der; 19th and 20th, lightning. 4th and 25th, lightning with thunder. 2nd, 20th and 27th, thunder with rain. 28th, lightning and thunder, with rain. 16th, rainbow in S.E. at 7.10 p.m., small arc. 24th, during the auroral display, a belt of auroral cloud formed at 9 p.m., extending from a point about 8° W. of N. through the zenith to 1° N. of the full moon in E.; it was about 1° 30′ in width, very regular at first, and quite distinct; in fifteen minutes it seemed to break into cirri, and afterwards a new one formed, but less regular, and moving S. gradually for about 10°; this again became dim, and was replaced by a third, which faded away after 10 o'clock. Wind storms 14th, 15th, 19th, 20th, 25th. Fogs 11th, 12th, 13th, 19th, 21st, 28th. Rain 2nd, 4th, 10th, 13th, 14th, 20th, 21st, 25th, 27th, 28th. Month cloudy, cold, and rather wet, the 31st very cold; a severe frost occurred this day in Township of Colborne, four miles from this station, which killed cucumbers, beans, &c. Potatoes generally rotting in adjacent county, and much wheat affected with rust.

HAMILTON.—On 12th, ordinary meteor in N.W. 40° high, fell W. 14th, thunder with rain. 20th and 28th, lightning and thunder, with rain. 20th, rainbow at 5.30 p.m. 21st and 28th, perfect saturation in the mornings. 24th, peculiar aurora: at 9 p.m., light auroral clouds spread all over Z, pointing to N. a little E.; at 9.15 p.m., noticed a band of light auroral matter, a little N of Z, extending from horizon E to NW about 2° wide. Wind storms 2nd, 3rd, 5th, 7th, 9th, 10th, 13th, 14th, 18th, 19th, 20th, 21st. Fog on 12th. Rain, 2nd, 4th, 13th, 14th, 16th, 20th, 21st, 25th, 26th, 28th.

PEMBROKE.—On 6th, at night, the northern half of the sky covered with waves and streamers of a pale green colour. 8th, shooting star, with long trail. NW, at 9 p.m. 15th, heavy wind and rain storm caused the wheat to lodge. 19th, lightning, thunder and rain. Wind storms 3rd, 5th, 6th, 11th, 13th, 15th, 20th, 25th, 26th, 30th, 31st. Fogs 12th, 19th, (slight), 23rd, 28th. Rain 2nd, 3rd, 4th, 5th, 15th, 16th, 17th, 19th, 20th, 25th, 28th, 30th, 31st.

PETERBOROUGH.—On 3rd, meteor observed suddenly rushing horizontally along EZ from N. to S., leaving long train. 4th, two small falling stars observed at 10.15 p.m. 5th, a few light streamers observed at NH shortly before N. 6th, faint auroral light at NH. 9th, 10th and 11th, several falling stars observed. 13th and 14th, lightning, thunder and rain. 19th, at 7 a.m., about 6° E of Z, a small perfect segment of rainbow observed, bearing about N and S about 8°, no rain, or appearance of it, all prismatic colours perfect. 19th, lightning. 20th, thunder. 24th, arch of auroral light NNW to NNE about 5° in width, both edges well defined; after a short time it suddenly resolved itself into streamers, continuing till nearly midnight. 26th, first observed that the swallows had left the town, but are still about the lakes. 30th, remarkably chilly about sunset. 31st, excessively chilly. 26th, very bright meteor at WZ, falling perpendicularly. 28th, several small falling stars. 30th, fine rocket-like meteor in WZ, very rapid, moving horizontally, expanded into a large blue flame, and then disappeared, leaving a phosphorescent-looking train. Frost 7th, 14th, 31st. Fog 14th. Rain 1st, 4th, 13th--16th, 20th, 21st, 28th. Month very unseasonable. As during last month a frequent occurrence of two strata of clouds, atmosphere always more or less hazy; weather occasionally chilly. No grasshoppers, but an unusual prevalence of snails. Crops everywhere luxuriant.

SIMCOE.—Very violent storm of rain on 25th, at 10 a.m., from NW. Frost 30th, 31st. Wind storms 2nd, 25th. Fog 31st. Rain 2nd, 3rd, 4th, 13th, 14th, 21st, 25th, 27th, 28th. Lightning and thunder, with rain, on 4th, 13th, 14th, 25th. On 7th, brilliant meteor at 7.15 p.m., SE by S, near horizon, it was of a silver white colour, and seemed to break, just before its disappearance, into a shower of stars, which were very brilliant, notwithstanding the day-light; it was also observed 25 miles NW of Simcoe.

STRATFORD.—On 2nd, thunder and rain. 12th, lightning and thunder. 13th, 14th, 27th, 28th, lightning, thunder and rain. Frost, 7th. Wind storm, 14th. Fogs, 12th, 18th, 19th. Rain, 2nd, 4th, 10th, 13th, 14th, 15th, 21st, 25th, 27th, 28th.

WINDSOR.—On 2nd, meteor in NW towards N, 50° high; splendid meteor in E towards S, 80° high. 7th, fine meteor in N towards W, 50° high; meteor in W towards H. 9th, meteor in N towards H. 13th, lunar halo, also 14th, and 15th, 17th, very large lunar halo. 24th, lunar halo; meteor in N towards H. 26th, lunar halo. Lightning 25th and 27th. Lightning, thunder and rain, 2nd, 4th, 14th, 20th, 25th, 27th, 28th. Wind storms, 2nd, 4th, 5th, 15th, 19th. Rain, 2nd, 4th, 11th, 14th, 16th, 20th, 21st, 25th, 27th, 18th.

THE ECLIPSE.

The great solar eclipse was seen in Toronto to great advantage. The sky was cloudless, the sun shone out brilliantly, and everything was favorable to a complete observation of the phenomenon. At the very moment which astronomers indicated—4:44 p. m.—the shadow touched the lower disc of the sun. Slowly it kept creeping over it till, when the obscuration was at its greatest, nothing was seen of the brilliant orb but a streak resembling a new moon. The effect of the obscuration on the appearance of nature was exceedingly striking, especially as seen from the bay. The sky lost its brilliancy, and the clear blue deepened into a sombre dark. The bosom of the water ceased to reflect the broad track of sparkling sunlight, and had that peculiar appearance which characterizes it when the sky is overcast with dark clouds, and a thunderstorm is about to descend; whilst the city and the lakeshore and the trees behind became dim, and had a strange, mysterious, wierdly aspect. Birds and fowls, we understand, in many instances showed a strange restlessness and bewilderment, and the cattle seemed terrified at the mysterious gloom. This, however, lasted only a few minutes, for the shadow gradually wore away, and by half-past six the sky was as clear, and the waters as sparkling, and the spires as glittering, and the birds as lively as ever. It was a striking sight, and manifested in a peculiar way the wonderful character of the machinery of the universe. Did it strike any of our young readers what would be the effect upon the earth if the shadow had crept over the whole disc, and remained there for a few weeks? First of all, we would have been in horrible darkness, and all the moisture in the atmosphere would have fallen in one terrible shroud, and the air would have become cold to a degree of which we have no conception. Nothing could survive that fearful cold. In three days nothing would be alive but the monsters that wallow in deep ocean, and the blind reptiles that have their haunts away under the earth; and the world would just have been in the state it was long ago, when, as we are told, "the earth was void, and darkness was upon the face of the deep."

Doubtless, on Saturday, the question as to the cause of the eclipse was put by many a boy, and we know that it was put by boys who ought to have known all about it, if their education had just been of the right sort; and probably the question was put to many who knew just as little about it as the boys themselves did; we will, therefore, try and give a brief illustration of the rationale of eclipses. An eclipse of the sun is produced by the moon passing between the earth and sun, and thus, according to circumstances, cutting off a part or whole of its surface from our view. Hence an eclipse of the sun happens only when the moon is in conjunction, that is at new moon. The eclipse may be *total* when the whole of the sun's disc is obscured; *partial*, when only a part of its surface is obscured; *Annular*, when the moon cuts off all inner circle, leaving a luminous ring around the part obscured. The distances of the earth, sun and moon from each other are the circumstances which determine the nature of the eclipse. Now the shadow thrown by any spherical body, such as the moon, is a cone, and sometimes the apex, or pointed extremity of this cone does not reach the earth; sometimes it just touches it, and sometimes it is so long that it could reach a point within the surface of the earth, and then there is a spot on the earth where the sun is entirely obscured. This last was the case Saturday. The shadowy cone thrown by the moon not only touched the earth, but the point of the cone, if it could have pierced through the surface, would have gone away into the earth a considerable distance, so that the surface of the earth broke off the end of the cone, where its diameter was about 140 miles; so that all along the surface of the earth there was during the eclipse always a circle 140 miles in diameter, where the sun was completely hidden from view. Outside of this circle the obscuration was always the greater, and the nearer any place was to it, it grew less in proportion to the distance any place was from it, and Toronto not being very far north of the track, 9¼ digits of the sun was hidden. An annular eclipse happens when the apex of the cone does not reach the earth, for then any one standing in the line of the perpendicular of the cone, will have part only of the sun's surface cut off from his view, namely, the central part, leaving a luminous ring all round the moon's shadow. It may be asked, why have we not an eclipse of the sun every month, when the sun and moon are in conjunction? So we would if the moon and the ecliptic were in the same plane; but the planes are not parallel, for the plane of the moon's orbit is inclined upwards of five degrees to the ecliptic, and at most times of conjunction she is too far out of the plane of the ecliptic to have any part of her body in the same line next the earth and sun, which is necessary to cause an eclipse.

Eclipses recur at certain regular intervals, which have been ascertained with considerable exactness. There is a great lunar cycle of 18 years and 10 days, in which the sun and moon return to the same respective positions, and after which we have some series of eclipses repeated, though they may be visible from very different places.—*Globe.*

VI. Educational Intelligence.

——CITY SCHOOLS.—The annual distribution of Prizes among the city schools was held in the St. Lawrence Hall. His Worship the Mayor, S. B. Harman, Esq., expressed the pleasure he felt at presiding over this meeting, and as a proof of this he had foregone a journey to Montreal in order to be present this evening. He could truly say that education is a subject that has engrossed his attention from his infancy. He could look back with pleasure on what he had done for the cause of education amongst the negro population of the West Indies. Regarding our Common Schools, he was confident, that whatever progress Canada was making otherwise in the matter of education, she was laying a broad and sure foundation. He quoted a few statistics of our Common School system. In the 42 counties of Ontario, in 1867, there were some