

than three or four leagues, and that only in very small quantity, and bad: the soil was absolutely sterile; I looked in vain even for a lichen adhering to the rocks. At the present day, with the advantage of beasts of burden, a mine, unless it were very rich, could scarcely be worked here with profit. Yet the Indians formerly chose it as a place of residence! If at the present time two or three showers of rain were to fall annually, instead of one, as now is the case, during as many years, a small rill of water would probably be formed in this great valley; and then, by irrigation (which was formerly so well understood by the Indians), the soil would easily be rendered sufficiently productive to support a few families.

I have convincing proofs that this part of the continent of South America has been elevated near the coast at least from 400 to 500, and in some parts from 1,000 to 1,300 feet, since the epoch of existing shells; and further inland the rise possibly may have been greater. As the peculiarly arid character of the climate is evidently a consequence of the height of the Cordillera, we may feel almost sure that before the later elevations the atmosphere could not have been so completely drained of its moisture as it now is; and as the rise has been gradual, so would have been the change in climate. On this notion of a change of climate since the buildings were inhabited, the ruins must be of extreme antiquity, but I do not think their preservation under the Chilean climate any great difficulty. We must also admit on this notion (and this perhaps is a greater difficulty) that man has inhabited South America for an immensely long period, inasmuch as any change of climate effected by the elevation of the land must have been extremely gradual. At Valparaiso, within the last 220 years, the rise has been somewhat less than 19 feet: at Lima a sea-beach has certainly been upheaved from 80 to 90 feet, within the Indo-human period: but such small elevations could have had little power in deflecting the moisture-bringing atmospheric currents. Dr. Lund, however, found human skeletons in the caves of