

NOTES ON THE GREAT COMET OF 1882.

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FROM the time that the first announcement was made of the brilliant comet that has lately visited us, an unusual interest has been taken in it, both on account of its wonderful brilliancy and its apparent nearness to the sun. The first known of it here was from an announcement made by Mr. Cruls, the astronomer at Rio Janeiro, that a brilliant comet was visible to the naked eye on September 11th. The next statement was to the effect that it had been seen very close to the sun in Colorado. This was published in the morning papers, but nobody noticed it much until a gentleman in Washington came to the Observatory, and told us that he had seen it distinctly, near the middle of the day, and within a very few degrees of the sun. This was an astounding statement; but on looking at the heavens we saw it distinctly about mid-day. Unfortunately it had then passed the meridian, so that an accurate meridian observation could not be had. It was suggested to me, however, that measures had better be taken and compared with the sun. This proved to be no easy matter, as it had taken us all by surprise, and we were not supplied with appropriate sun glasses; but several measures of the comet's place were made and the circles read very carefully. The telescope was then turned on the sun and its image projected on a white ground, and the images of the wires in the telescope made to correspond with both limbs in declination; also transits of both

limbs were taken. These were carefully reduced for refraction and parallax of the sun. On the next morning the comet was carefully watched with the equatorial and its motion noted, in order to get a position so that it could be observed on the meridian. The experiment was entirely successful, and two good observations were taken on the meridian, on the mornings of the 20th and 21st of September, when cloudy weather intervened, so that it was impossible afterwards to observe it on the meridian. With these three observations, which were the best we could get, I, with the assistance of Mr. Skinner, of this Observatory, endeavoured to compute the elements of the orbit, a rather difficult task, because the whole interval of time between the first and last observations was less than two days, and the first observation was made under such unsatisfactory conditions. A parabolic orbit was assumed. The observations were not reduced to a fixed equinox, neither aberration nor parallax was taken into account, and only a first rough approximation to even a parabolic orbit was attempted, as it was thought nothing could be gained by making such refinements under the circumstances. The orbit obtained, however, notwithstanding all these difficulties, was remarkably accurate. For two months the observed place did not deviate from the computed place more than about three minutes of time and about eleven minutes of arc in declination.