

waters; and though these facts bear but slightly on my present subject, seals being air-breathing Mammalia, yet in some of the lakes of Sweden ordinary marine Crustacea are found. This may be accounted for in the way that I now attempt to account for similar peculiarities in the Old Red Sandstone strata. These Swedish lake-areas were submerged after the close of the Glacial epoch; and being deep basins (scooped out in a manner which I shall explain in a later chapter), while the land was emerging by upheaval, and after its final emergence, the salt water of the lakes freshened so slowly, by influx of rivers, that some of the creatures inhabiting it had time by degrees to adjust themselves to new and abnormal conditions.¹

Again, we may suppose a set of circumstances such as the following:—If, by changes of physical geography of a continental kind, a portion of the Silurian sea got separated from the main ocean, more or less like the Caspian and the Black Sea, then the ordinary marine conditions of the ‘passage beds,’ accompanied by some of the life of the period, might be maintained for what, in common language, seems to us a long time. The Black Sea was once united to the Caspian, and the Caspian to the Aral, forming one great inland sea, which under varying physical conditions, has more than once changed its form and extent. At all events, since its separation from the Black Sea the Caspian has been simply a great brackish lake. The Black Sea is now steadily freshening; and it is easy to conceive that by a geographical change, such as the upheaval of the Bos-

¹ For much valuable information on this subject, see ‘Annals and Mag. of Nat. Hist.’ third series, vol. i. 1858, p. 50, ‘On the Occurrence of Marine Animal Forms in Fresh Water,’ by Dr. E. von Martens: translated by Mr. W. S. Dallas.