

ART. XXXVII.—*Observations of Comet b, 1881, made at the Washburn Observatory, University of Wisconsin, Madison; by EDWARD S. HOLDEN.**

THE following observations of the bright comet of 1881 have been made at the Washburn Observatory, with the Clark equatorial of 15·5 inches aperture, mostly with an eye-piece magnifying 145 diameters, having a field of 25'·5.

The accompanying engravings first appeared in *Science* of July 23 and August 6, and have been kindly furnished by the editor. In these (except in the case of the drawing of July 11), the darker the shading the brighter the corresponding part of the comet.

The Washburn Observatory is $0^{\text{h}} 49^{\text{m}} 25^{\text{s}}\cdot 8$ west of Washington. The *times* are, however, Chicago mean times, or correspond to a meridian $0^{\text{h}} 7^{\text{m}} 11^{\text{s}}\cdot 1$ east of our own, that is $0^{\text{h}} 42^{\text{m}} 14^{\text{s}}\cdot 7$ west of Washington.

1.

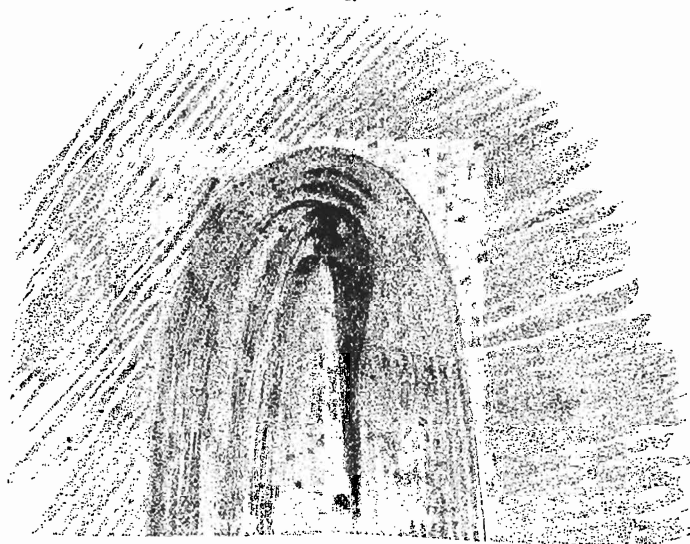
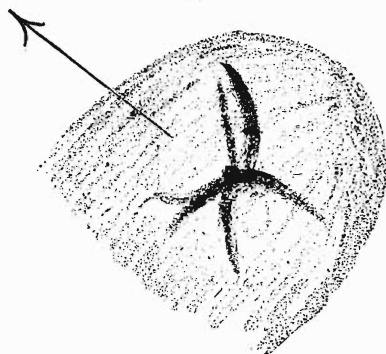


Figure 1; June 24, 14^{h} m. t.—This figure is intended to show the whole structure of the head of the comet, with its envelopes. There is a star within the tail.

Figure 2; June 25, 10^{h} m. t.—Sky hazy and outlines of the comet not well seen. The drawing shows only the structure of

* For the cuts illustrating Professor Holden's paper, this Journal is indebted to Mr. John Michels, editor of "*Science*," in whose pages the above illustrations were first published.

2.



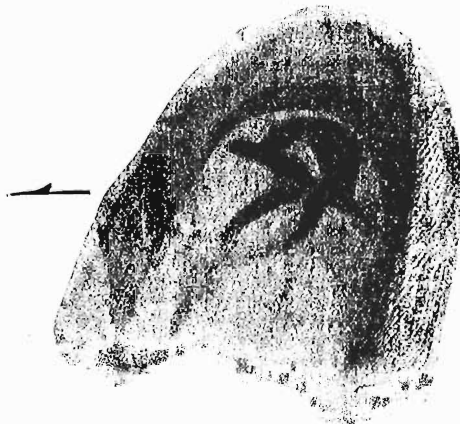
June 25.

3.



June 26.

4.



June 27

the head. The nucleus is not round and is eccentric in the envelopes. The arrow shows the parallel.

Figure 3; June 26, 11^h 22^m m. t.—Hazy and cloudy.

Figure 4; June 27, 13^h m. t.



Figure 5; June 28, 10^h m. t.

Figure 6; June 29, 9^h 30^m m. t.—I was absent from Madison till July 8.

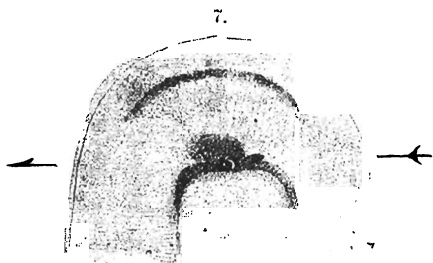


Figure 7; July 8, 10^h 35^m m. t.—Moonlight. The nucleus is not double. There is a dark narrow channel between the following side of the nucleus and the envelopes, as in the figure.

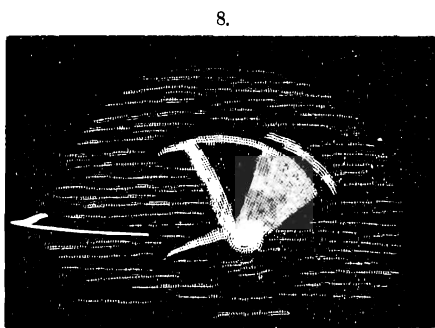


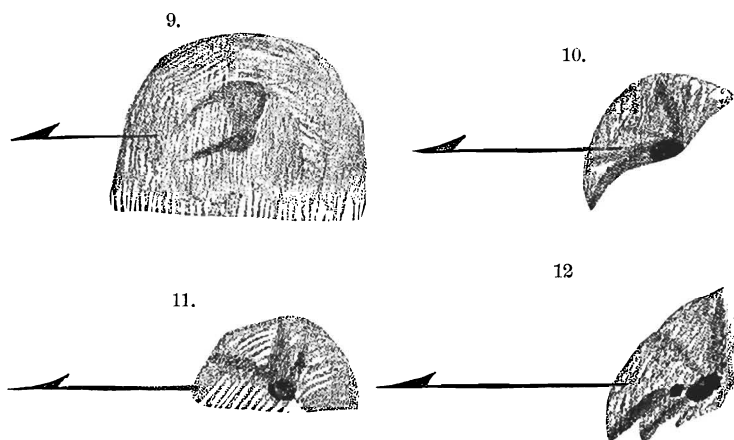
Figure 8; July 11, 9^h 30^m m. t.—Strong moonlight and twilight. This cut gives bright portions of the comet by white lines.

Figure 9; July 13, 9^h 30^m m. t.

Figure 10; July 14, 10^h 20^m m. t.—Moonlight.

Figure 11; July 17, 10^h 45^m m. t.

Figure 12; July 18, 9^h 30^m–11^h 0^m m. t.—The nucleus is double (it has not been previously), $p=275^\circ$, $s=1''.5$, with a dark space between the parts.



July 19; 9^h 45^m m. t.—Appearances same as last night, but fainter. The nucleus is elongated in $p=280^\circ \pm$. The second nucleus is in $p=270^\circ$ $s=1''$ to $2''$.

July 24; 9^h 35^m m. t.—The nucleus is double, $p=225^\circ$ (4) $s=2''.62$ (3). The diameter of the principal nucleus in $p=135^\circ$, is $1''.68$ (2).

The micrometer measures by Mr. Burnham.

July 26; 9^h 3^m m. t. The nucleus is round.

July 27; 10^h 10^m m. t.—The nucleus seems elongated in $p=250^\circ$, but I am not sure.

After this date the comet was examined on several occasions without finding any peculiarity worthy of mention. It is to be noted that there is no doubt whatever as to the fact that the nucleus was double on July 18, July 19 and July 24. I am almost equally positive that it was not double on the other dates specified.

It appears to me that these observations are of interest in connection with those of Prof. O. Stone at the Cincinnati Observatory, and of Mr. Wendell at the Harvard College Observatory.

Washburn Observatory, Madison, Wisconsin, August 25, 1881.

AM. JOUR. SCI.—THIRD SERIES, VOL. XXII, No. 130.—OCTOBER, 1881.