DARK SKIES for September 2019:

S/M	Sep.	1/2	9:19 p.m.	-	4:45 a.m.
M/T	Sep.	2/3	9:50 p.m.	-	4:46 a.m.
T/W	Sep.	3/4	10:21 p.m.	-	4:48 a.m.
W/T	Sep.	4/5	10:56 p.m.	-	4:49 a.m.
T/F	Sep.	5/6	11:34 p.m.	-	4:50 a.m.
F/S	Sep.	6/7	12:17 a.m.	-	4:52 a.m.
S/S	Sep.	7/8	1:05 a.m.	-	4:53 a.m.
S/M	Sep.	8/9	1:58 a.m.	-	4:55 a.m.
M/T	Sep.	9/10	2:54 a.m.	-	4:56 a.m.
T/W	Sep.	10/11	3:53 a.m.	-	4:57 a.m.
W/T	Sep.	11/12	4:52 a.m.	-	4:59 a.m.
T/F	Sep.	12/13	none		
F/S	Sep.	13/14	none		
S/S	Sep.	14/15	none		
S/M	Sep.	15/16	none		
M/T	Sep.	16/17	none		
T/W	Sep.	17/18	8:43 p.m.	-	9:06 p.m.
W/T	Sep.	18/19	8:41 p.m.	-	9:33 p.m.
T/F	Sep.	19/20	8:39 p.m.	-	10:05 p.m.
F/S	Sep.	20/21	8:37 p.m.	-	10:43 p.m.
S/S	Sep.	21/22	8:35 p.m.	-	11:28 p.m.
S/M	Sep.	22/23	8:33 p.m.	-	12:22 a.m.
M/T	Sep.	23/24	8:31 p.m.	-	1:26 a.m.
T/W	Sep.	24/25	8:29 p.m.	-	2:37 a.m.
W/T	Sep.	25/26	8:27 p.m.	-	3:52 a.m.
T/F	Sep.	26/27	8:25 p.m.	-	5:10 a.m.
F/S	**Sep.**	**27/28**	**8:24 p.m.**	**-**	**5:19 a.m.**
S/S	**Sep.**	**28/29**	**8:22 p.m.**	**-**	**5:20 a.m.**
S/M	**Sep.**	**29/30**	**8:20 p.m.**	**-**	**5:21 a.m.**
M/T	**Sep.**	**30/1**	**8:18 p.m.**	**-**	**5:23 a.m.**

Times listed are for Dodgeville, Wisconsin when
(1) Moon is below the horizon
(2) Sun is > 18° below the horizon
(astronomical twilight)

Please minimize your use of outdoor lighting during these times to give everyone the best possible view of the night sky.

Time Travel

conducted by David Oesper

PUPIL. Is the earth, then, only thirteen times as big as the moon?

TUTOR. In solidity it is about fifty times as large; but its disc or face is only thirteen times.

PUPIL. What is the moon's distance from the earth?

TUTOR. 240 thousand miles, which is about 400 times less than that of the sun.

PUPIL. And yet she appears as far distant as the sun.

TUTOR. You are now, I hope, convinced of what I said relative to distant objects.

PUPIL. I am, Sir: and I suppose the reason of the moon's appearing as large as the sun, is because she is so much nearer to us.

TUTOR. It is so.—For, at a total eclipse of the sun, which happens when the moon is in a right line between the sun and the earth, the sun is obscured from our sight, although his disc is 160 thousand times as large as that of the moon. In like manner would the moon, when at full, be hid by placing your cricket-ball in a line between your eye and her, yet, you know, the ball is not so large as the moon; but being nearer the eye, it is apparently so.

PUPIL. This is very clear. But——

TUTOR. I conjecture you were going to ask me to explain the nature of eclipses.

PUPIL. That was certainly my intention, Sir.

TUTOR. There are other things you must be made acquainted with before you will be able to comprehend it, and which I will endeavour to make you understand before we enter on the subject.

PUPIL. Whenever you please, Sir.

TUTOR. You have taken a view of the earth from the planet Venus.—Suppose I transport you to one of the planets belonging to another system; what description do you think you should give of it?

PUPIL. I must consider. What I now call a star would be a sun. The planets of that system I should see as I now do those belonging to ours: our sun would be a star; and the earth, with all the other planets, would be invisible.

TUTOR. Very well, Sir. Can you then find it difficult to conceive that all the stars are as far from each other in unbounded space as our sun is from the nearest star?

PUPIL. It is hard to conceive: but when I consider that wherever I am, every remote object appears at an equal distance from me, the difficulty vanishes.

TUTOR. That you might form some idea of the immense distance of the fixed stars, you must recollect, I mentioned the time a cannon-ball would be in reaching the nearest of them.

PUPIL. I do, Sir. More than 1,868,000 years.

TUTOR. You have an excellent memory. I suppose then you know the distance of the earth from the sun?

The Study of Astronomy, by John Stedman (1796)

To be continued next month...