

opinion that the shelves were formed when the glens were still arms of the sea, and, consequently, that there never were any seaward barriers. According to him, the land emerged during a slow and uniform upward movement, like that now experienced throughout a large part of Sweden and Finland; but there were certain pauses in the upheaving process, at which times the waters of the sea remained stationary for so many centuries as to allow of the accumulation of an extraordinary quantity of detrital matter, and the excavation, at many points immediately above the sea-level, of deep notches and bare cliffs in the hard and solid rock.

This theory I adopted in 1841 ('Elements,' 2nd ed.), as appearing to me less objectionable than any other then proposed. The phenomena most difficult to reconcile with it are, first, the abrupt cessation of the roads at certain points in the different glens; secondly, their unequal number in different valleys connecting with each other, there being three, for example, in Glen Roy, and only one in Glen Spean; thirdly, the precise horizontality of level maintained by the same shelf over a space many leagues in length, requiring us to assume, that during a rise of 1,156 feet no one portion of the land was raised even a few yards above another; fourthly, the coincidence of level already alluded to of each shelf with a *col*, or the point forming the head of two glens, from which the rain-waters flow in opposite directions. This last-mentioned feature in the physical geography of Lochaber Mr. Darwin endeavoured to explain in the following manner. He called these *cols* 'land-straits,' and regarding them as having been anciently sounds or channels between islands, he pointed out that there is a tendency in such sounds to be silted up, and always the more so in proportion to their narrowness. In a chart of the Falkland Islands, by Capt. Sullivan, R.N., it appears that there are several examples there of straits where the soundings diminish regularly towards the narrowest part.