

latter star. Not only was the centre of radiation thus accurately defined by this display, but the epoch of *maximum* intensity would seem also to admit of a very close determination. Although it was anticipated that no great number of meteors would be seen before midnight, it can hardly have been from the cause assigned—namely, the position of the radiant point below or near the horizon, that the fact accorded in this respect with the prediction, for the tract of sky in which the first meteors appeared had been equally visible during the whole evening. Neither does the diminution of frequency after 1 a.m. admit of any other explanation than that the star shower, actually and irrespective of visibility, culminated at about that hour. During the earlier part of the night a rather strong diffused light, no doubt of an auroral character, prevailed, especially over the northern part of the sky.

Writing from Coventry, Mr. W. W. Tyler remarks that from 10.30 till 12 (he and a friend being near Corley, the highest point of Warwickshire), there were several vivid flashes of lightning just above the horizon, "resembling more the bursting of globes of fire than ordinary lightning." During this time they did not count more than thirty meteors, but during the first hour of the morning as many as 250 were seen:—

Just before one o'clock the appearances became so frequent that in about fifteen minutes we enumerated 800. After that it was impossible to compute the number. For another hour there was not an instant when a considerable number might not be seen at once. Sometimes eight, ten, twenty, or more. In every direction the whole firmament was brilliantly illuminated, but the greatest number originated in Leo Major, Ursa Major, and Cancer. The meteors took a direction from east to west, with but very few exceptions.

They may be divided into three classes. The most numerous were the ordinary shooting stars, interspersed with some very large ones, which left a long blue (and sometimes green) streak of light, varying in width. At the moment of extinction there was nothing extraordinary but the intense brilliancy of the head.

Another class occurred at intervals of a few minutes, and seemed to be balls of copper-coloured fire, which left no path, nor varied in brightness before vanishing. The most remarkable series were also infrequent. The path they took was an irregular curve, short, but well defined, and which remained in view two or three minutes.

Some of the largest meteors appeared to burst and then reappear, leaving two nodes of light connected by a luminous line.

It would be impossible to exaggerate the grandeur of the heavens between one and three o'clock. It appeared to be as if thousands of rockets were being discharged in every part. The sky was clear, with occasional rain clouds. A fresh wind blew from the west. The thermometer was at about forty degrees. There was no apparent local disturbance of the atmosphere in any way by the meteors, nor any perceptible sound or smell.

At Dover "it lightened sharply during the whole night from the northward." About ten o'clock many single aerolites were seen darting from the horizon to the eastward; but here also the great display was after midnight. "One of the most singular and extraordinary parts of the grand sight," says a letter from this town, "was when several of the meteors ran parallel with each other, as if racing, and the colours varying from blue to purple." Mr. R. H. Allnatt, of Weymouth, speaks of the sight as "one of the most sublime displays it is possible to conceive." A constant shower of meteors was maintained, and the beautiful bay of that place afforded an excellent and extended sphere of observation. This writer fancied some of the meteors produced in their rapid transit a crackling sound, but the ripples of the water in the bay, he says, rendered that point somewhat problematical.

3. METEOR SHOWERS ANCIENTLY RECORDED.

The Rev. John Earle, writing to the *London Guardian*, says:—Perhaps it would be acceptable to some of your readers to be informed that *shooting stars* are recorded in our vernacular Annals under the years 744 and 1095. The first is a short sentence of a lost Anglian Chronicle that was kept probably in Yorkshire, and to which two of our southern chronicles—viz., D and E, were indebted for materials. The entry of 744 in E contains these words—"And steorran foran swyde scotienda:" that is, *And stars went shooting remarkably*.

The record of 1095 is more circumstantial. "On thiseum geare wæron Eastron on viii kal'. April'. and tha uppon Eastron on See Ambrosius mæsse niht. thaet is ii no' Apr' wæs gesewen forneah ofer eall this land swilce forneah ealle tha niht swide mænifealdlice steorran of heofenan feollan. naht be anan odde twam. ac swa thiclice thaet hit nan man ateallan ne mihte." *This year Easter was on*

the 25th of March; and presently after Easter, on the night of the Festival of St. Ambrosius, that is the 4th of April, was there seen almost all over this land, as it were almost all night long, vast multitudes of stars fall from heaven; not by ones or twos, but so thickly that no man was able to keep count of it. This might pass for a true and faithful description of what we saw a few nights ago. But I do not find that in either instance the interval of years is divisible by 33. In your admirable article on the theory of these appearances in your last number, it was implied that there was a fractional remainder over or under the 33 years cycle, and this may perhaps be worth taking into calculation where eight or eleven centuries are concerned.

IV. Miscellaneous.

1. CHRISTMAS.

'Tis Christmas day! glad voices
Repeat the pleasant sound;
And happy faces in our home,
And loving looks abound.
Why do we thus greet Christmas morn?
It is the day that Christ was born.

With little gifts that tell our love,
With garlands on the wall,
With thankful hearts and helpful hands,
We keep a festival.
Why do we thus keep Christmas morn?
It is the day that Christ was born.

Full eighteen hundred years ago,
Christ Jesus came on earth.
He came, he lived, he died for us:
We thank God for his birth.
And therefore we keep Christmas morn,
The day our Saviour, Christ, was born.

And on this Christmas morning,
When the frost is at the door,
Dear child! in your warm, pleasant home,
Think of the sick and poor:
So shall you well keep Christmas morn;
The day our Saviour, Christ, was born.

Christ healed the sick, and helped the poor,
When he was on the earth:
Do what you can to be like him,
This morning of his birth.
Help some one to keep Christmas morn,
The day our Saviour, Christ, was born.

—Hymns for Children.

2. A VISIT FROM ST. NICHOLAS.

'Twas the night before Christmas, when all through the house,
Not a creature was stirring, not even a mouse;
The stockings were all hung by the chimney with care,
In hopes that St. Nicholas soon would be there;
The children were nestled all snug in their beds,
While visions of sugar plums danced in their heads;
And Mamma in her kerchief and I in my cap,
Had just settled our brains for a long Winter's nap;
When out on the lawn I heard such a clatter,
I sprang from my bed to see what was the matter;
Away to the window I flew like a flash,
Tore open the shutters, and threw up the sash,

The moon on the breast of the new-fallen snow,
Gave the lustre of mid-day to objects below,
When, what to my wondrous eyes should appear,
But a miniature sleigh and eight tiny rein-deer,
With a little old driver, so lively and quick,
I knew in a moment it must be St. Nick.
More rapid than eagle his couriers they came,
And he whistled and shouted and called them by name,
"Now, Dasher! now, Dancer! now, Prancer! and Vixen!
On Comet! on Cupid! on Donner! and Blitzen!
To the top of the porch, to the top of the wall!
Now dash away! dash away! dash away all!"
As dry leaves that before the wild hurricane fly,