

both sides of the valley, from the manner in which the bottom of the valley near the Andes expands into a great estuary-like plain with sand-hillocks on it, and from the occurrence of a few sea-shells lying in the bed of the river. If I had space I could prove that South America was formerly here cut off by a strait, joining the Atlantic and Pacific Oceans, like that of Magellan. But it may yet be asked, how has the solid basalt been removed? Geologists formerly would have brought into play the violent action of some overwhelming debacle; but in this case such a supposition would have been quite inadmissible; because the same step-like plains with existing sea-shells lying on their surface, which front the long line of the Patagonian coast, sweep up on each side of the valley of Santa Cruz. No possible action of any flood could thus have modelled the land, either within the valley or along the open coast; and by the formation of such step-like plains or terraces the valley itself has been hollowed out. Although we know that there are tides, which run within the Narrows of the Strait of Magellan at the rate of eight knots an hour, yet we must confess that it makes the head almost giddy to reflect on the number of years, century after century, which the tides, unaided by a heavy surf, must have required to have corroded so vast an area and thickness of solid basaltic lava. Nevertheless, we must believe that the strata undermined by the waters of this ancient strait were broken up into huge fragments, and these, lying scattered on the beach, were reduced first to smaller blocks, then to pebbles, and lastly to the most impalpable mud, which the tides drifted far into the Eastern or Western Ocean.

With the change in the geological structure of the plains the character of the landscape likewise altered. While rambling up some of the narrow and rocky defiles, I could almost have fancied myself transported back again to the barren valleys of the island of St. Jago. Among the basaltic cliffs I found some plants which I had seen nowhere else, but others I recognized as being wanderers from Tierra del Fuego. These porous rocks serve as a reservoir for the scanty rain-