

THE ECLIPSE.

Successful Observation Near Denver—The Phenomenon as a Spectacle—Probability of Useful Results.

(FROM OUR SPECIAL CORRESPONDENT.)

ECLIPSE STATION, 10 miles
S.W. of DENVER, CO.,
July 30, 1878.

The parties stationed in Colorado to observe the eclipse of the sun were favored yesterday with a perfect day for their observations. The sky was clear, and during the eclipse the air was perfectly calm. No more complete surprise awaited the observers than this beautiful day. During the ten days preceding the eclipse, there was not a single one perfectly clear, for while in the morning clouds were generally absent from the sky, before noon they began to gather and generally spent themselves in copious showers. Had the eclipse occurred upon any of these days the chances of successful observation would have been quite few; and in fact the preliminary observations necessary were made with some difficulty. However, the day did not find the astronomers unprepared, and they will doubtless give a good account of their opportunities. Here there were four observers with telescopes, besides several others who made observations without such aid.

The gradual darkening of the sky in an eclipse is quite different from the corresponding darkening after sunset. In the former case the sky becomes of a color almost like lead, and is without that cheerful glow which characterizes the twilight so pleasant to many. Besides this, there is a feeling that the darkening of the sun near mid-day is an abnormal event, and it is easy to see that it might inspire dread when unexpected. Indeed, when fully expected it gives one a sense of awe not to be unnoticed. The approach of the dark shadow was well seen here on account of the great extent of the landscape. Coming over the mountain thirty miles distant, it swept along, and was seen a few moments later enveloping Pike's Peak, fifty miles away. Through the telescope the last few seconds before the totality offered a beautiful sight. The thin crescent seemed at its cusps to be thin needles of great brilliancy about the body of the moon; as the crescent diminished these bright curves of light seemed to tarry for an instant before fading away. The breaking-up of the crescent into little beads, noticed on other occasions, was not seen, the crescent fading gradually away. On the reappearing of the crescent, however, one of the observers noticed the phenomenon. As the last ray of sunlight disappeared, the corona shot out in full glory. It is impossible to give any description of this magnificent spectacle to the naked eye. It was a beautiful white halo, crowning the moon with its pure light, and seeming to radiate from it. In the telescope, its radiated structure was the prominent feature, but the rays were not uniform. In one part, a bunch of these white rays seemed to emanate from a common point, the outer ones on each side curving away from the main direction; at another place the curve was much greater, like a tuft of grain blown by a powerful wind. Certain positions showed no radiation, but appeared a homogeneous mass of white light. All the observers, here, failed to see any secondary corona forming a background, a phenomenon which has been attributed to atmospheric causes. It will be interesting to learn the results obtained at other points upon this subject. It is not often that an eclipse has been observed from so many places at a high altitude, and this fact will give additional value to the observations made.

The beautiful spectacle lasted less than three minutes, but just before the increasing light on the western limb announced the return of the sun, several prominences were seen as if clinging to the moon. The return of sunlight soon put an end to the visibility of the corona, though one observer watched it for twenty-three seconds, and the outline of the moon was visible for eight minutes. During totality it was not too dark to read the face of a watch, and the lanterns which had been lighted were not needed. The increasing sunlight soon dispelled the darkness, and before an hour had elapsed the day had returned.

The effect of an eclipse upon animals has often been described, and was on this occasion not unlike that at other times. Cattle started toward home, and while no chickens were seen going to roost, an eloquent "bird of the moraine" made the air resound with his welcome of the retreating sun. The members of the human family expressed their emotions according to individual tastes. A little boy said, "Wasn't it funny?" the ranch-owner exclaimed, "My jolly, it was hand-some," while the sedate scientific observers coolly went on with their observations and refrained from speaking of what they saw until each had noted down for himself his own results.

The value of the scientific observations made will appear when all the observers have reported. Those at this station are of the opinion that they can add strong testimony for the solution of the problems in regard to the eclipse which they investigated. Their observations during partial phase and totality were attended with success, in the former the determination of the length and direction of the line joining the cusps forming the observation and in the latter the general structure of the corona being carefully studied. At the other eclipse stations in Colorado equally successful results were obtained. The spectroscopic observations are in general confirmatory of the observations made at previous eclipses; many excellent photographs were obtained with different times of exposure. The general observations obtained were of a varied character. Some made drawings of the corona, others paid special attention to the times of contact, and many simply looked without any definite object of study. Quite a number searched for intra-Mercurial planets, and it is possible that Vulcan has been seen, though a star plainly visible near the sun may have misled some. The observations of the thermometer show that the temperature in the shade was lowered five degrees during the eclipse. Taken altogether a vast amount of facts have accumulated from this eclipse which, when properly collected, will form a valuable addition to scientific knowledge.

The men who devote their attention to studying the particular phenomena of an eclipse are prevented thereby from admiring the spectacle taken as a whole. Just as the fine scenery of the mountains must be gazed at for a long time to be fully enjoyed, so a total eclipse, to be thoroughly appreciated, a scene of rare beauty must be studied for beauty and not for the solution of questions about details or structure. The observer at his telescope has his reward in the result which his observations may give and which he may have the satisfaction of knowing will add to the advance of human knowledge, but he ascends in so doing the pleasure which another may receive in understanding to enjoy himself with the beauty of the scene and spending the time in simply enjoying it. Such a one finds in an eclipse a view of exceeding beauty, a scene upon which he would gladly linger and to which his memory will often return to enjoy once more the beautiful sight.

W. U.

The Eclipse.

From Our Special Correspondent.

Boston Daily Advertiser (Boston, Massachusetts, Tuesday, August 06, 1878; Issue 31. (1262 words)

Category: News

Gale Document Number:GT3006573397