

If the same conchologists were interrogated respecting the power which the ancient inhabitant of the shell might possess of changing its structure when placed in different circumstances, they would be compelled to confess their ignorance. A knowledge of fossil shells is highly useful to the geologist in cases where the superposition of strata cannot be ascertained; but fossil shells alone, give us less positive information respecting the ancient condition of the globe, than the organic remains of other classes of animals, or of vegetables; because, for any thing we know to the contrary, all the species of molluscous animals that inhabited these shells, *may have been capable* of living in the same medium, and under the same conditions. But different species of vertebrated animals, and plants, must have existed under very different conditions, on land or in water. M. Boué, an enlightened and indefatigable continental geologist, to whose labours the science is greatly indebted, is meritoriously endeavouring to resist the absurd attempt, to force Fossil Conchology into the chair of Geology. I trust his example will be followed by English geologists. Indeed, I am convinced that many of the frivolous distinctions introduced by conchologists will soon pass away, as those of mineralogy have already passed;* and that these two branches of natural history, will take their proper stations as auxiliaries subservient to geology.

It will be seen, by the titles to the new chapters in the present volume, that they comprise various subjects connected with important enquires relating to the Theory of the Earth. The opinions of the author have not been rashly advanced, to oppose or maintain the systems of other geologists: they are the result of long-continued reflection, on what appeared to him the most probable explanations of geological phenomena. The author says *probable*, because he considers that the words truth and certainty cannot yet be introduced with advantage into geological theories.

The author requests the experienced geologist, who may honour this volume with the perusal, to refer to Chap. XXII., in which he will find that the doctrine of the elevation of mountain ranges, at different epochs, was distinctly announced, and was published by him in the year 1823, supported by the same principles, as those recently advanced by M. Elie de Beaumont. He has farther *proved*, that the elevation of large islands, and continents, was long posterior to the elevation of mountain ranges.

* See the end of the Preface to the first edition. Some of the distinctions in Mineralogy, on which most important conclusions have been founded respecting the formations of rocks, are now known to be erroneous: magnesian minerals were all stated to be of aqueous origin. Pyroxene (Augite) was considered as an unerring criterion of igneous products, and to be an entirely distinct species from Amphibole (Hornblende): they are now proved to be identical minerals, convertible into each other, according to the degree of temperature under which they are crystallized. Observations on the true value of Fossil Conchology will be found in Chapter XVII.