

taching a special and well-informed astronomer to every great expedition was so generally felt, that Queen Isabella wrote to Columbus on the 5th of September, 1493, "that although he had shown in his undertakings that he knew more than any other living being (*que ninguno de los nacidos*), she counseled him, nevertheless, to take with him Fray Antonio de Marchena, as being a learned and skillful astronomer." Columbus writes, in the narrative of his fourth voyage, that "there was only one infallible method of taking a ship's reckoning, viz., that employed by astronomers. He who understands it may rest satisfied, for that which it yields is like unto a prophetic vision (*vision profetica.*)\* Our ignorant pilots, when they

\* The queen writes to Columbus: "Nosotros mismos y no otro alguno, *habemos visto algo del libro que nos dejústes,*" "we ourselves, and no one else, have seen the book you have sent us" (a journal of his voyage, in which the distrustful navigator had omitted all numerical data of degrees of latitude and of distances): "quanto mas en esto platicamos y vemos, conocemos cuan gran cosa ha seido este negocio vuestro, y que habeis sabido en ello mas que nunca se pensó que pudiera saber ninguno de los nacidos. Nos parece que seria bien que llevásedes con vos un buen Estrologo, y nos parescia que seria bueno para esto Fray Antonio de Marchena, porque es buen Estrologo, y siempre, nos pareció que se conformaba con vuestro parecer." "The more we have examined it, the more we have appreciated your undertaking, and the more we have felt that you have shown by it that you know more than any human being could be supposed to know. It appears to us that it would be well for you to take with you some astrologer, and that Fray Antonio de Marchena would be a very suitable person for such a purpose." Respecting this Marchena, who is identical with Fray Juan Perez, the guardian of the Convent de la Rabida, where Columbus, in his poverty, in 1484, "asked the monks for bread and water for his child," see Navarrete, t. ii., p. 110; t. iii., p. 597 and 603 (Muñoz, *Hist. del Nuevo Mundo*, lib. iv., § 24.) Columbus, in a letter from Jamaica to the *Christianisimos Monarcas*, July 7, 1503, calls the astronomical ephemerides "*una vision profetica.*" (Navarrete, t. i., p. 306.) The Portuguese astronomer, Ruy Falero, a native of Cubilla, nominated by Charles V., in 1519, Caballero de la Orden de Santiago, at the same time as Magellan, played an important part in the preparations for Magellan's voyage of circumnavigation. He had prepared expressly for him a treatise on determinations of longitude, of which the great historian Barros possessed some chapters in manuscript (*Examen Crit.*, t. i., p. 276 and 302; t. iv., p. 315), probably the same which were printed at Seville by John Escomberger in 1535. Navarrete (*Obra póstuma sobre la Hist. de la Nautica y de las ciencias Matematicas*, 1846, p. 147) had not been able to find the book even in Spain. Respecting the four methods of determining the longitude which Falero had received from the suggestions of his "*Demonio familiar,*" see Herrera, Dec. ii., lib. ii., cap. 19, and Navarrete, t. v., p. lxxvii. Subsequently the cosmographer Alonso de Santa Cruz, the same who (like the apothecary of Seville, Felipe Guillen, 1525) attempted to determine the longitude by means of the variation of the magnetic needle, made impracticable pro-