

Dec. 1887.]

Correspondence.—Notes.

429

Birmingham 121 Tauri alias Geminorum.

GENTLEMEN,—

This splendid deep reddish-orange star is given in Webb's 'Celestial Objects' and by Birmingham as a suspected variable; there can be no doubt as to its variability, as it has faded about $\frac{2}{3}$ of a magnitude since December last. Its period is probably long. Its position in Webb is R.A. $5^h 39^m$; N.D. $20^\circ 38'$.

Sunderland,
1887, Nov. 23.

Yours truly,
T. W. BACKHOUSE.

NOTES.

RESEARCHES ON THE SPECTRA OF METEORITES.—On Thursday, Nov. 17, Mr. Lockyer read a paper bearing the above title before the Royal Society. The paper was a most remarkable one, covering a very extensive field, and it seemed to be felt at the meeting of the Society that the points it embraced were too numerous and too important for any off-hand judgment, whether of approval or the reverse, to be passed upon it. We do not propose at present to do more than give a very brief outline of some of the principal conclusions of the author, but we trust to deal with the subject more at length on a future occasion.

Mr. Lockyer has recently been examining the spectra of meteorites with great care and under various conditions, and the results he has obtained have led him to ascribe the greatest variety of deportment and the widest range of importance to these bodies. For he concludes that:—

"I. All self-luminous bodies in the celestial spaces are composed of meteorites, or masses of meteoritic vapour produced by heat brought about by condensation of meteor-swarms due to gravity.

"II. The spectra of all bodies depend upon the heat of the meteorites, produced by collisions, and the average space between the meteorites in the swarm, or in the case of consolidated swarms, upon the time which has elapsed since complete vaporization. . . .

"VII. The existing distinction between stars, comets, and nebulae rests on no physical basis.

"VIII. The main factor in the various spectra produced is the ratio of the interspaces between the meteorites to their incandescent surface.

"IX. When the interspace is very great, the tenuity of the gases given off by collisions will be so great that no luminous spectrum will be produced ('nebulae' and 'stars' without F bright). When the interspace is less, the tenuity of the gas will be reduced, and the vapours occupying the interspaces will give us bright lines or flutings ('nebulae' and 'stars' with F bright). When the interspace is relatively small, and the temperature of the individual meteorites therefore higher, the preponderance of