ble materials; and where they are covered with earth, ſhe has bound it together by a thick and firm matting of graſs, and thus ſecured it from the rains; and ſhould ac­cident deprive it of this covering, ſhe takes care imme­diately to ſupply the defect. Even ſhould the earth be ſwept away together with its covering, nature has ſtill ſuch reſources left as frequently reſtore things to their former ſtate. Many kinds of moſs, one would be tempted to think, have been created for this very purpoſe: they take root and flouriſh almoſt upon the bare rock, and furniſh as they decay a ſufficient bed for ſeveral of the hardy Alpine plants. Theſe periſh in their turn, and others ſucceed them. The roots of the plants bind fast the earth as it accumulates, more plants ſpring up and ſpread wider, till by degrees the whole ſurface is covered with a firm coat of graſs. Even the rain, which always contains in it a good deal of earth, con­tributes ſomething to haſten the proceſs.

As the vegetation of ſtone, an argument advanced by the philoſophers who ſupport the oppoſite theory, is now, we believe, given up by all parties, it is needleſs to take any farther notice of it here, (ſee Stone). The hypotheſis of M. Celſius, that water is converted into earth, has alſo ſhared the ſame fate, becauſe it was unſupported by experiment, and contrary to every thing that we know either about earth or water. It is a little extraordinary that philoſophers have been ſo laviſh of water as to convert it in this manner into ſtone and earth, when they had given it, one would think, ſuffi­cient employment before in making new worlds and in confuting Moſes.

As the ſea covers ſo great a portion of the globe, we ſhould, no doubt, by exploring its bottom, diſcover a vaſt number of intereſting particulars. Unfortunately in the greater part of the ocean this has hitherto been impoſſible. Part, however, has been examined; and the diſcoveries which this examination has produced may enable us to form ſome idea at leaſt of the whole. The bottom of the ſea, as might have been conjectured in­deed beforehand, bears a great reſemblance to the ſurface of the dry land, being, like it, full of plains, rocks, caverns, and mountains; ſome of which are abrupt and almoſt perpendicular, while others riſe with a gentle de­clivity, and ſometimes tower above the water and form iſlands. Neither do the materials differ which compoſe the bottom of the ſea and the baſis of the dry land. If we dig to a conſiderable depth in any part of the earth, we uniformly meet with rock; the ſame thing holds in the ſea. The ſtrata, too, are of the ſame kind, diſpoſed in the ſame manner, and form indeed but one whole. The ſame kind of mineral and bituminous ſubſtances are alſo found interſperſed with theſe ſtrata; and it is to them probably that the ſea is indebted for its bitter taſte. Over theſe natural and original ſtrata an artifi­cial bed has pretty generally been formed, compoſed of different materials in different places. It conſiſts fre­quently of muddy tartareous ſubſtances firmly cemented

together, ſometimes of ſhells or coral reduced to pow­der, and near the mouths of rivers it is generally com­poſed of fine ſand or gravel. The bottom of the ſea reſembles the land likewiſe in another particular: many freſh ſprings and even rivers riſe out of it, which, diſplacing the ſalt water, render the lower part of the ſea wherever they abound quite freſh. An inſtance of this kind occurs near Goa on the weſtern coaſt of Indoſtan @@\*, and another @@§ in the Mediterranean ſea not far from Marſeilles. Theſe facts occaſioned a notion, which later experiments have exploded, that the ſea beyond a certain depth was always freſh.

Subſtances of a very beautiful appearance are fre­quently brought up by the founding line from the bot­tom of the ſea. The plummet is hollowed below, and this cavity filled with tallow, to which ſome of the ſub­ſtances adhere which form the bed of the ocean. Theſe are generally ſand, gravel, or mud; but they are ſome­times of the brighteſt ſcarlet, vermilion, purple, and yellow; and ſometimes, though leſs frequently, they are blue, green, or white. Theſe colours are owing to a kind of jelly which envelopes the ſubſtances, and vaniſh entirely as ſoon as this jelly dries. At times, how­ever, they aſſume the appearance of tartareous crufts, and are then ſo permanent, that they can be received into white wax melted and poured round them, and perhaps by proper care might be converted into valu­able paints.

Sea-water is really, as any one may convince himſelf by pouring it into a glaſs, as clear and tranſparent as river water. The various appearances therefore which it af­firmes are owing to accidental cauſes, and not to any change in the water itſelf. The depth, or the materials which compoſe the bottom of the ſea, occaſions it to aſſume different colours in different places. The Ara­bian gulph, for inſtance, is ſaid to be red from the co­lour of the ſands which form its bed. The appearance of the ſea is affected too by the winds and the ſun, while the clouds that paſs over it communicate all their various and fleeting colours. When the ſun ſhines it is green; when the ſun gleams through a fog it is yel­low; near the north pole it appears black; while in the torrid zone its colour is often brown. Sometimes the ſea aſſumes a luminous appearance. Sec Light, n⁰ 37.

The ſea contains the greateſt quantity of ſalt in the torrid zone, where otherwiſe from the exceſſive heat it would be in danger of putrefaction: as we advance northward this quantity diminiſhes, till at the pole it nearly vaniſhes altogether. Under the line Lucas found that the ſea contained a ſeventh part of ſolid contents, conſiſting chiefly of ſea-ſalt. At Harwich he found it yielded 1/25th of ſea-ſalt. At Carlſcroon in Sweden it contains 1/30 th part @@(B), and on the coaſt of Greenland a great deal leſs. This deficiency of ſalt near the poles probably contributes a good deal towards the prodigi­ous quantities of ice which are met with in theſe ſeas;

@@@[m]\*

@@@[m]§

cording to his own calculation, it would require a million of years to level theſe mountains with the plain, though they continued to decreaſe at the ſame rate; and philoſophers tell us that this rate is conſtantly diminiſhing!

@@@(b) This gradual diminution of ſaltneſs ſrom the equator to the pole is not, however, without particular ex­ceptions, The Mediterranean ſea contains 1/27th of ſea-ſalt, which is leſs than the German ſea contains.