

gion of the heavens. That which he names *Nebulosa Orionis*, and delineates in the vicinity of *Nebulosa Præsepe*, he expressly declares to be an accumulation of small stars (*stellarum constipatarum*) in the head of Orion. In the drawing which he gives in the *Siderius Nuncius*, § 20, extending from the girdle to the beginning of the right leg (*a* Orionis), I recognize the multiple star θ above the star ι . The instruments employed by Galileo did not magnify more than from eight to thirty times. It is probable that as the nebula in the sword is not isolated, but appears, when seen through imperfect instruments or a hazy atmosphere, like a halo round the star θ , its individual existence and configuration may have escaped the notice of the great Florentine observer. He was, moreover, little inclined to assume the existence of nebulae.* It was not until fourteen years after Galileo's death, in the year 1656, that Huygens first observed the great nebula of Orion, of which he gave a rough sketch in the *Systema Saturnium*, which appeared in 1659. "While," says this great man, "I was observing, with a refractor of twenty-five feet focal length, the variable belts of Jupiter, a dark central belt in Mars, and some faint phases of this planet, my attention was attracted by an appearance among the fixed stars, which, as far as I know, has not been observed by any one else, and which, indeed, could not be recognized, except by such powerful instruments as I employ. Astronomers enumerate three stars in the sword of Orion, lying very near one another. On one occasion, when, in 1656, I was accidentally observing the middle one of these stars through my telescope, I saw twelve stars instead of a single one, which, indeed, not unfrequently

(*Opere di Galilei*, Padova, 1744, tom. ii., p. 14, No. 20) "which you gave me includes the girdle and sword of Orion, and consequently also the star θ ; but it is difficult, owing to the striking inaccuracy of the drawing, to recognize the three small stars in the sword (the middle one of which is θ), and which appear to the unaided eye to be placed in a straight line. I conjecture that you have correctly designated the star ι , and that the bright star to the right and below, or the one immediately above it, is θ ." Galileo expressly says, "In primo integram Orionis Constellationem pingere decreveram: verum, ab ingenti stellarum copia, temporis vero inopia obrutus, aggressionem hanc in aliam occasionem distuli." Considering Galileo's observation of the constellation of Orion, we are the more struck by the circumstance that the 400 stars which he thought he had counted between the girdle and the sword of Orion in a space of ten square degrees (Nelli, *Vita di Galilei*, vol. i., p. 208), should subsequently (according to Lambert, *Cosmolog. Briefe*, 1760, p. 155) have led him to the erroneous estimate of 1,650,000 stars for the whole firmament. (Struve, *Astr. Stellaire*, p. 14, and note 16.)

* *Cosmos*, vol. ii., p. 331.