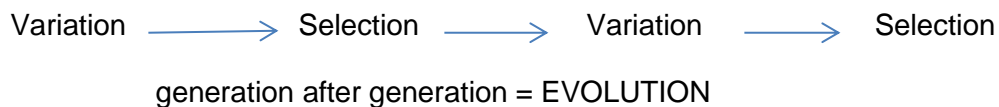


NATURAL SELECTION IN A NUTSHELL

- ❖ As populations of living things expand, generation by generation, they will inevitably run into limits: limits on food, space or the right kind of habitat
- ❖ These *natural* pressures limit or determine which individuals are able to survive and reproduce
- ❖ Not all individuals in a population are exactly alike
- ❖ Some will have traits that give them an advantage in surviving, mating & passing on their traits to the next generation
- ❖ These differences are known as **variation** (i.e. genetic variation)
- ❖ A change in any aspect of the environment can suddenly turn what had been just another variation or variant into either an advantage or a disadvantage
- ❖ If a selective pressure (i.e. change in the environment), acts against or upon the differences between the individuals in a population, you get natural selection, which, through time, can cause a population to evolve (change)

In a Nutshell:

Natural selection is the process by which *nature* selects better adapted individuals for more successful reproduction. The more genetic diversity (*variation*) in a population, the greater chances for adaptability & survival.



Natural selection operates on individuals, but it is the *population* that evolves.

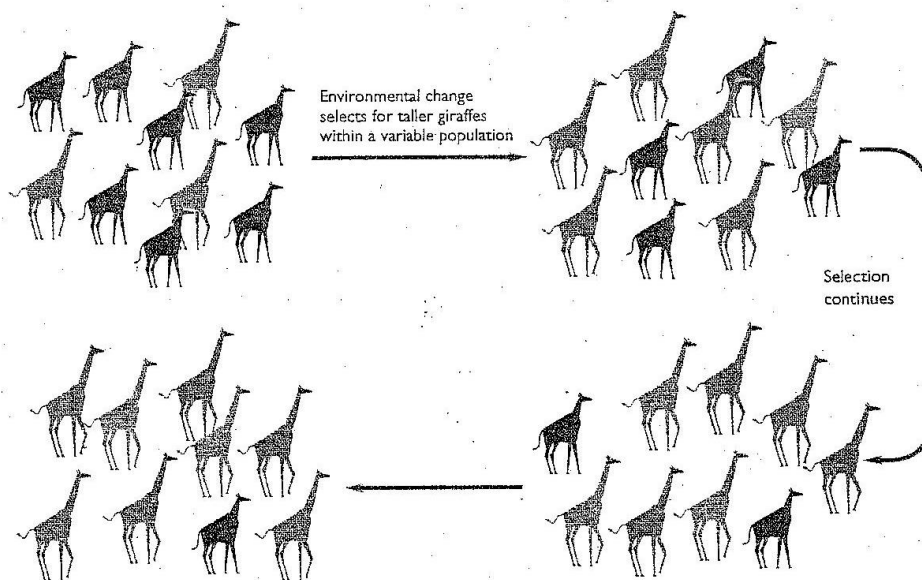


FIGURE 2.7

Darwin's Model of Natural Selection Applied to the Evolution of Long Necks and Tall Bodies in Giraffes. An environmental change, perhaps in the location of food sources, made the taller giraffes within a variable species relatively more reproductively successful. These giraffes thus passed on their tallness to a greater number of offspring, making succeeding generations taller on average.