

into two groups ; the lowermost beds, like those of Auvergne, repeatedly alternate with lavas, and thus denote the commencement of the eruptions of the ancient craters. Over these are accumulations of porphyritic pebbles, covered, at elevations of many hundred feet, by beds of shells of recent species ; and the sides of the mountains appear like a succession of sea-beaches, which have been slowly and tranquilly lifted up. The altered character of the tertiary deposits within the influence of the igneous products,—the transmutation of accumulations of loose pebbles into solid, compact rocks,—and the occurrence of metalliferous veins in strata of comparatively modern formation,—are facts so powerfully exemplifying the geological principles enunciated in the former lectures, that although this discourse has extended to a great length, I cannot omit Mr. Darwin's spirited and graphic description of these phenomena, as originally communicated in a letter to Professor Henslow, of Cambridge, dated Valparaiso, March 1835.

“ You will have heard of the dreadful earthquake of the 20th February. I wish some of the geologists, who think the earthquakes of these times are trifling, could see how the solid rocks are shivered. In the town there is not one house habitable ; the ruins remind me of the drawings of the desolated eastern cities. We were at Valdivia at the time, and felt the shock very severely. The sensation was like that of skating over very thin ice, that is, distinct undulations were perceptible. The whole scene of Conception and Talesana is one of the most interesting spectacles we have beheld since we left England. I was much pleased at Chiloe by finding a *thick bed of recent oyster-shells*