

## CHAPTER II.

ON THE DEPTH OF THE SEA, AND THE CONFIGURATION OF ITS BED—ITS TEMPERATURE.



THE configuration of the ocean is not as yet well known to us ; but it is reasonable to suppose that it does not essentially differ from that of the continents ; that it is, in truth, a vast submerged continent ; its basin presenting a succession of valleys, table-lands, and lofty mountains, whose summits form the islands.

If the ocean waters were gradually to retire, we should see, in the first place, the number of these islands greatly augmented, and their area continually enlarging ; then isthmuses would arise to connect them with each other ; by degrees new continents would make their appearance, whose depressions would retain a portion of the waters under the form of lakes. All the northern hemisphere, with its countless lakes, which are now deprived of the saline elements, gives us the impression, and presents the appearance, of a land abandoned by the waters, which have withdrawn towards the south. This hypothesis is confirmed by the enormous depth of the austral seas ; it is in the southern hemisphere is accumulated the great mass of the world's waters.

The soundings hitherto made not being numerous enough to furnish an exact idea of the depth of the sea, the late M. Adhémar,—a physicist of well-merited renown,—attempted to arrive at it by way of induction ; starting from the sufficiently plausible hypothesis that the broader a sheet of water the greater its depth. Assuming as unity (= 1) the length of the different parallels, Adhémar endeavoured to ascertain what might be the fraction of those circles which correspond to the liquid surface. His calculations gave the following results:—