

was in some measure obscured. But it was not long before a very able attempt was made to obliterate it altogether. In 1828, Mr. Lyell set out on a geological tour through France and Italy.⁶ He had already conceived the idea of classing the tertiary groups by reference to the number of recent species which were found in a fossil state. But as he passed from the north to the south of Italy, he found, by communication with the best fossil conchologists, Borelli at Turin, Guidotti at Parma, Costa at Naples, that the number of extinct species decreased; so that the last-mentioned naturalist, from an examination of the fossil shells of Otranto and Calabria, and of the neighboring seas, was of opinion that few of the tertiary shells were of extinct species. To complete the series of proof, Mr. Lyell himself explored the strata of Ischia, and found, 2000 feet above the level of the sea, shells, which were all pronounced to be of species now inhabiting the Mediterranean; and soon after, he made collections of a similar description on the flanks of Etna, in the Val di Noto, and in other places.

The impression produced by these researches is described by himself.⁷ "In the course of my tour I had been frequently led to reflect on the precept of Descartes, that a philosopher should once in his life doubt everything he had been taught; but I still retained so much faith in my early geological creed as to feel the most lively surprize on visiting Sortino, Pentalica, Syracuse, and other parts of the Val di Noto, at beholding a limestone of enormous thickness, filled with recent shells, or sometimes with mere casts of shells, resting on marl in which shells of Mediterranean species were imbedded in a high state of preservation. All idea of [necessarily] attaching a high antiquity to a regularly-stratified limestone, in which the casts and impressions of shells alone were visible, vanished at once from my mind. At the same time, I was struck with the identity of the associated igneous rocks of the Val di Noto with well-known varieties of 'trap' in Scotland and other parts of Europe; varieties which I had also seen entering largely into the structure of Etna.

"I occasionally amused myself," Mr. Lyell adds, "with speculating on the different rate of progress which geology might have made, had it been first cultivated with success at Catania, where the phenomena above alluded to, and the great elevation of the modern tertiary beds in the Val di Noto, and the changes produced in the historical era by the Calabrian earthquakes, would have been familiarly known."

⁶ 1st ed. vol. iii. Pref.

⁷ Lyell, 1st ed. Pref. x.