

ta, in his *Historia Natural y Moral de las Indias*,* remarks, that in the Spanish settlements of tropical America, the first settlers were accustomed, even as is now done, to use, as a celestial clock, the Southern Cross, calculating the hours from its inclined or vertical position.

In consequence of the precession of the equinoxes, the starry heavens are continually changing their aspect from every portion of the earth's surface. The early races of mankind beheld in the far north the glorious constellation of our southern hemisphere rise before them, which, after remaining long invisible, will again appear in those latitudes after the lapse of thousands of years. Canopus was fully $1^{\circ} 20'$ below the horizon at Toledo ($39^{\circ} 54'$ north latitude) in the time of Columbus, and now the same star is almost as much above the horizon at Cadiz. While at Berlin and in the northern latitudes the stars of the Southern Cross, as well as α and β Centauri, are receding more and more from view, the Magellanic clouds are slowly approaching our latitudes. Canopus was at its greatest northern approximation during the last century, and is now moving nearer and nearer to the south, although

holy lights, '*luci sante.*' The three stars which light the pole represent the *theological virtues*, faith, hope, and charity. The first of these beings themselves reveals their double nature, chanting, 'Here we are nymphs, in heaven we are stars;' *Noi sem qui ninfe, e nel cielo semo stelle.* In the land of truth, in the terrestrial paradise there are seven nymphs. *In cerchio faceran di se clauastro le sette ninfe.* This is the union of all the cardinal and theological virtues. Under these mystic forms we can scarcely recognize the real objects of the firmament separated from each other, according to the eternal laws of the *celestial mechanism*. The ideal world is a free creation of the soul, the product of poetic inspiration." (*Examen Crit.*, t. iv., p. 324-332.)

* Acosta, lib. i., cap. 5. Compare my *Relation Historique*, t. i., p. 209. As the stars α and γ of the Southern Cross have almost the same right ascension, the Cross appears perpendicular when passing the meridian; but the natives too often forget that this celestial clock marks the hour each day $3' 56''$ earlier. I am indebted to the communications of my friend, Dr. Galle, by whom Le Verrier's planet was first discovered in the heavens, for all the calculations respecting the visibility of southern stars in northern latitudes. "The inaccuracy of the calculation, according to which the star α of the Southern Cross, taking refraction into account, would appear to have begun to be invisible in $52^{\circ} 25'$ north latitude, about the year 2900 before the Christian era, may perhaps amount to more than 100 years, and could not be altogether set aside, even by the strictest mode of calculation, as the proper motion of the fixed stars is probably not uniform for such long intervals of time. The proper motion of α Crucis is about one third of a second annually, chiefly in right ascension. It may be presumed that the uncertainty produced by neglecting this does not exceed the above-mentioned limit."