

precautions to prevent a cross, but he never succeeded, though this was only the second generation in India, in obtaining a single young dog like its parents in size or make; their nostrils were more contracted, their noses more pointed, their size inferior, and their limbs more slender. So again on the coast of Guinea, dogs, according to Bosman, "alter strangely; their ears grow long and stiff like those of foxes, to which colour they also incline, so that in three or four years, they degenerate into very ugly creatures; and in three or four broods their barking turns into a howl."<sup>76</sup> This remarkable tendency to rapid deterioration in European dogs subjected to the climate of India and Africa, may be largely accounted for by reversion to a primordial condition which many animals exhibit, as we shall hereafter see, when their constitutions are in any way disturbed.

Some of the peculiarities characteristic of the several breeds of the dog have probably arisen suddenly, and, though strictly inherited, may be called monstrosities; for instance, the shape of the legs and body in the turnspit of Europe and India; the shape of the head and the under-hanging jaw in the bull-and pug-dog, so alike in this one respect and so unlike in all others. A peculiarity suddenly arising, and therefore in one sense deserving to be called a monstrosity, may, however, be increased and fixed by man's selection. We can hardly doubt that long-continued training, as with the greyhound in coursing hares, as with water-dogs in swimming—and the want of exercise, in the case of lapdogs—must have produced some direct effect on their structure and instincts. But we shall immediately see that the most potent cause of change has probably been the selection, both methodical and unconscious, of slight individual differences,—the latter kind of selection resulting from the occasional preservation, during hundreds of generations, of those individual dogs which were the most useful to man for certain purposes and under certain conditions of life. In a future chapter on Selection I shall show that even barbarians attend closely to the qualities of their dogs. This unconscious selection by man would be aided

<sup>76</sup> A. Murray gives this passage in his 'Geographical Distribution of Mammals,' 4to, 1866, p. 8.