

The number of ASTEROIDS have been increased from 163 in 1876 to 264 by the end of 1886. Not one of the new ones is remarkable, and all are smaller than those discovered earlier, the majority being of the 11th and 12th magnitudes. It is thought that but very few remain to be discovered as large as the 10th, but there may be any amount of lesser magnitudes yet undiscovered."

Views of Jupiter showing the changes in his belts and spots were exhibited.

The Secretary's essay on "April Meteors" was then read. Mr. Brown said: "As requested, I have made a search, and can find but a few instances of Star Showers that have been seen during April. *Encyclopædia Britannica* (9th Edition) states that the earliest star shower on record was in the year 687 B.C. On April 20, meteors have been observed which radiate from *Lyra*, and to these the name *Lyrids* have been given. Alexander Von Humboldt, in his *Cosmos* (Page 113, Vol. I.) states that on the 25th of April, 1095, 'innumerable eyes in France saw stars falling from heaven as thickly as hail.' On the 25th April, 1800, a great fall of stars was observed in Virginia and Massachusetts; it was a 'fire of rockets that lasted two hours.' From the *Leisure Hour* for 1877, I have taken the following:—'Meteors as signs of disturbed atmosphere. A marked instance of a meteor preceding a change of weather occurred on Tuesday evening, April 2nd, 1877. The weather had been singularly fine through the day. A few minutes before eight o'clock, when the sky was clear, a meteor made its appearance in *Ursa Major*, and after remaining stationary for a second or two, between *Orion's Belt* and *Sirius*, fell at a comparatively slow rate and in a direct line to the horizon. It was pear-like in shape, seemed three or four times larger than Jupiter, and was intensely bright. Its color changed from a silvery white to a pale red, as it approached the horizon, where it disappeared behind a cloud, leaving a long track of light behind it.'

The only other record I can bring forward was seen in Quebec (as published in our city papers, April 5, 1887.) It read as follows:—'A curious meteor appeared in the sky to the northward of this city (Quebec) about nine o'clock, on Saturday night (2nd April), it shed a very vivid light over the face of the country. It seemed like a globe of fire about a foot in diameter and immovable. After glowing with great brilliancy for about a quarter of an hour, it gradually paled and disappeared.'

This and the foregoing that was seen in London, England, occurred both on the 2nd April—one in 1877, the other in 1887—ten years later.* These latter

* Note by the President.—These evidently belonged to an intermittent stream which, according to Greg., radiate from near *Zeta, Ursa Major*. The radiant point is given by him as R. A. 204°, Dec. 56° N.

appeared singly and the first mentioned fell in showers. Humboldt and other astronomers show they are both sporadic—that is, they appear singly, and traverse the sky in all directions and at other times appear in swarms, moving parallel; and these swarms are periodic, or recur on the same days of the year. Attention was first directed to this fact on the occasion of the prodigious swarm which appeared in North America between the 12th and 13th November, 1833, described by Olmsted, of New Haven. The stars fell on this occasion like flakes of snow, to the number—as was estimated—of 240,000 in the space of nine hours."

In the discussion which followed, President Smith showed how a meteoric display might sometimes foreshow a storm, the meteors being deflected from their paths in space by the movement of a wave of atmospheric pressure. This he illustrated by diagrams.

This allusion to atmospheric waves, caused Mr. Pigeon to remark that the subject had been previously discussed, when papers on "The Motion of Storms" and "Some Recent Weather Relationships" had been read by the President. This remark led to a conversation, which closed with the unanimous request that the former paper be re-delivered at the adjourned meeting. Agreed.

Mr. S. Usher asked for a definition of the terms: "Stars of the first, second, third, and other magnitudes." The President said the terms were arbitrary, all those of the first magnitude not being equally brilliant, any more than all those of the second or third magnitudes, but, generally speaking, the brightest stars were considered of the first, the next brightest of the second, and the third brightest of the third magnitude.

Mr. Creak, by request, exhibited a telescope of 3 inches aperture. A discussion as to its merits, led to its being decided to hold a meeting for observation at Mr. Smith's one evening during the week ending May 28th, when the various instruments owned by members were to be on hand for the benefit of those not possessing telescopes.

The meeting adjourned at 10.

Mr. H. B. Small, of Ottawa, who has made a special study of meteors, is writing a paper on the subject for ASTRONOMY AND METEOROLOGY.

Mr. A. J. Pigeon—considered an authority on optics—has in preparation for reading at next meeting an essay on "How to construct an Astronomical Telescope." This will be printed in next issue, together with numerous diagrams specially prepared by Mr. Pigeon for this journal, illustrating the method of construction.

Planetary Influence.

"I am convinced that there is a very great deal in Planetary Meteorology," was the remark of a respected friend recently. "Your science would be a boon to mankind provided it could foretell definitely the 'sickly' days and the days of 'health;' that is, those times when sickly people are worse and when robust people feel ill, or when strong persons feel yet more robust and the sickly almost well."

I told my friend that I had already made some enquiries into this vast subject, and not only so, but that I had successfully calculated times that had proved "sickly" or "healthful" as the case might be—This and more there is in the science of Astro-Meteorology.

And yet, people still imagine that Astro-Meteorology consists in nothing more than forecasting weather, and that simply from the moon's changes. How erroneous the idea! The moon is, of course, believed to have considerable influence on atmospheric tides and currents. Its orbit is not circular, and, once, sometimes twice in a month, Luna is at "apogee" (farthest from the earth) once, sometimes twice, at "perigee," (nearest the earth). The apogee passages are frequently cold, and the perigees frequently warm. The sudden relaxation from Winter to comparative Spring during the second week in March this year will still be remembered. Navigation opened on the Hudson between New York and Newburg on March 11. The Moon's perigee was on the night of March 9.

It is not right for us unthinkingly to laugh to scorn the ideas put forth by ancient writers. If they had not our superstructure of records, they were at least delving for the foundation whereon we have built, and all they struck was not quicksand. What made such men as Cicero and Pliny consider the planet Mars for instance, as strong in its influence for "rampant weather?" They doubtless saw far more in Mars than his mere lustre, noticing what we have confirmed: that his oppositions and perihelions are frequently accompanied with heated terms, followed as often by reactionary cold "dips." First, Mars attracts from us electricity, afterwards he, so to speak, pours fresh electricity into the earth. Is this theory ridiculous? Is it not rather a sublime arrangement whereby utter stagnation in our oceans of water and air is prevented, allowing them by constant motion to be purified?

I recently compiled a Saturnian-Solar record, taking every aspect of importance from Oct. 17, 1884, to Jan. 9, 1887.