

[I will give one case of migration which seemed to me at first to offer especial difficulty. It is asserted that in the extreme north of America, Elk and Reindeer annually cross, as if they could smell the herbage at the distance of a hundred miles, a tract of *absolute* desert, to visit certain islands where there is a better (but still scanty) supply of food. How could their migration have been first established? If the climate formerly had been a little more favourable, the desert a hundred miles in width might then have been clothed with vegetation sufficient to have just tempted the quadrupeds over it, and so to have found out the more fertile northern islet. But the intense Glacial preceded our present climate, and therefore the idea of a former better climate seemed quite untenable; but if those American geologists are right who believe, from the range of recent shells, that subsequently to the Glacial period there was one slightly warmer than the present period, then perhaps we have a key to the migration across the desert of the Elk and Reindeer.*]

Instinctive Fear.—I have already discussed the hereditary tameness of our domestic animals; from what follows I have no doubt that the fear of man has always first to be acquired in a state of nature, and that under domestication it is merely lost. In all the few archipelagoes and islands inhabited by man, of which I have been able to find an early account, the native animals were entirely void of fear of man: I have ascertained this in six cases in the most distant parts of the world, and with birds and mammals of the most different kinds.† At the Galapagos Islands I pushed a hawk off a

Azores, though he thinks that perhaps the Quail, which migrates from island to island, may leave the Archipelago. [In pencil it is added "Canaries none."—G. J. R.]

In the Falkland Islands, so far as I can find, no *land-bird* is migratory. From enquiries which I have made, I find there is no migratory bird in Mauritius or Bourbon. Colenso asserts (*Tasmanian Journal*, vol. ii, p. 227) that a cuckoo, *C. lucidus*, is migratory, remaining only three or four months in New Zealand; but New Zealand is so large an island that it may very easily migrate to the south and remain there quite unknown to the natives of the north. Farøe, situated about 180 miles from the north of Scotland, have several migratory birds (Graber, *Tagebuch*, 1830, s. 205); Iceland seems to be the strongest exception to the general rule, but it lies only miles from the line of 100 fathoms. [The last ten words are added in pencil with the blanks left for subsequent filling in.—G. J. R.]

* [The paragraph which I have enclosed in square brackets is faintly struck out in pencil.—G. J. R.]

† I have given in my *Journal of Researches* (1845), p. 378, details on the Falkland and Galapagos. Mr. Cada Mosto (Kerr's *Collection of Voyages*,