to 113 at any rate ; thoſe that lie near the centre, or even a great way from it, being for ever hid. one reaſon why we cannot penetrate to any great depth is, that as we go down the air becomes foul, loaded with perni­cious vapours, inflammable air, fixed air, &c*.* which destroy the miners, and there is no poſſibility of going on. In many places, however, theſe vapours become perni­cious much ſooner than in others, particularly where sulphureous minerals abound, as in mines of metal, coal, &c.

But however great differences there may be among the under ſtrata, the upper one is in ſome reſpects the ſame all over the globe, at leaſt in this reſpect, that it is fit for the ſupport of vegetables, which the others are not, without long exposure to the air. Properly ſpeakmg, indeed, the upper ſtratum of the earth all round, is compoſed of the pure vegetable mold, though in many places it is mixed with large quantities of ether ſtrata, as clay, sand, gravel, &c. ; and hence pro­ceed the differences of soils ſo well known to thoſe who practiſe agriculture.

It has been ſuppoſed, by ſome naturaliſts, that the different ſtrata of which the earth is compoſed were originally formed at the creation, and have continued in a manner immutable ever since : but this cannot poſſibly have been the caſe, since we find that many of the ſtrata are ſtrangely intermixed with each other ; the bones of animals both marine and terreſtrial are fre­quently found at great depths in the earth ; beds of oyſter-ſhells are found of immenſe extent in ſeveral coun­tries ; and concerning theſe and other ſhell-fiſh, it is re­markable, that they are generally found much farther from the ſurface than the bones or teeth either oſ ma­rine or terreſtrial animals. Neither are the ſhells or other remains of ſiſh found in thoſe countries adjoining to the ſeas where they grow naturally, but in the moſt diſtant regions. Mr Whitehurſt, in his Inquiry into the Original State and Formation of the Earth, has given the following account of many different kinds of ani­mals, whoſe ſhells and other remains or *exuvia* are found in England ; though at preſent the living animals are not to be found except in the Eaſt and West Indies.

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| *A Catalogue of Extraneous Fossils, showing where they were dug up ; alſo their native Climates, Mostly ſelected from the curious Cabinet of Mr Neilson, in* King-ſtreet, Red-Lion Square. | |
| Their names and Places where found.  Chambered Nautilus. Sheppy Islands ; Richmond in Surrey ;  Sherbone in Dorſetſhire, - \_ | Native Climates.  *Chineſe Ocean, and other Parts of that*  *great sea.* |
| Teeth of Sharks. Sheppy Ifland, Oxfordshire, Middleſex, Surrey, Northamptonſhire, | *East and West In-*  *dies.* |
| Sea-Tortoise, ſeveral kinds; the *Hawskbill, Loggerhead, and Green* ſpecies. Sheppy Island, | *West Indies.* |
| Mangrove Tree Oysters. Sheppy Island, | *Weβ Indies.* |
| Coxcomb Tree Oysters. Oxfordſhire, Glouceſterſhire, Dor­ſetſhire, and Hanover, | *Cοast of Guinea.* |
| VERTEBRÆ and PALATES of the Orbes. Sheppy Iſlands, and many other parts of England, | *East and West In­dies.* |

|  |  |
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| Their names, and Places where found. | Native Climate«. |
| Crocodile. Germany, Derbyſhire, Nottinghamſhire, Oxfordſhire, and Yorkſhire, |  |
| Alligator’s Teeth. Oxfordshire, Sheppy Island, - J | *East and West Indies.* |
| The Banded Buccinu μ. Oxfordſhire, and the Alps, | *West Indies.* |
| The Dipping-Snail, and Star-Fish. Sheppy Iſland. | *West Indies.* |
| Tail Buccinum. Sheppy Iſland,  Hordel Cliff, Hampſhire, - j | *East Indies.* |

Nothing has more perplexed thoſe who undertake to form theories of the earth than theſe appearances. Some have at once boldly asserted, from theſe and other phe­nomena, that the world is eternal. Others have had recourſe to the univerſal deluge. Some, among whom is the Count de Buffon, endeavour to prove that the ocean and dry land are perpetually changing places ; that for many ages the higheſt mountains have been covered with water, in conſequence of which the ma­rine animals juſt mentioned were generated in ſuch vaſt quantities, that the waters will again cover theſe mountains, the habitable part of the earth become ſea, and the ſea become dry land as before, &c. Others have imagined that they might be occaſioned by volcanoes, earthquakes, &c. which confound the different ſtrata, and often intermix the productions of the ſea with thoſe of the dry land.

Theſe ſubjects have been discuſſed under the article Earth, to which therefore we refer the reader; and ſhall conclude with ſome account of the ſtrata in thoſe places where they have been moſt particularly obſerved.

Under the article Natural History, Sect. I. it is obſerved, that the upper ſtrata oſ the earth and moun­tains generally conſiſt of rag-ſtone, the next of slate, the third of marble filled with petrifactions, the fourth again of slate, and the next of free-ſtone. But we are far from considering this as a rule which holds universally. The ſtrata differ exceedingly in a great number of places ; ſome inſtances of which we ſhall give from Mr Whitehurſt.—At Alfreton Common in Derbyſhire, the ſtrata are,

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| *A Table of the Strata at Alereton Common.* | | |
| Numb. | Feet. | Inch. |
| I Clay | 7 | 0 |
| 2 Ratchell, *fragments of stone* | 9 | 0 |
| 3 Bind *indurated clay* | 03 | 4 |
| 4 Stone, *argillaceous concreted clay* | 6 | 0 |
| 5 Bind . | 8 | 8 |
| *6* Bind | 25 | 0 |
| 7 Stone, *a black colour* | 5 | 0 |
| 8 Bind | 2 | 0 |
| 9 Stone | 2 | 0 |
| io Bind | 5 | 0 |
| 11 Bind | *5* | 0 |
| 12 Coal | **I** | 6 |
| 13 Bind | **I** | 6 |
| 14 Stone | 23 | 0 |
| 15 Stone | 14 | 0 |
| 16 Bind | 7 | 0 |
| 17 SmutT, *a black substance, resembling a* ſtratum *of coal-dust* | 30 | |
|
| 5 M Carried over | 138 | 0 |