

only on the present shore, but at the base of the ancient cliffs far in the interior. Lastly, it remains only to speak of the terraces, which extend with a gentle slope from the base of almost all the inland cliffs, and are for the most part narrow where the rock is hard, but sometimes half a mile or more in breadth where it is soft. They are the effects of the encroachment of the ancient sea upon the shore at those levels at which the land remained for a long time stationary. The justness of this view is apparent on examining the shape of the modern shore wherever the sea is advancing upon the land, and removing annually small portions of undermined rock. By this agency a submarine platform is produced on which we may walk for some distance from the beach in shallow water, the increase of depth being very gradual, until we reach a point where the bottom plunges down suddenly. This platform is widened with more or less rapidity according to the hardness of the rocks, and when upraised it constitutes an inland terrace.

But the four principal lines of cliff observed in the Morea do not imply, as some have imagined, four great eras of sudden upheaval; they simply indicate the intermittance of the upheaving force. Had the rise of the land been continuous and uninterrupted, there would have been no one prominent line of cliff; for every portion of the surface having been, in its turn, and for an equal period of time, a sea-shore, would have presented a nearly similar aspect. But if pauses occur in the process of upheaval, the waves and currents have time to sap, throw down, and clear away considerable masses of rock, and to shape out at several successive levels lofty ranges of cliffs with broad terraces at their base.

There are some levelled spaces, however, both ancient and modern, in the Morea, which are not due to denudation, although resembling in outline the terraces above described. They may be called Terraces of Deposition, since they have resulted from the gain of land upon the sea where rivers and torrents have produced deltas. If the sedimentary matter has filled up a bay or gulf surrounded by steep mountains, a flat plain is formed skirting the inland precipices; and if these deposits are upraised, they form a feature in the landscape very similar to the areas of denudation before described.

In the island of Sicily I have examined many inland cliffs like those of the Morea; as, for example, near Palermo, where a precipice is seen consisting of limestone, at the base of which are numerous caves. One of these, called San Ciro, about 2 miles distant from Palermo, is about 20 feet high, 10 wide, and 180 above the sea. Within it is found an ancient beach (*b*, fig. 93), formed of pebbles of various rocks, many of which must have come from places far remote. Broken pieces of coral and shell, especially of oysters and pectens, are seen intermingled with the pebbles. Immediately above the level of this beach, *serpulæ* are still found adhering to the face of the rock, and the limestone is perforated by *lithodomi*. Within the grotto, also, at the same level, similar perforations occur; and so numerous are the holes, that the rock is compared by Hoffmann to a target pierced by musket balls. But in order