

feathers of the latter at the same time, and raising its ruff around the neck suffers its wings to droop and struts about on the log. A few moments elapse, when the bird draws the whole of its feathers close to its body, and stretching out, beats its sides with its wings in the manner of the domestic cock, but more loudly, and with such rapidity of motion after a few of the first strokes as to cause a tremor in the air not unlike the rumbling of distant thunder. In perfectly calm weather this sound may be heard two hundred yards.

ASTRONOMICAL NOTES.

At 5 p. m. (60° time) on July 1st we were at our greatest distance from the sun. How many miles? Well, that depends on the value we use for the sun's mean parallax. The English official value is 8".848. This makes the sun's mean distance 92,381,000 miles, and his distance on July 1st 1,550,000 miles more. Being so much farther than usual from her liege lord, our mother earth will bestir herself in her planetary duty more leisurely than usual. Her mean rate on her annual journey is over 66,000 miles an hour; but on July 1st she was doing 1,100 miles an hour less than that. On August 1st she will be nearly 200,000 miles nearer the sun than on July 1st, and will then be bowling along 135 miles an hour faster.

The change in the length of our days and nights for the next two months is as follows:

SOUTH OF NOVA SCOTIA.

	July 1.	Aug. 1.	Sept. 1.
Daylight,	15½ hrs.	14½ hrs.	13½ hrs.
Twilight,	4½	4	3½
Night,	4	5½	7½

NORTH OF NEW BRUNSWICK.

	July 1.	Aug. 1.	Sept. 1.
Daylight,	16 hrs.	15 hrs.	13½ hrs.
Twilight,	6½	4½	3½
Night,	1½	4½	6½

Mercury will be morning star all July and evening star most of August. The best time to get a sight of him will be before sunrise about July 20th. He will be occulted by the moon July 26th, very close to Mars on the morning of July 28th, but too near the horizon and the rising sun to be easily seen.

Venus was at her greatest brilliancy on June 6th. She will not be so bright again until October, 1890; but she is still bright enough to be seen at noon in a clear sky until about the end of July by any one who has got her well located during June. It will be an easy job to pick her up in a glass on the afternoons

of July 23 and August 22, as she will then be near the moon. She will be at her greatest elongation from the sun on July 10th. After that she will begin her long, stern chase after the sun, a chase which will last until next February, when she will again become evening star.

Mars. See June notes.

Jupiter will suffer occultation on July 11th, and again on August 7th; but on both occasions the moon will have moved past him before he rises to us. The next time this happens (on September 3rd) the maritime provinces will be favored with a sight of it. A full notice will be given of it in the next number. In the meantime make a note of the fact that you will miss a very interesting sight if you forget to watch Jupiter and the moon between 10.45 and 11 p. m. (60° time) on September 3rd. On July 1st Jupiter was on the meridian at 11.30 p. m. (mean time) and will be at the same place at 9.15 on August 1st. He rises about 4½ hours before that. He is still moving west in Sagittarius, and will do so until August 25th. After that he will wander eastwards until next June.

Saturn is getting into the worst position for observation. On July 1st he set about two hours after the sun, on August 1st about 40 minutes after. For position in heavens see June notes. On August 16th he will pass to west side of sun and become morning star. He will then be nearly 200 million miles farther from the earth than he was six months ago.

Uranus is also increasing his true distance from the earth and decreasing his apparent distance from the sun, and is now too difficult an object for the average eye, but may still be easily seen in a field glass pointed at Theta Virginis.

There will be a partial eclipse of the moon on the afternoon of July 12th. The first contact with the penumbra will occur at 2.35 (60° time). At that time in our latitude the moon will be rising at Venice. The last contact will occur at 7.13, when she is rising over the Banks of Newfoundland. No part of the eclipse will be visible to any part of the North American continent, but nearly all the rest of the land surface of the globe will see some phase of it.

The new moon, which is going to be born on July 27th, will be about twenty-four hours old at sunset on the 28th. It is pretty generally supposed that so young a moon cannot be seen by the naked eye. With a clear evening on the 28th and a little trouble taken to find out where the moon is, the soundness or unsoundness of this supposition can be determined. There is a naked eye (of good average quality but nothing more) within about ten inches of this page which saw last November's moon when she was only 21½ hours old.