

developed by Leopold von Buch in all its various phenomena, both with respect to its influence on vegetation and agriculture, on the transparency of the atmosphere, the radiation of the soil, and the elevation of the line of perpetual snow. In the interior of the Asiatic Continent, Tobolsk, Barnaul on the Oby, and Irkutsk, have the same mean summer heat as Berlin, Munster, and Cherbourg in Normandy, the thermometer sometimes remaining for weeks together at 86° or 88° , while the mean winter temperature is, during the coldest month, as low as $-0^{\circ}\cdot4$ to -4° . These continental climates have therefore justly been termed *excessive* by the great mathematician and physicist Buffon; and the inhabitants who live in countries having such *excessive* climates seem almost condemned, as Dante expresses himself,

“A sofferir tormenti caldi e geli.”*

In no portion of the earth, neither in the Canary Islands, in Spain, nor in the south of France, have I ever seen more luxuriant fruit, especially grapes, than in Astrachan, near the shores of the Caspian Sea ($46^{\circ} 21'$). Although the mean annual temperature is about 48° , the mean summer heat rises to 70° , as at Bordeaux, while not only there, but also further to the south, as at Kislär on the mouth of the Terek (in the latitude of Avignon and Rimini), the thermometer sinks in the winter to -13° or -22° .

Ireland, Guernsey, and Jersey, the peninsula of Brittany, the coasts of Normandy, and of the south of England, present, by the mildness of their winters, and by the low temperature and clouded sky of their summers, the most striking contrast to the continental climate of the interior of Eastern Europe. In the northeast of Ireland ($54^{\circ} 56'$), lying under the same parallel of latitude as Königsberg in Prussia, the myrtle blooms as luxuriantly as in Portugal. The mean temperature of the month of August, which in Hungary rises to 70° , scarcely reaches 61° at Dublin, which is situated on the same isothermal line of 49° ; the mean winter temperature, which falls to about 28° at Pesth, is 40° at Dublin (whose mean annual temperature is not more than 49°); $3^{\circ}\cdot6$ higher than that of Milan, Pavia, Padua, and the whole of Lombardy, where the mean annual temperature is upward of 55° . At Stromness, in the Orkneys, scarcely half a degree further south than Stockholm, the winter temperature is 39° , and consequently higher than that of Paris, and nearly as high as that of London.

* Dante, *Divina Commedia*, *Purgatorio*, canto iii.