

needle determined at the Cape was four degrees less than could have been conjectured from the observations made at the same period along the coasts. In the same manner as the granite of Galicia contains tin disseminated in its mass, that of Cape Finisterre probably contains micaceous iron. In the mountains of the Upper Palatinate there are granitic rocks in which crystals of micaceous iron take the place of common mica.

On the 8th, at sunset, we descried from the mast-head an English convoy sailing along the coast, and steering towards south-east. In order to avoid it we altered our course during the night. From this moment no light was permitted in the great cabin, to prevent our being seen at a distance. This precaution, which was at the time prescribed in the regulations of the packet-ships of the Spanish navy, was extremely irksome to us during the voyages we made in the course of the five following years. We were constantly obliged to make use of dark-lanterns to examine the temperature of the water, or to read the divisions on the limb of the astronomical instruments. In the torrid zone, where twilight lasts but a few minutes, our operations ceased almost at six in the evening. This state of things was so much the more vexatious to me as from the nature of my constitution I never was subject to sea-sickness, and feel an extreme ardour for study during the whole time I am at sea.

On the 9th of June, in latitude $39^{\circ} 50'$, and longitude $16^{\circ} 10'$ west of the meridian of the observatory of Paris, we began to feel the effects of the great current which from the Azores flows towards the straits of Gibraltar and the Canary Islands. This current is commonly attributed to that tendency towards the east, which the straits of Gibraltar give to the waters of the Atlantic Ocean. M. de Fleurieu observes that the Mediterranean, losing by evaporation more water than the rivers can supply, causes a movement in the neighbouring ocean, and that the influence of the straits is felt at the distance of six hundred leagues. Without derogating from the respect I entertain for the opinion of that celebrated navigator, I may be permitted to consider this important object in a far more general point of view.

When we cast our eyes over the Atlantic, or that deep valley which divides the western coasts of Europe and Africa from the eastern coasts of the new world, we distinguish