

ILLINOIS IN ECLIPSE

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Before the coincidence of the Moon's umbra passing over Illinois twice in seven years (2017 & 2024), one has to look back to 1869 for a total solar eclipse visible from the Prairie State. That summer, government scientists descended upon **Springfield** in order to make solar-eclipse observations.

This bit of history is well-documented. However, that of smaller, private expeditions is not. Many of these were not expeditions in the literal sense; they were individual collections of observers who lived on the eclipse path. Nonetheless, all hoped to make observations and measurements beyond simply witnessing the celestial sight.

An example of an independent expedition was a small group that traveled from Albany, New York, to **Mattoon**, Illinois. Its most famous member was Professor George Hough (Director, Dudley Observatory). Accompanying him was shop-keeper Lewis Swift, who was an avocational astronomer and eventually would discover a total of thirteen comets. (Hough had helped him establish priority of discovery for his first, in 1862.) Others associates joined them.



Dudley Observatory

Thus, this total-eclipse expedition sounds like an outing undertaken by a gathering of old friends. At least, that may have been how it started. "The whole population of Mattoon was gathered in the vicinity of our station to see the spectacle, vaguely feeling that in some way it could be better seen from that particular spot than from any other."

Ordnance officers of the United States Army, posted to the **Rock Island Arsenal**, timed the span of the total solar eclipse from the bank of the Mississippi. In theory, the duration of the eclipse at a well-known longitude and latitude could improve the known parameters of the Moon's orbit.



Rock Island Arsenal Museum

James Bell lived near the thirteenth mile post east of Rock Island, in **Colona**, Illinois, along the Chicago, Rock Island and Pacific Railroad easement. Bell, and the Reverend S. H. Wood, followed the total eclipse of the Sun from this house. Afterward, when he wrote to the United States Naval Observatory, Bell made sure to point out that he had an "Elgin watch." He put totality at fifty-nine seconds. Naval Observatory astronomer Simon Newcomb writes, "Original record not sent, but the descriptions of the observations and phenomena, is sufficiently minute, precise, and satisfactory to inspire confidence in the observation."



The quality of 'homegrown' data varied. A clique consisting of a notary public, banker, dentist, merchant, and jeweler—probably the local nobs -- marked the eclipse south of the passenger depot in **Geneseo**, Illinois: thirty-three and $\frac{1}{2}$ seconds. On the other end of the day's societal spectrum, what

sounds like a farm family, further south of town, got 58 plus or minus 2 seconds. Only one of these intervals can be correct.

One of the few of local observers to possess a telescope, Joseph H. Moore (and helpers) lashed a refractor to a post "1,985 feet east and 416 feet north from the railroad station" at **El Paso**, Illinois. One minute, 58 seconds. But W. S. Boris's party, at **Gridley**, Illinois, half a mile north, saw no total eclipse of the Sun at all!

From **Danville**, Illinois, group leader Warren Dunbar called third contact after 1 minute, 6 seconds. Others of his party over-rid him—that was much too soon, they said. Democracy won out. One minute, 12 seconds. (Elsewhere in Danville, independent observers got astonishingly close to what is now calculated to be the correct value for their location, 1 minute, 11 seconds.)



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Finally, though it did not involve a formal observation, the following anecdote reminds us that the rituals of life do not shut down entirely, even during a solar eclipse. In **Quincy**, Illinois, mid-eclipse, a

. . . funeral procession found itself on Main Street, nearing Sixth, at the moment of totality. . . As the light faded, the solemn procession halted in the street, and while yet the city was enveloped in partial darkness, a prayer was offered up . . . As the light burst upon us from the sun the procession moved slowly on, while those composing it began singing a funeral chant. The scene will not soon be forgotten.

[references available upon request]