

Hence it is probable, that, in the plains of the torrid zone, or in the valleys but little elevated, the mean heat of which is from  $25.5^{\circ}$  to  $27^{\circ}$ , the temperature of the bottom of the lakes can never be below  $21^{\circ}$  or  $22^{\circ}$ . If in the same zone the ocean contain at depths of seven or eight hundred fathoms, water the temperature of which is at  $7^{\circ}$ , that is to say, twelve or thirteen degrees colder than the maximum of the heat\* of the equinoctial atmosphere over the sea, I think it must be considered as a direct proof of a submarine current, carrying the waters of the pole towards the equator. We will not here solve the delicate problem, as to the manner in which, within the tropics and in the temperate zone, (for example, in the Caribbean Sea and in the lakes of Switzerland,) these inferior strata of water, cooled to  $4^{\circ}$  or  $7^{\circ}$ , act upon the temperature of the stony strata of the globe which they cover; and how these same strata, the primitive temperature of which is, within the tropics,  $27^{\circ}$ , and at the lake of Geneva  $10^{\circ}$ , react upon the half-frozen waters at the bottom of the lakes, and of the equinoctial ocean. These questions are of the highest importance, both with regard to the economy of animals that live habitually at the bottom of fresh and salt waters, and to the theory of the distribution of heat in lands surrounded by vast and deep seas.

The lake of Valencia is full of islands, which embellish the scenery by the picturesque form of their rocks, and the beauty of the vegetation with which they are covered: an advantage which this tropical lake possesses over those of the Alps. The islands are fifteen in number, distributed in three groups;† without reckoning Morro and Cabrera, which are already joined to the shore. They are partly

\* It is almost superfluous to observe that I am considering here only that part of the atmosphere lying on the ocean between  $10^{\circ}$  north and  $10^{\circ}$  south latitude. Towards the northern limits of the torrid zone, in latitude  $23^{\circ}$ , whither the north winds bring with an extreme rapidity the cold air of Canada, the thermometer falls at sea as low as  $16^{\circ}$ , and even lower.

† The position of these islands is as follows: northward, near the shore, the Isla de Cura; on the south-east, Burro, Horno, Otama, Sorro, Caguira, Nuevos Peñones, or the Aparecidos; on the north-west, Cabo Blanco, or Isla de Aves, and Chamberg; on the south-west, Brucha and Culebra. In the centre of the lake rise, like shoals or small detached rocks, Vagre, Fraile, Peñasco, and Pan de Azucar.