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PART II.

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COURT BOTANICAL

Pichincha attains a height of 15,979 feet, and although repeatedly covered with snow, the latter seldom remains long. The line of perpetual congelation under the equator is fixed by Humboldt at 15,736 feet, but this limit admits of local variation, as for example on Cayambe, where a broad sheet of snow extends over a gradual descent, and is found as low as 14,200 feet; whilst on Chimborazo, where the form of the mountain is more conical, it ascends to 16,000 feet. The crater of Pichincha, which looks like an immense ravine, having an opening towards the west coast or in the opposite direction of Quito, is inaccessible on all sides, and is probably not less than a thousand feet in depth. Many centuries have elapsed since it existed in full activity, when it must have largely contributed to covering the country around with pumice-stone and ashes; now, though still smouldering, its present commotions are the enfeebled efforts of age.

The western declivity of Pichincha, to which I made frequent excursions, afforded me *Andromachia solidaginea*, *Valeriana microphylla*, *Viburnum pichinchense*, *Arracacha acuminata*, *Tacsonia quitensis* with an oblong acidulous fruit, *Rubus stipularis*, *Fuchsia sylvatica*, *sessiliflora*, *scabriuscula*, and *dependens*, the latter forming a large shrub, producing numerous scarlet flowers at the points of the slender branches which give it a graceful appearance, an *Iochroma* with large dark blue flowers two inches in length, *Mutisia Clematis*, *Mikania corymbulosa*, *Miconia pichinchensis*, *Macleania cordifolia*, having a large fleshy root, *Thibaudia pichinchensis*, *Palicourea lineata*, and in the more temperate parts towards the uninhabited woods of Esmeraldas, *Centropogon calycinus*, and *prostratus*, *Begonia longirostris*, *Quercus Benthamiana* forming a middle sized tree with wide spreading branches and large leaves which are brown underneath, the rare *Fuchsia longiflora*, several species of *Orchidaceæ*, among which *Epidendrum amethystinum*, and *porphyreum* and *Cypripedium macranthum*, are the most remarkable, the latter preferring wet situa-

tions and producing large greenish brown flowers on a scape of three feet in height. The singular *Ophioglossum palmatum*, already known from having been received from various parts of the globe, is also found here growing on trees, but it is by no means common.

Travelling to Antisana, whose broad cone covered with perpetual snow is plainly visible from Quito, I crossed the well cultivated valley of Chillo to the farm of EL ISCO, which is situated at an elevation of 11,400 feet; here the cultivation of barley and potatoes is carried on with success; the plants which I observed there were *Onoseris eriocephala*, *Senecio pimpinellifolius*, and *Antisanæ*, *Culcitium rosmarinifolium*, *Erigeron campanulatum*, *Liabum acaule*, and in the clefts of rocks overhanging the farm-house *Stenomesson Hartwegii*, producing its scarlet pendulous flowers on a scape of 18 inches in height. I may here observe that bulbous plants are by no means common in the Andes, for besides the last mentioned I only found two other species on old walls in Quito, where they have been apparently planted, and *Phædranassa obtusa*, on the banks of the Guallabamba and in the valley of San Antonio.

Following the gradual ascent from El Isco, I arrived at the farm-house of ANTISANA, which is situated in a grassy plain at an elevation of 13,434 feet, and within four miles of the snow-line. This ground being extremely rich in Alpine plants, furnished me with *Gentiana diffusa*, and *rupicola*, *Ranunculus nubigenus*, *præmorsus*, and *sibbaldioides*, *Castilleja nubigena*, *Euphrasia stricta*, *Liabum erigeroides*, *Bowlesia acutangula*, *Werneria densa*, *Aster rupestris*, *Culcitium ascendens*, and *hyoseridis*, *Eryngium humile*, *Valeriana plantaginea*, *Baccharis humifusa*, *thyoides*, and *alpina*, *Ribes frigidum*, and two species of *Urtica*, together with *Chuquiraga lanciifolia*, with showy heads of yellow flowers, which is the only shrub that supplies the herdsmen of the estate with fuel. On the eastern slope of Antisana, near the swampy outlet of the Lake of Mica, I observed *Gentiana limoselloides*, *Plantago nivalis*, *Vaccinium empetrifolium*, and *pencæoides*, *Lysipoma montioides*, *Liabum erige-*