, with an angular diameter beginning to exceed 35 arcseconds. At sunrise on January 7th, Jupiter and Mars will be approximately 0.2 of a degree apart, meaning that about an hour before sunrise they will be visible in the same field of view through a moderate-power eyepiece. Jupiter, the more northerly of the pair, will be much the brighter of the two.

Saturn must be regarded as unobservable for UK observers as it is very close to the Sun, and well south of the celestial equator.

Uranus, about 10 degrees north of the celestial equator in the constellation of Pisces, is now an evening object, passing due south just before 7pm as the year begins, and remaining visible until

1 am. If you have never seen Uranus before, this month might be a good time to go looking for it. Through a telescope it appears as a pale greenish disk, a little over three arcseconds across.

Neptune is nearly 8 degrees south of the celestial equator in the constellation of Aquarius, and shining at magnitude 8. It is now well past its best for observation during the current apparition.

METEORS

Conditions are decidedly **unfavourable** for observing the **Quadrantids** this year, as they reach their maximum activity (perhaps 80 events per hour) on January 3rd, very close to the Full Moon. These meteors, which appear to radiate from a point in the north of the constellation of Boötes, not far from the handle of the Plough, can be as prolific as the better-known Perseids of August.