**Subject: Astronomy**

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[Addressed to] Mr. John Grant
Colebrook Conn. [Connecticut] Politeness of Mr. Gaylord. [A diagram showing the orbit of earth and the comet is drawn on the first page.]

New Haven [Connecticut], Nov. 3, 1837. Dear Brother, I have written to Daniel promising to give you a short account of Prof. Olmsted's theory of Meteoric Showers. I have but very little time before Mr. Gaylord leaves and must therefore be very brief. I have drawn a rude figure which may perhaps give you a better idea of the thing than any mere description. S is suppose to represent the Sun, E the earth in its orbit, which you know is very nearly circular, B a body of the nature of a comet revolving round the Sun in the same period with the earth, and coming very near it on or about the 13th of Nov. The orbit is very far from being circular and is supposed to be nearly like that represented in the figure. This body is now to be seen by those who have practiced looking for such things, and I have seen it this morning, but it is of such a nature that I very much doubt whether any of you would be able to discover it. It is sometimes seen immediately after sun down <at> appearing something as is represented in the following figure [Here follows a hand drawing in pencil, showing what is being described in the letter.]

Horizon The little round spots which I have made are intended to represent stars, and the body of which I am speaking runs up from the Horizon in much the <wa> same way with the pencil marks I have made over a part of the stars. It is now to be seen before sunrise, and best about 4 o'clock in the morning. If you were acquainted with the constellations I could very easily tell you in what part of the heavens to look for it, but as I suppose you are not it would be very difficult <for me>. It reaches now above the Sickle <cons> which is in the neck and shoulders of the Lion. It is evidently very thin and light from the fact that most stars are very easily seen through it. Its form is very nearly that represented in the figure. But I have not yet told you in what manner this causes meteors. On or about the 13th of Nov. this body comes very near the earth and a part of its matter is supposed to drawn from it into our atmosphere where it takes fire and forms what are called shooting stars. Prof. Olmsted says he has observed every year since the great meteoric shower of Nov. 13th 1833 and has seen the same phenomenon occur each year on the very same day. <thou> Though the number of meteors has been very small in comparison with those of 1833, yet they have started from the same point in the heavens, and have exhibited the same appearances. If I have succeeded in making myself understood in these explanations I think you will very gladly make some observations and see if any thing remarkable occurs. It is only by repeated observations that the truth or fallacy of the theory can be ascertained. I have no time to write any more, as Mr. Gay- leaves in a few minutes. Give my love to Martha and Marcus, to Uncle Luther's folks, and all the rest of our friends. Write to me as soon as you can, conveniently, and let me know how things are going on at home. Your affectionate brother,

Joel Grant.

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