27th, 28th. Rain 9th, 10th, 11th, 19th, 20th, 22nd, 26th, 27th, 28th, 29th, 30th.

SIMCOE.—Fog on 1st and 2nd and morning of 9th. Thunder, lightning and very heavy rain on night of 9th and morning of 10th. 13th, beautiful aurora about 10 p.m. 18th, thick fog lasting from shortly after daybreak till 9.30 a.m. 22nd, wind high all day, increasing in afternoon. 24th, first snow, a few flakes in afternoon. 25th, slight fall of snow in evening, soon turning to rain. 30th, sky very changeable in evening; aurora about 10 p.m. 31st, slight fall of snow at 12.30 p.m.; aurora began at 9 p.m. in form of a northern twilight; afterwards streamers; dark stratus cloud at same time stretching along north horizon; streamers appeared to move from E to W, and vanished about 10.30. Shooting stars numerous in the NW. Rain on 9th, 10th, 20th, 25th, 26th, 27th, 28th, 29th.

STRATFORD.—On 2nd, storm of wind. 8th, at 7.30 p.m. lightning and distant thunder. 21st, storm of wind from SW began about 7 a.m. of 21st and continued till evening of 22nd. 23rd, first snow. 28th, storm of wind. 29th, cholera appeared in Stratford, first case proved fatal. Fogs 1st, 7th, 9th, 11th, 16th, 17th, 18th. Snow 23rd, 24th, 25th, 26th, 30th, 31st. Rain on 9th, 10th, 19th, 20th, 22nd, 26th, 27th, 28th, 29th, 30th. (Indian summer? 15th, 16th, 17th).

WINDSOR.—On 1st and 2nd, fogs and very heavy dews. 16th, 2 meteors to W at 8 30 p.m. 17th, 3 meteors to S and SE at 9 30 p.m. 22nd, 2 meteors to SW at 10 p.m. 23rd, prismatic lunar halo at 8 p.m. 31st, snow; a meteor to N at 9.30 p.m. Rain on 9th, 10th, 19th, 20th, 23rd, 25th, 26th, 27th, 28th, 29th, 30th, 31st. Storms of wind on 2nd, 3rd, 4th, 5th, 11th, 12th, 20th, 22nd, 23rd, 26th, 27th. The most severe wind storm commenced on 20th, increasing in violence, and reaching a velocity of 9 about 12 p.m. of the 21st, and continued during 22nd and 23rd with little abatement, SW and W.

2. THE METEORIC SHOWER.

Our readers may be glad to have the existing theory described to them as clearly as the nature of the subject admits. That it has a fair claim to consideration has just been proved by the surest test which can be applied to any theory—that of successful prediction.

It is held, then, that, besides the planets, the sun is surrounded by a multitude of small bodies, which are gathered into several distinct rings, revolving round him by the force of gravitation. The well-known appearance of Saturn may help the imagination to conceive this condition of things, though there are many striking differences which must not be overlooked. Saturn's rings lie all nearly in the same plane; those of the sun are inclined to one another at many different angles. Saturn's rings, composed probably of orbs of considerable magnitude, are luminous with reflected light: those of the sun are made up of particles too small to throw back any light across the distance which separates them from our globe. But though these rings are invisible generally, they are manifested whenever our planet in its annual course intersects them. For then their speed is arrested by contact with the upper regions of our atmosphere, which, thin as it is at that distance—from fifty to eighty miles high—is yet able to oppose a sensible resistance to their motion. The consequence is that this motion—by the law of the correlation of forces—is transformed, wholly or partially, into light and heat. And as these bodies enter our atmosphere with an average velocity of thirty five miles per second, it is easy to see that an enormous quantity of light and heat will be generated by its destruction. In point of fact it is often sufficient to dissipate them into impalpable dust, which remains dispersed and suspended in the air; though occasionally some are found large enough to resist these influences until they are dragged down by the earth's attraction to our sight and touch, when their fused and calcined surface is found to cover a core within cold with the deadly coldness of the temperature of celestial space. Such travellers from unknown and inaccessible regions have always been regarded with awe and wonder, and sometimes with veneration. The vulgar of the present day call them thunderbolts: the multitudes of old enshrined and worshipped them, as direct gifts of the gods—a Diana that fell from Jupiter at Ephesus, or a holy Caabah dropped from Allah on the sacred Mecca. Their substance is composed of the same chemical constituents as earthly rocks or metals; but they are nevertheless different from the natural condition of any rocks or metals which meet our eye. For the crust of our globe has been formed under long exposure to an atmosphere, rich in oxygen and other gases, which have never exercised their influence on these mysterious strangers. Could we dig deep into the centre of our earth, we should probably find their like, unaltered since their first agglomeration in those dark recesses. For it seems probable that when we analyse in the microscope the original structure of these fallen fragments, we actually arrive—marvellous as it may seem—at the ultimate cosmical particles of the universe. They are composed of minute globules, which suggest the idea of an originally vaporous condition, and seem to imply that they bear to the larger planets the same relation which a drop of water in a rain-cloud has to the ocean. Such a thought opens out a wonderful vista to the imagination: but it leads us away into bewildering fields of dazzling speculation that grow "dark with excess of light." Let us return to the region of tolerably ascertained facts.

There are many of these rings—how many it is impossible to say. Observers are perpetually increasing the number of ascertained "radiant points," or points from which meteors appear to diverge; and each radiant point marks the intersection of the earth's orbit with a separate ring. For the appearance is deceptive. The meteors do not really dart from a point, but glide on in parallel curves, grazing our atmosphere as they go: but we see them as we approach from a distance, and their directions, like the trees in a long avenue, or the lamps that line the two sides of a street, seem to meet in the vanishing point of their perspective. That vanishing point will be in the line in which the earth is moving at the moment; and the earth's motion last week was towards the constellation Leo. If it is found—as it is found—that the radiant points are same at the same seasons for successive years, it can scarcely be doubted that we fall in year after year with meteoric clouds traversing the same orbits round the sun. These, however, are general principles applying to all the different rings: let us now confine our attention to the ring we have just witnessed. It does not lie in the same plane with us—else we should probably see more of it: its inclination to the plane of the ecliptic has been calculated to be about 17 degs. And its movement is retrograde: that is, it whirls round the sun—not, like the earth and all the planets, from west to east—but in the opposite direction from east to west, and so it *meets* us on our course. Nor does it take the same time as we do to make one revolution round the sun. If it did, we should obviously meet it exactly in the same place every year, and there would be no variation in the aspect of the annual November shower of stars. But its year is shorter than ours. It takes—omitting fractions—only 354 days against our 365 to complete its circuit, and the consequence is that the portion of it which we have seen this year will be eleven days ahead of us when we next cross it. This again would make no difference to the eye, if the ring were of equal density throughout, so as to look much the same whenever we cross it. This, however, is far from being the case; the particles which compose the ring are sometimes crowded closely together, and sometimes thinly scattered in its course. If we happen to cross in a crowded part, the display is brilliant; if in a thin part, it is not very noticeable. But it is clear that after a certain cycle the same precise points of intersection—or, in technical language, the same nodes—will recur again. That cycle is about 33 years long; for if we multiply 365 by 33, and 354 by 34, the result is nearly the same; that is to say, 33 of our years very nearly coincide with 34 years of the ring, and bring the two orbits into almost the same position from which they started. Hence it happens that we pass through the same densely crowded part of the ring about once in every 33 years; and the recurrence of the same phenomenon in 1866, 1833, and 1799 seems to prove at least the approximate accuracy of the calculations. The duration of the display of meteors depends, of course, on the length and thickness of this denser portion of the ring. If it is thick enough to take us twenty four hours to get through it, we should see it on two successive nights. If it is long enough to occupy twelve days in passing any given point in its revolution, we should see a brilliant exhibition in two successive years. Something of this kind appears to have happened on the last recurrence, for 1832 as well as 1833 was marked by showers of unusual splendour. Whether we may expect any such luck next year, or whether the head of the column, of which we may have just seen the rear, passed over us last year in comparative neglect, is a matter on which we must expect the decision of experts. They who witnessed it this year may well be satisfied to have seen once in their lives so grand a spectacle, and one which so wonderfully illustrates the general truth and precision of the principles and calculations on which our astronomical theories depend. But if it raises our admiration of the ingenuity which has unravelled its mysteries, our readers at least will not be likely to overlook how much higher still it should exalt our reverent adoration for the Wisdom and Power that planned and launched, in all its intricate simplicity, that vast whole in which these wondrous rings are but insignificant specks, but which, by their conformity to the general laws which govern the universe, proclaim conspicuously that it is indeed

"A mighty maze, but not without a plan."

—*London Guardian.*

The following are some further descriptive notices of the phenomenon from the English papers:—

The passage of our earth through *nebulæ* of meteors—or rather bodies which become meteors upon approaching it—is an event which, in the present state of the solar system, cannot occur more than once in a generation—that is to say, once in thirty-three years. The early morning of last Wednesday had long been named by astronomers as the time when the earth's orbit would run deeper