

Besides a line of the *greatest* wave-action, we may also distinguish a height where this action is entirely null; and it is evident, from facts already stated, that the point will be found somewhat above low-tide level. The lower waters of the surge, instead of causing degradation, are *accumulative* in their ordinary action, when the material exposed to them is movable: they are constantly piling up, while the upper waters are eroding, and preparing material to be carried off. The height at which these two operations balance one another will be the height, therefore, of the line of no degradation. As the sea at low tide is mostly quiet, and the lower of the surging waters swell on to receive the upper and parry the blow, and moreover, there is next a return current outward, we should infer that the line would be situated more or less above low tide, according to the height of the tide and the surges accompanying it. We are not left to conjecture on this point; for the examples presented by the shores of Australia and New Zealand afford definite facts. Degradation has there taken place sufficient to carry off cliffs of rock, of great extent; yet below a certain level, the e has had little or no effect. This height, on the eastern shores of Australia, is three feet above ordinary low tide, and at New Zealand, above five feet. With regard to the height varying with the tides, we observe that in the Paumotus, where the water rises but two or three feet, the platform is seldom over four to six inches above low tide, which is proportionally less than at Australia and New Zealand, where the tide is six and eight feet. From these observations it appears that the height of no *wave-action*, as regards the degradation of a coast under ordinary seas, is situated near one-fifth tide in the Paumotus, and above half-tide at New Zealand, showing a great difference between the effect of the comparatively quiet surges of the middle Pacific, and the more violent of New Zealand. Within the Bay of Islands, where the sea has not its full force, the platform, as around the "Old Hat," is but little above low-water level. The exact relation of the height of the platform to the height and force of the tides, and the force of wave-action, remains to be determined more accurately by