exhaustive memoir shows the author's ability as a comparative anatomist, and his power to excel in the department of Morphology; but, as 'Nature' says, "we have to thank his native sagacity that such was not his choice." Better things were in store for him. He was to influence the science of Zoology more by his generalizations than by his particular researches, and the work which so completely revolutionized the scientific world was the "Origin of Species," first published in 1859.

The almost universally received idea concerning the origin of distinct animal and vegetable species, both fossil and existing, was that they were special, separate creations, variable within certain limits, but never passing into one another either suddenly or gradually. This doctrine had become so deeply rooted in the minds of both scientific men and theologians, that to express any doubt as to its validity or agreement with observed facts was regarded as rank heresy. In spite of this long-standing prejudice a suspicion entered the minds of a few, that this theory of special creation was inadequate to solve various problems in nature; that it was, indeed, quite at variance with some indisputable facts. Lamarck first formulated the doctrine of Descent in 1804 in his "Philosophie Zoologique." He held that species were not immutable, but that nature, starting with the formation of the simplest organic bodies, gradually evolved from these, in course of a long succession of ages, all organized beings, whether simple or complex.

In the "Origin of Species" Darwin upholds the theory of Descent, viz: That all forms of life, both past and present, have been produced by a series of gradual changes in a few original forms in regular descent from parent to offspring; but in addition, he claims to have discovered the method in which this evolution of nature has taken place. Darwin's theory proper is not Evolution, as many suppose, but Evolution by means of Natural Selection. As one writer puts it, the idea of Evolution proved barren until it was fertilized by the idea of Natural Selection. How Darwin arrived at this idea he has told us in the introduction to the "Origin of Species," but more fully in a letter written to Haeckel, in which he says: "Having reflected much on the foregoing facts," (i. e. facts in the distribution of the inhabitants of S. America, and in the geological relations of the present to the past inhabitants of that country,) "it seemed to me probable that allied species were derived from a common ancestor. But during several years I could not conceive how each form could have been modified so as to become admirably adapted to its place in nature. I began, therefore, to study domesticated animals and cultivated plants, and after a time perceived that man's power of selecting and breeding from certain individuals was the most powerful of all means in the production of new races. Having attended to the habits of animals and their relations to the surrounding conditions, I was able to realize the severe struggle for existence to which all organisms are subjected; and my geological observations had allowed me to appreciate, to a certain extent, the duration of past geological periods. With my mind thus prepared I fortunately happened to read Malthus's "Essay on Population," and the idea of Natural Selection through the struggle for existence at once occurred to me, Of all the subordinate parts in my theory, the last which I understood was the cause of the tendency in the descendants from a common progenitor to diverge in character."

The general facts on which the theory of Natural Selection rests, viz: the struggle for existence, variation,