

ghiera survived Columbus sufficiently long to become acquainted with the deflection of the waters of the Atlantic throughout their whole course, and to recognize the existence of the rotatory movement in the Mexican Gulf, and the propagation of this movement to the Tierra de los Bacallaos (Newfoundland) and the mouth of the St. Lawrence. I have elsewhere circumstantially considered how much the expedition of Ponce de Leon, in the year 1512, contributed to the establishment of more exact ideas, and have shown that in a treatise written by Sir Humphrey Gilbert between the years 1567 and 1576, the movement of the waters of the Atlantic Ocean from the Cape of Good Hope to the Banks of Newfoundland is treated according to views which coincide almost entirely with those of my excellent deceased friend, Major Rennell.

At the same time that the knowledge of oceanic currents was generally diffused, men also became acquainted with those great banks of sea weed (*Fucus natans*)—the oceanic meadows which presented the singular spectacle of the accumulation of a social plant over an extent of space almost seven times greater than the area of France. The *great Fucus Bank*, the *Mar de Sargasso*, extends between 19° and 34° north latitude. The major axis is situated about 7° west of the island of Corvo. The *lesser Fucus Bank* lies in the space between the Bermudas and the Bahamas. Winds and partial currents variously affect, according to the character of the season, the length and circumference of these Atlantic fucoid meadows, for the first description of which we are indebted to Columbus. No other sea in either hemisphere presents an accumulation of social plants on so large a scale.*

The important era of geographical discoveries and of the sudden opening of an unknown hemisphere not only extended our knowledge of the earth, but it also expanded our views of the whole universe, or, in other words, of the visible vault of heaven. Since man, to borrow a fine expression of Garcilaso de la Vega, in his wanderings to distant regions sees “lands and stars simultaneously change,”† the advance to the equator on both coasts of Africa, and even beyond the southern extremity of the New Continent, must have presented to travelers, by sea and land, the glorious aspect of the southern constellations longer and more frequently than could have been

* *Examen Crit.*, t. iii., p. 26 and 66-99; and see, also, *Cosmos*, vol. i., p. 308.

† Alonso de Ercilla has imitated the passage of Garcilaso in the *Araucana*: “Climas passè, mudè constelaciones.”—See *Cosmos ante*, p. 72.