

# ASTRONOMICAL OBSERVATIONS MADE IN THE PHILIPPINES PRIOR TO 1927

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1. **Foreword.**—The present series of *Publications of the Manila Observatory* was started in 1927. The astronomical observations made in the Philippines, or by members of the Observatory, prior to that date, are scattered in different and very heterogeneous publications. This paper is an attempt to bring together all astronomical observations that have been systematically made in the Islands, or outside of the Philippines by members of the Observatory and to point out the main references or sources from which more ample information may be derived. In enumerating the observations, the order of objects considered will be: Sun, Planets in the order of their distance from the Sun, Comets, Meteors and Stars. In the discussion of each subject, the chronological order will be followed.

## SUN

All the astronomical observations of the Sun that I find to have been made can be reduced to two groups: eclipses of the Sun and Sunspots. Each group will be treated separately.

## ECLIPSES OF THE SUN

2. **The fake eclipse of 1622, at Bataan.**—A series of wild statements was published in a *Relación* printed in Lisboa in 1623. The *Relación* is supposed to have been written by Lucas de Soto, citizen of Manila, and to have been sent to his brother Diego de Soto, a merchant of Lisboa. A succession of extraordinary phenomena is purported to have taken place in Valhermoso and Fresno, Province of Bataan, near Manila. One of the phenomena reported is an eclipse of the Sun the darkness of which lasted for over four hours and was so intense that lamps had to be lighted.<sup>1</sup>

Was there any eclipse of the Sun visible in the Philippines in May 1622? Is the main fact reported by Soto substantially correct? To settle this point, I submitted, several years ago, the following questions, as an open letter, to the NOTES AND QUERIES Section of the Astronomical Society of Canada. "A statement by an anonymous writer is found in an old Spanish book to the effect that an eclipse of the Sun was observed at or near Manila, P. I., on May 24, 1622. The Canon der Finsternisse, by Oppolzer, not being available in this corner of the world, it would be of value to have the fact of the eclipse positively proved or disproved by an astronomer." As a reply to the query the following answer was published by C. A. C. "In the year 1622 there were two eclipses. The first was on May 10 and was an annular eclipse. The path of central eclipse began in longitude 86 W., latitude 14 S.; its middle point was in longitude 29 W, latitude 13 N.; it ended in longitude 33 E., latitude 5 N. Thus the path began in the Southern Pacific Ocean, crossed the northern portion of South America and the Atlantic Ocean, and ended in East Central Africa. The second was on November 3,

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<sup>1</sup> *Relación verdadera de gran admiración y espanto y digna de ser contada . . .* The *Relación* bears the date of August 8, 1622. As a postscriptum, it is stated in the *Relación* that Lopez de Soto had met in Lisboa several merchants that had arrived from the Philippines and had been eye-witnesses of the facts reported. The *Relación* was printed with the approval of the ecclesiastical authorities. Retana published it in *Estadismo de las Islas Filipinas*, Vol. II, Appendix A, pp. 24-27.