

rical ratio ; and the second, that the offspring always vary slightly from the parents, though generally closely resembling them. Now, everyone knows that the total number of plants and the total number of animals that can live on our earth is limited, and so the number cannot indefinitely increase from year to year. Consequently, as many organisms die every year, on an average, as are born, and the causes of their deaths are very numerous. The amount of their food is limited, and so there ensues on this account a terrible conflict, most severe among individuals of the same species, but also raging among individuals of distinct species, or even of separate genera and orders. Many thus are destroyed by starvation or even in the actual conflict for food. The organisms also have to struggle against the forces of nature, heat and cold, flood and fire. The "struggle for existence" is often terribly severe, perhaps only one in one thousand, or an even smaller proportion, being allowed to live. Now, we ask, Why do some organisms conquer in the battle rather than others? We can't say that the British have conquered their enemy in the Transvaal Republic merely by accident, nor can we state that the conquerors in this other war are victorious by chance. The British were victorious in South Africa because they were better prepared to fight than the Boers. So in the continuous warfare among all organic beings, those best equipped for the battle conquer ; in other words, the fittest survive.

But now another question comes up. Are not the individuals of every species exactly alike, and how, then, can some be more fitted to live than others? For example, is not every individual robin exactly like every other robin, and is not one just as well prepared for the struggle for existence as every other? By no means. Some robins are stronger, some swifter in flight, some hardier in constitution, some more cunning, some have a keener sight to discover prey or escape enemies. These robins in the great battle will assuredly conquer others which have not these characters. It is this survival of the fittest which Darwin called natural selection.

There is still another important principle to consider, regarding which the thoughtful reader may have had difficulty ere now. If the fittest of each generation survive, and if the offspring of each generation is no better fitted, on the average, for the struggle for life than the parent generation, then by natural selection nothing will have been accomplished, and each generation will be in no respect in advance of the preceding one. But it is a fact that the horticulturist carefully chooses the seeds of the best fruit with which to produce.