

statement which only rests on assertion without corroborative observation. No alteration could be detected by the eye in the heights of these numerous pinnacles, which appeared to be in exactly the same state as when this group was surveyed by Captains Fitz Roy and Sullivan in 1834-39.

The assertion that no alteration could be detected by the eye was of course of no more value than that of the residents, who said that an alteration had taken place; fortunately, however, Sir James Clark Ross, during his stay at the group in 1842 to refit the "Erebus" and "Terror" for another cruise to the southward, had taken tidal observations and left permanent marks on the rocks immediately adjacent to his observation spot. These marks, two in number, were made, one by levelling the top of a rock and the other by cutting a ledge in the face of a cliff, both 5 feet 8 inches above the mean level of the sea as deduced from five months observations. They are situated on the coast immediately to the westward of the small stream west of the entrance to the carenage basin of Port Louis, Berkeley Sound, so that a comparison could be made, with some degree of accuracy, of the state of the sea level now with that as determined by Sir James Ross thirty-four years previously.

It was of course known that to make a really accurate comparison of the tidal wave and mean level of the sea now with the result deduced from the observations of Sir James Ross, a considerable time would be required; for the whole question is so complex that observations extending over only a few tides are but of little value, and had it been requisite to investigate the point scientifically, arrangements should have been made for an accurate tidal and barometric register for a period which should embrace the months devoted by Sir James Ross to these observations at Port Louis. But when it is only necessary to ascertain within a few inches whether any alteration has taken place, the mean sea-level deduced from two or three successive tides, when the barometer is near its normal condition, is all that is requisite, and was all that was found necessary, for the mean result of two high and two low waters at Port Louis, during which time the barometer was steady at an average of 0.1 of an inch above its mean height for the year, gave the mean level of the sea within an inch of Sir James Ross's result, and just an inch less than his, corresponding precisely with the amount which should be allowed for the extra pressure of 0.1 of an inch of the mercurial column.

It may therefore be safely asserted that the inhabitants of Stanley were in error in supposing that they had detected an alteration in the level of the sea, for if any alteration had taken place it must have been far too slight to be noticed by casual observers. The fact is, that the observations of Sir James Ross at Port Louis, as well as those of the Challenger at Port Stanley, show certain irregularities of the tide which may easily be mistaken for alterations of sea level. Firstly, the diurnal inequality is considerable; on one occasion it amounted to  $1\frac{1}{2}$  feet at Port Stanley, that is, a difference of 3 feet in the range of the two tides, and the inequality disappears at neaps,