

The physical appearances of the comet were only incidentally observed by me, as I used all my exertions to obtain accurate places by which I could compute a good orbit. Still, as I observed it every morning and had very good opportunities, I noted a few most important details. The first thing noted was that it appeared slightly winged when seen with the naked eye. The nucleus was neither circular nor sharply defined: the tail was somewhat fan-shaped. On September 29th I find this record in my observing book: "The tail of the comet was well defined and sharp, about fifteen degrees in length and terminating suddenly. The nucleus extended about fifteen seconds of arc in the direction of the tail, and was quite irregular in shape, not more than three seconds wide." The tail extended towards the star α Hydræ. On the morning of October 5th it was announced through all the daily papers that Mr. E. E. Barnard, of Nashville, Tennessee, had observed a split in the nucleus of the comet; and the announcement was confirmed by Professors Wilson at Cincinnati, Hough at Chicago, and Brooks, at Phelps, New York. Many sensational articles were written on the subject, but as I happened to be observing it at the very time, I transcribe my notes made on the morning of the 5th of October: "The tail this morning was seventeen to eighteen degrees in length, the nucleus somewhat longer than on previous mornings. It was slightly more spread out, with a small central condensation about three-fourths of its length from the upper end, that is, the end nearest the tail. The central condensation was observed." On October 7th: "The nucleus this morning has at least two condensations of light, possibly three; it is, however, continuous. The north side of the tail has another faint but well-defined envel-

ope extending beyond the head. A vacant space commences about half way up the tail, and extends out to the extremity farthest from the head." I have always contended that there was no real split, although the form of the nucleus was continually changing, at one time extending over thirty or forty seconds of arc in length, and having three or four condensations, like beads strung along a line, which fact alone made the observations very difficult, as different parts of the nucleus might be noticed at different times and by different observers.

The earliest observation of the comet was probably made by Mr. Finlay, at the Cape of Good Hope, on the morning of the 8th of September, and the next morning he obtained a definite measure of its position. Perhaps the first attempt to compute elliptic elements was made by Mr. S. C. Chandler, in Boston, whose results, however, were vitiated by his unfortunately using one of our Washington observations, which were published hurriedly before they were corrected for differential refraction. A second set of elliptic elements was computed by him from a number of observations, from which he formed three normal places and computed an orbit. With these elements he obtained the position at the time of Mr. Finlay's observation, and found that it satisfied it within about one and a-half seconds of time in right ascension and seventy-six seconds of arc in declination. He reasons that on account of the smallness of these residuals it could not have passed through the sun's atmosphere or undergone any change of orbit near its perihelion. His period was about four thousand years. Dr. Oppenheim, of Berlin, then computed an orbit of three thousand and seventeen years. It occurred to me that, on account of the change of the nucleus and the combination of different observations under