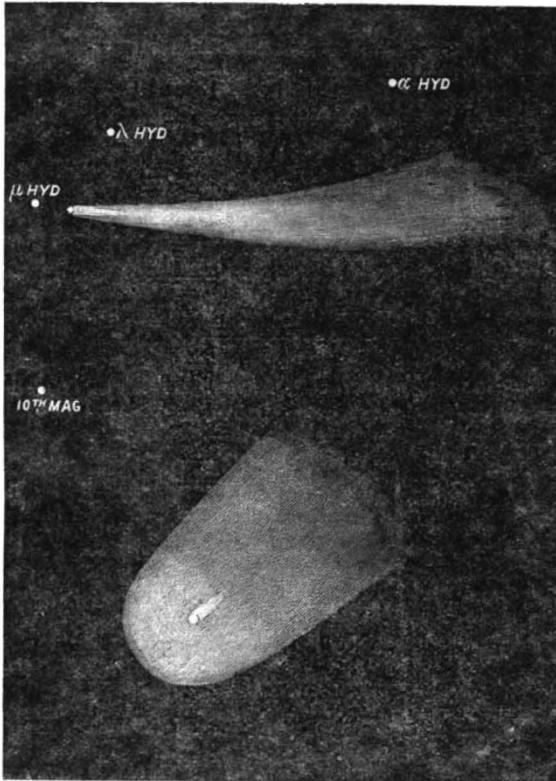


assistance of Mr. Hodges and Mr. Percy Smith, the following details were obtained. The tail extended for quite  $15^\circ$  in length, and about  $5'$  in width at its widest part, being slightly curved with the convexity downwards. The lower edge of the tail was very sharp, but the upper edge was gradually shaded off. The nucleus was considerably lengthened out in the direction of the tail to an extent of quite three times its width. Its estimated length was  $10''$ .

On examination with the spectroscope, with the nucleus across the slit, there appeared a narrow continuous spectrum crossed by three bands, which I at once recognised as the usual hydrocarbon lines; the central one was the brightest, and I could see no other lines but these three.



5 a.m. October 23, 1882.

At 5.2 a.m. Greenwich time, the position of the nucleus was determined with the equatorial to be R.A. 10h. 9m. 33s., Dec.  $16^\circ 18'7''$ , being a mean of two observations.

I send sketches of the comet, a small star, which I have not identified, appeared in the field of view about  $2' 40''$  from the nucleus as drawn, and if identified may assist to check the position of the nucleus as given by the circles.

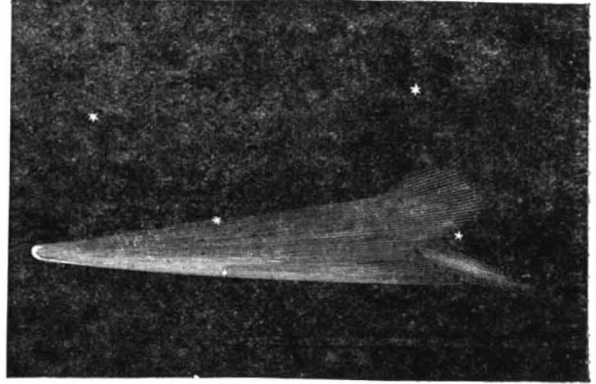
The morning was exceptionally clear, so much so, that, at dawn, when we could read small print out of doors, 4th magnitude stars were clearly visible. GEO. M. SEABROKE

Rugby, October 23

I INCLOSE a drawing made this morning after a prolonged examination (with a binocular) of the end of the comet's tail. Should you think the peculiar features which I have endeavoured to portray of sufficient interest to reproduce, the drawing is at your service. It is difficult to indicate truly features of this kind without exaggeration, if they are to catch the eye at all; but I am sure the exaggeration is very slight. The tail would seem to be about to end rather suddenly and with a broad end, when, from near the middle, shoots out, at a slight inclination to the general direction of the tail, a cleanly-shaded wisp. And as though this were due to a kind of cleft or parting, there is a corresponding broader sweeping-aside of the tail-end on the other side. One is at once reminded of the backward fraying of the broad side of a large feather. The effect is a decided enlarge-

ment of the end of the tail on one side, and a well-defined streamer shooting out at a slight inclination towards the other. The direction of the latter is such as to pass quite clear of the head, which is not a necessary consequence of its inclination, because of the curve which characterises the sharply-defined southern edge of the whole tail.

It is surely unusual for such decided features to present themselves at the very end of a comet's tail.



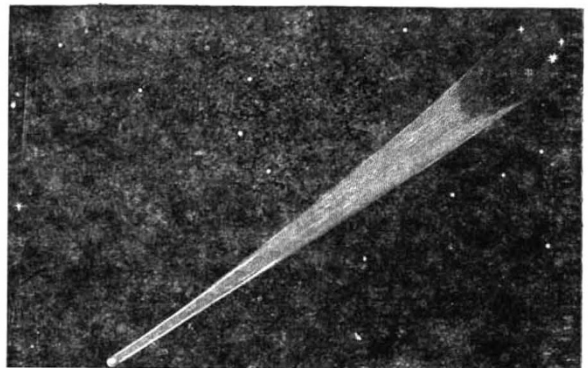
As a whole, the comet seems to have changed wonderfully little during the three weeks since I first saw it. Its change of place, also, is so moderate that, at this rate, there seems no reason why we should not see it for months yet. What if it should not vanish at all!

J. HERSCHEL

Collingwood, October 23

For several mornings past we have had fine views of the comet, first seen in England by Mr. A. Common. I inclose a sketch taken this morning, as accurate as I could make it with materials at hand.

It is chiefly remarkable (1) for the crescentic end of the tail, the lower or eastern horn being longer than the other; (2) for the distinctness of the shadow in the space beyond the tail, shadow obviously projected by the comet. Such a shadow I have never seen in any of the comets which have been under my observation during the last fifty years, nor do I recollect to have



The Comet from Cannes, October 21, between 5 and 6 a.m.

seen it described. (Here I have no access to books on the subject.)

I presume that the propinquity of this comet to the sun is the reason why the shadow is unusually visible in contrast to the luminosity around it; but probably the peculiar clearness of our atmosphere renders the phenomenon clearer than it may be in England. In any case the appearance is interesting in relation both to the nature of cometary matter, and to that of light and shade in space.

C. J. B. WILLIAMS

Villa du Rocher, Cannes, France, October 21