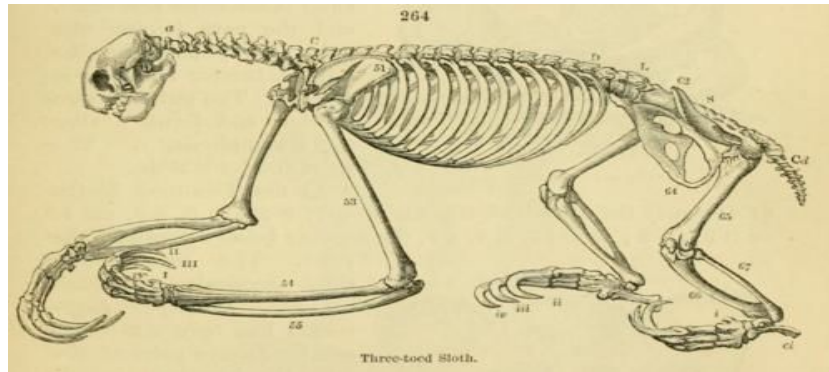


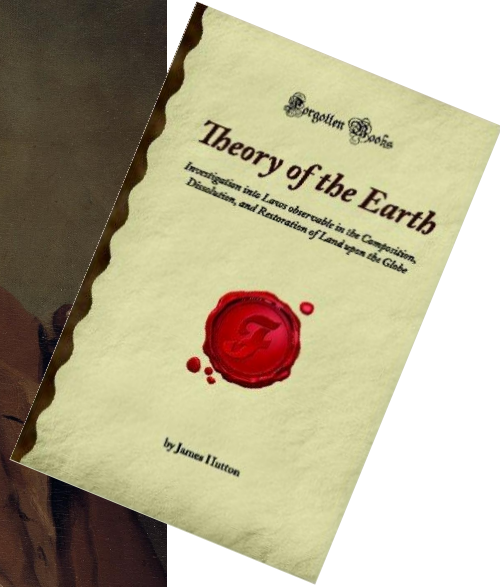
# CHAPTER 15.2: IDEAS THAT SHAPED DARWIN'S THINKING

In Darwin's day, most Europeans believed that and all its life forms had been created only a few thousand years ago ... and that nothing has changed since.

The formation of a fossil record and new geologic discoveries were beginning to challenge this belief system.



# JAMES HUTTON



In 1795, Hutton published his hypothesis about the geological forces that shaped Earth.

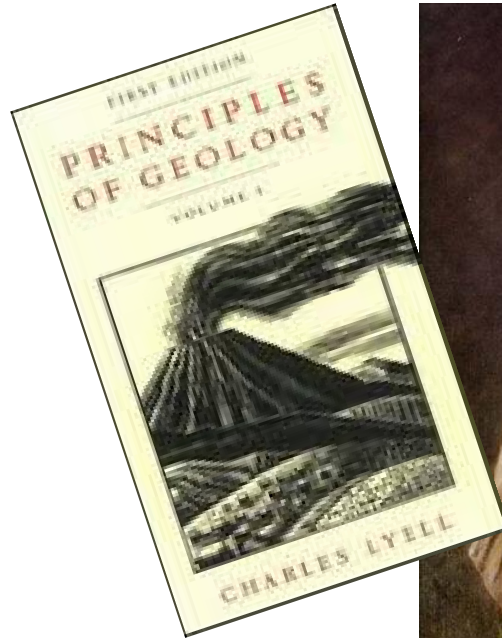
He hypothesized that geologic forces happen very slowly over *millions of years*.

This was revolutionary compared to previous thought.

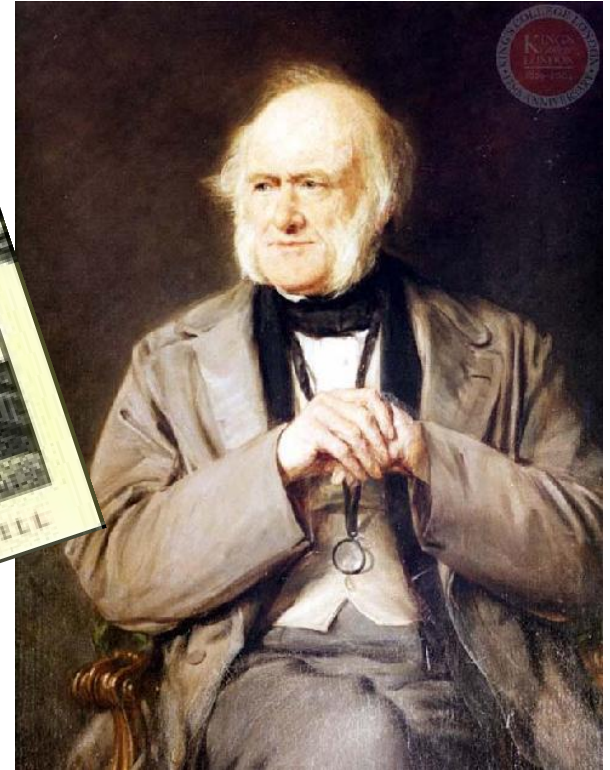
In 1833, Lyell published his work the *Principles of Geology*.

He proposed that processes which shaped Earth in the past continue to shape Earth in the present.

This also supported the idea that the Earth was changing over long periods of time.



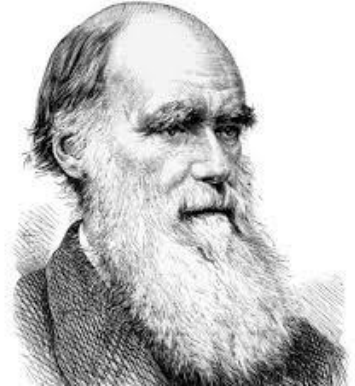
# CHARLES LYELL



These understandings of geology influenced Darwin in his studies of life.

Could life also change slowly over great periods of time?

Could life forms have changed as the Earth also changed?



# JEAN-BAPTISTE LAMARCK



in 1809 (the year Darwin was born) Lamarck had published his hypothesis of species changing over time.

He believed that because species have an innate tendency toward perfection, therefore *the use or disuse* of body parts would change the species over time.

This proved to be incorrect, but did influence Darwin's thinking.

In 1798, Malthus published his book on human population.

He noted that babies were being born faster than people were dying.

Environmental factors such as war, disease, and famine controlled human populations

Darwin believed this could apply to other living organisms as well...

# THOMAS MALTHUS

