

branch (the Cordillera de Chiriguanaes, de los Sauces, and Yuracarées), extend regularly from west to east; their eastern declivity* is very rapid, and their loftiest summits are not in the centre, but in the northern part of the group.

The principal Cordillera of Chile and Upper Peru is, for the first time, ramified very distinctly into two branches, in the group of Porco and Potosi, between lat. 19° and 20° . These two branches comprehend the table-land extending from Carangas to Lamba (lat. $19\frac{3}{4}^{\circ}$ — 15°) and in which is situated the small mountain lake of Paria, the Desaguadero, and the great Laguna of Titicaca or Chucuito, of which the western part bears the name of Vinamarca. To afford an idea of the colossal dimensions of the Andes, I may here observe that the surface of the lake of Titicaca alone (448 square sea leagues) is twenty times greater than that of the Lake of Geneva, and twice the average extent of a department of France. On the banks of this lake, near Tiahuanacu, and in the high plains of Callao, ruins are found which bear evidence of a state of civilization anterior to that which the Peruvians assign to the reign of the Inca Manco Capac. The eastern Cordillera, that of La Paz, Palca, Ancuma, and Pelechuco, join, north-west of Apolobamba, the western Cordillera, which is the most extensive of the whole chain of the Andes, between the parallels 14° and 15° . The imperial city of Cuzco is situated near the eastern extremity of this knot, which comprehends, in an area of 3000 square leagues, the mountains of Vilcanota, Carabaya, Abancai, Huando, Parinacochas, and Andahuaylas. Though here, as in general, in every considerable widening of the Cordillera, the grouped summits do not follow the principal axis in uniform and parallel directions, a phenomenon observable in the general disposition of the chain of the Andes, from lat. 18° , is well worthy the attention of geologists. The whole mass of the Cordilleras of Chile and Upper Peru, from the Straits of

* For much information concerning the Sierra de Cochabamba, I am indebted to the manuscripts of my countryman, the celebrated botanist Taddeus Haenke, which a monk of the congregation of the Escorial, Father Cisneros, kindly communicated to me at Lima. Mr. Haenke, after having followed the expedition of Alexander Malaspina, settled at Cochabamba, in 1798. A part of the immense herbal of this botanist is now at Prague.