

DARK SKIES for July 2018:

S/M	July	1/2	10:59 p.m.	-	11:04 p.m.
M/T	July	2/3	10:59 p.m.	-	11:35 p.m.
T/W	July	3/4	10:58 p.m.	-	12:03 a.m.
W/T	July	4/5	10:57 p.m.	-	12:30 a.m.
T/F	July	5/6	10:57 p.m.	-	12:57 a.m.
F/S	July	6/7	10:56 p.m.	-	1:26 a.m.
S/S	July	7/8	10:55 p.m.	-	1:56 a.m.
S/M	July	8/9	10:54 p.m.	-	2:31 a.m.
M/T	July	9/10	10:53 p.m.	-	3:13 a.m.
T/W	July	10/11	10:52 p.m.	-	3:19 a.m.
W/T	July	11/12	10:51 p.m.	-	3:21 a.m.
T/F	July	12/13	10:50 p.m.	-	3:22 a.m.
F/S	July	13/14	10:49 p.m.	-	3:24 a.m.
S/S	July	14/15	10:48 p.m.	-	3:25 a.m.
S/M	July	15/16	10:46 p.m.	-	3:27 a.m.
M/T	July	16/17	11:19 p.m.	-	3:28 a.m.
T/W	July	17/18	11:50 p.m.	-	3:30 a.m.
W/T	July	18/19	12:20 a.m.	-	3:31 a.m.
T/F	July	19/20	12:49 a.m.	-	3:33 a.m.
F/S	July	20/21	1:19 a.m.	-	3:34 a.m.
S/S	July	21/22	1:51 a.m.	-	3:36 a.m.
S/M	July	22/23	2:26 a.m.	-	3:38 a.m.
M/T	July	23/24	3:05 a.m.	-	3:39 a.m.
T/W	July	24/25	none		
W/T	July	25/26	none		
T/F	July	26/27	none		
F/S	July	27/28	none		
S/S	July	28/29	none		
S/M	July	29/30	none		
M/T	July	30/31	none		
T/W	July	31/1	10:21 p.m.	-	10:35 p.m.

Times listed are for Dodgeville, Wisconsin when

- (1) Moon is below the horizon
- (2) Sun is $> 18^\circ$ 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

Lastly, what is the cause of the modifications to which these strange bodies are subjected, not only from one revolution to another, but under our very eyes, during the short interval of a single appearance? Not only is the tail formed, developed, diminished, and again absorbed, but the envelope of the nucleus is subject to the most curious transformations. If we look at the drawings (figs. 124 and 125) of the comet of 1862, drawings which represent the head of the body at intervals of a day at the most, we shall be astonished at the rapidity of the changes of position and form of the luminous jets which successively were emitted from the nucleus, in a direction nearly always opposed to that of the tail. In an interval of seventeen days, the able observer to whom we owe the communications of these

drawings, M. Chacornac, was able to distinguish the formation of thirteen of these jets, similar to jets of steam, and alternately directed towards the Sun and to the east of it, that is to say, in a direction opposite to the movement of the comet. After each of these emissions, the nebulous matter, accumulated at the end of the jet, seemed driven back by a repulsive force emanating from the Sun, and then flowed in the direction of the tail. These phenomena would seem to confirm the hypothesis of M. Faye, to which we have before alluded, which attributes to the Sun, independently of an attracting force by virtue of its mass, a repulsive power by virtue of its heat. By means of this hypothesis, M. Roche has been enabled to account for the variation in form of the nucleus and envelopes.

[We may here remark that these last have recently been specially the object of a searching inquiry by the lamented Professor Bond, in his most admirable memoir on the comet of 1858. These envelopes, however, must not be confounded with the *Umbüllung*, or outer faint veil, which may extend for some distance around the head. They were observed to regularly expand outward from the nucleus, and the history of no less than seven of them has been recovered.]

To what forces are these strange phenomena due?

To these questions of great interest, which, it must be admitted, are still very obscure, may be added others which at different times have been privileged to captivate the attention of the public. We have seen that Gambart's periodical comet was expected in 1832, to come in contact with the Earth. What would have resulted from such an event?

A century ago, *savans* still considered comets to be bodies, the impact of which on our globe, or with another planet, would entail the most frightful consequences.

'When the movement of the comets is considered,' says Lambert, in his *Lettres Cosmologiques*, 'and we reflect on the laws of gravity, it will be readily perceived that their approach to the Earth might there cause the most woeful events, bring back the universal deluge, or make it perish in a deluge of fire, shatter it into small dust, or at least turn it from its orbit, drive away its Moon, or, still worse, the Earth itself outside the orbit of Saturn, and inflict upon us a winter several centuries long, which neither men nor animals would be able to bear. The tails even of comets would not be unimportant phenomena, if the comets in taking their departure left them either in whole or in part in our atmosphere.'

Maupertuis, at the same time, had already described in nearly the same manner the catastrophes which the fear of the Earth's contact with a comet had led astronomers to imagine.

The Heavens: An Illustrated Handbook of Popular Astronomy (1872) by Amedée Guillemin (1826-1893)

Edited by J. Norman Lockyer (1836-1920)
4th Edition revised by Richard Proctor (1837-1888)