

nearly intermediate position; for it rarely affects Germans, who inhabit the neighbourhood of the Vistula, where so many Poles are grievously affected; neither does it affect Russians, who are said to belong to the same original stock as the Poles.<sup>19</sup> The elevation of a district often governs the appearance of diseases; in Mexico the yellow fever does not extend above 924 metres; and in Peru, people are affected with the *verugas* only between 600 and 1600 metres above the sea; many other such cases could be given. A peculiar cutaneous complaint, called the *Bouton d'Alep*, affects in Aleppo and some neighbouring districts almost every native infant, and some few strangers; and it seems fairly well established that this singular complaint depends on drinking certain waters. In the healthy little island of St. Helena the scarlet-fever is dreaded like the Plague; analogous facts have been observed in Chili and Mexico.<sup>20</sup> Even in the different departments of France it is found that the various infirmities which render the conscript unfit for serving in the army, prevail with remarkable inequality, revealing, as Boudin observes, that many of them are endemic, which otherwise would never have been suspected.<sup>21</sup> Any one who will study the distribution of disease will be struck with surprise at what slight differences in the surrounding circumstances govern the nature and severity of the complaints by which man is at least temporarily affected.

The modifications as yet referred to are extremely slight, and in most cases have been caused, as far as we can judge, by equally slight differences in the conditions. But such conditions acting during a series of generations would perhaps produce a marked effect.

With plants, a considerable change of climate sometimes produces a conspicuous result. I have given in the ninth chapter the most remarkable case known to me, namely, that of varieties of maize, which were greatly modified in the course of only two or three generations when taken from a tropical country to a cooler one, or conversely. Dr. Falconer informs me that he has seen the English Ribston-pippin apple, a Himalayan oak, *Prunus* and *Pyrus*, all assume in the hotter parts of India a fastigate or pyramidal habit; and this fact is the more interesting, as a Chinese tropical species of *Pyrus* naturally grows thus. Although in these cases the changed manner of growth seems to have been directly caused by the great heat, we know that many fastigate trees have originated in their temperate homes. In the Botanic Gardens of Ceylon the apple-tree<sup>22</sup> "sends out numerous runners under ground, which continually rise into small stems, and form a growth around the parent-tree." The varieties of the cabbage which produce heads in Europe fail to do so

<sup>19</sup> Prichard, 'Phys. Hist. of Man-kind,' 1851, vol. i. p. 155.

<sup>20</sup> Darwin, 'Journal of Researches,' 1845, p. 434.

<sup>21</sup> These statements on disease are

taken from Dr. Boudin's 'Géographie et Statistique Médicale,' 1857, tom. i. pp. xlv. and lii.; tom. ii. p. 315.

<sup>22</sup> 'Ceylon,' by Sir J. E. Tennent, vol. i., 1859, p. 89.