

transient as the individuals; while the specific characters are for ever fixed. A single example will prove this. All the robins of North America now living have been for a short time in existence; not one of them was alive a century ago, when Linnæus for the first time made known that species, under the name of *Turdus migratorius*, and not one of the specimens observed by Linnæus and his contemporaries was alive when the pilgrims of the Mayflower first set foot upon the rock of Plymouth. Where was the species at these different periods, and where is it now? Certainly nowhere but in the individuals alive for the time being; but not in any single one of them, for that one must be either a male or a female, and not the species; not in a pair of them, for the species exhibits its peculiarities in its mode of breeding, in its nest, in its eggs, in its young, as much as in the appearance of the adult; not in all the individuals of any particular district, for the geographical distribution of a species over its whole area forms also part of its specific characters.<sup>1</sup> A species is only known when its whole history has been ascertained, and that history is recorded in the life of individuals through successive generations. The same kind of argument might be adduced from every existing species, and with still greater force, by a reference to those species already known to the ancients.

Let it not be objected, that the individuals of successive generations have presented marked differences among themselves; for these differences, with all the monstrosities that may have occurred during these countless generations, have passed away with the individuals as individual peculiarities, and the specific characteristics alone have been preserved, together with all that distinguishes the genus, the family, the order, the class, and the branch to which the individual belonged. And all this has been maintained through a succession of repeated changes, amounting in each individual to the whole range of transformations through which an individual passes, from the time it is individualized as an egg to the time it is itself capable of reproducing its kind, and, perhaps, with all the intervening phases of an unequal production of males and females, of sterile individuals, of dwarfs, of giants, etc., etc., during which there were millions of chances for a deviation from the type. Does this not prove, that, while individuals are perishable, they transmit, generation after generation, all that is specific or generic, or, in one word, *typical* in them, to the exclusion of every *individual peculiarity*, which

<sup>1</sup> We are so much accustomed to see animals reproducing themselves generation after generation, that the fact no longer attracts our attention, and the mystery involved in it no longer excites our admiration. But there is certainly no more marvellous law in all nature than that which regulates

this regular succession. And upon this law the maintenance of species depends; for observation teaches us that all that is not individual peculiarity is unceasingly and integrally reproduced, while all that constitutes individuality, as such, constantly disappears.