

Modern *evolution*, which maintains such a descent, allows millions of years for the accomplishment of the transmutations; but the diluvialists never claimed over five thousand years, and resented the offer of geology to place more time at their disposal.

If the relics buried in the rocks present undoubted divergences from living forms, it must be because they lived in other ages, and under different physical conditions from modern species. As there is now, so there must always have been, some co-ordination or suitability between the conditions in which species lived, and the structures, instincts, and capabilities of the species. We are witnesses of this great principle—the *adaptation of organism to environment*. The Hippopotamus and the Elephant, dwellers in warm climates, are almost naked. The White Bear and the Arctic Fox, dwellers in the frigid zone, are densely clad in fur. The Duck is impelled by its instinct to the water; so its feet are webbed to adapt it to movement in the water. These co-ordinations of structure to environment or surroundings, are everywhere seen, and possess extreme interest. Let me ask you, my reader, to study out a great many other examples.

Now, during the long history of rock-accumulation, there must have taken place very great changes in the conditions of the world. This may be inferred from the fact that *some* changes are taking place before our eyes; and also from the fact, which we must admit, that the ocean was once universal, but is now interrupted by wide continental expanses which deflect the winds and the currents of the sea, and modify the climates of many regions. It might thus be inferred beforehand, that the populations of the world have shown a correspondence with the changing conditions of the world. If the physical world has improved—if it has undergone a progression from some cruder condition to the present, then the populations of the world have progressively improved; and we shall find the records of this improvement in the fossil remains of those populations, as we hunt for them in strata farther and farther from the surface—that is, farther and farther removed in their origin from the present time.