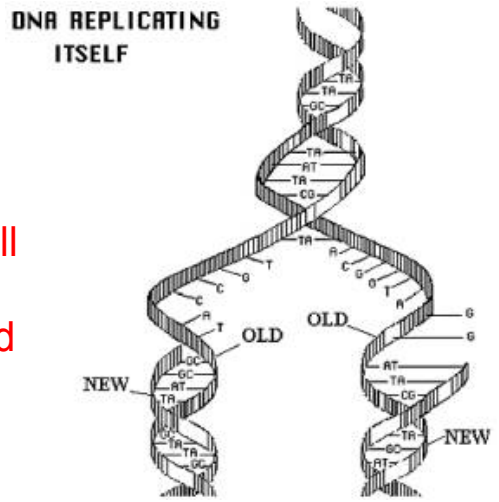
The nature of Evolution:

- **Random mutations**

When biological cells reproduce they have to copy the cell's DNA. Sometimes cells make mistakes, and these mistakes are called genetic mutations.

Think of the monks who had to spend their days copying out the Bible for people to read. As you can probably imagine, sometimes mistakes were made and the copied version wasn't exactly the same as the original. This happens in living organisms all of the time.

This is the **random** part of evolution.



"One strand of Human DNA within each cell could stretch out 6 feet in length. It contains 3 billion pairs of DNA subsets and 46 chromosomes, and yet fits within one microscopic cell"

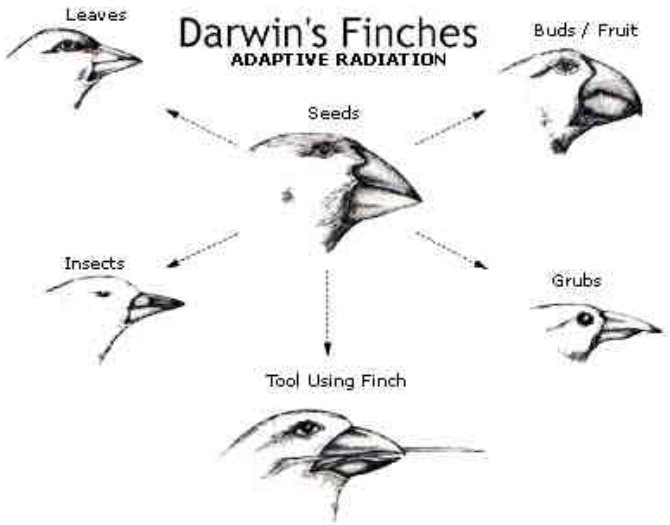
The nature of Evolution:

- **Natural selection**

DNA affects the way living creatures develop. Some genetic mutations may lead to awful side-effects (cancer is a form of genetic mutation). However, some genetic mutations can be beneficial - imagine a genetic mutation that meant you could run faster than everyone else, or could hear better!

These beneficial mutations make it more likely that you will find a mate to have children with. If this happens, your random genetic mutation will be passed to your children and they will inherit the benefit.

Think of the monks again. If, by accident, the monk had written some nonsense the monk copying the nonsense work will ignore the nonsense. If, however, the accidental change is easy to read then the next monk might keep it in!



Irreducible complexity:

Some scientists (like Michael Behe) say that evolution by natural selection is all well and good, but cannot explain some complex things.

There are some things in nature that are extremely complex and have parts within them that all rely upon each other. This is called **irreducible complexity** - if any part of the system were removed then the whole thing would fail. How could something so complex come about randomly?

For Behe, this points to the existence of an **intelligent designer**.

Specified Complexity

Some scientists (like William Dembski) argue that the type of complexity seen in nature is too improbable. It is both specific and complex.

"the" is a **specific** (meaningful) combination of letters.

"skjnasd324%s2£sdkjnsdcppqla;s" is a **complex** combination.

A Shakespeare play is both **specific** and **meaningful**. Dembski argues that this is the kind of complexity found in nature. It couldn't have happened by chance. This points to an **intelligent designer**.

Critics argue that Dembski has no real **evidence** for this and point out that **complexity** is developed through random mutations, and are made **specific** by natural selection.