

# Influences on Darwin

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## CHAPTER

## 1

# Influences on Darwin

- Explain how Lamarck, Lyell, and Wallace influenced Darwin's work.



## How old is Earth?

Earth is now believed to be over 4.5 billion years old. But during Darwin's time, most people believed that the Earth was only about 6,000 years old. If Darwin hadn't learned about the work of geologists that suggested that the Earth was much older, he might have never have developed his theory of evolution.

## Darwin's Influences

When Darwin returned to England five years later, in 1836, at the end of his voyage, he did not rush to announce his discoveries. Unlike other naturalists before him, Darwin did not want to present any ideas unless he had strong evidence supporting them. Instead, once Darwin returned to England, he spent over twenty years examining specimens, talking with other scientists and collecting more information before he presented his theories.

Some of Darwin's ideas conflicted with widely held beliefs, including those from religious leaders. At that time, many people believed that organisms never change and never go extinct, and that the world was only about 6,000 years old, always existing in the same way, never changing. These beliefs delayed Darwin in presenting his findings.

How did Darwin come up with his theories? Charles Darwin was influenced by the ideas of several people.

1. Before the voyage of the *Beagle*, **Jean-Baptiste Lamarck** proposed the idea that species change over time. However, Darwin differed with Lamarck on several key points. Lamarck proposed that traits acquired during one's lifetime could be passed to the next generation. Darwin did not agree with this.

- The findings of **Charles Lyell**, a well-known geologist, also influenced Darwin. Lyell's writings taught Darwin about geology, paleontology, and the changing Earth. Lyell's findings suggested the Earth must be much older than 6,000 years. And the evolution of life, as Darwin was developing his ideas, would definitely take much longer than just 6,000 years. During the Voyage of the *Beagle*, Darwin observed fossils of sea life high up in the mountains. What must happen to the Earth for this to occur? Darwin, using the readings of Lyell, took this as evidence of a constantly changing Earth.
- After the Voyage of the *Beagle*, another naturalist, **Alfred Russel Wallace (Figure 1.1)**, developed a similar theory of evolution by natural selection. Wallace toured South America and made similar observations to Darwin's. Darwin and Wallace presented their theories and evidence in public together. Due to the large number of observations and conclusions he made, Darwin is mostly credited and associated with this theory.



**FIGURE 1.1**

Alfred Wallace developed a similar theory of evolution by natural selection.

Imagine developing a theory that conflicted with widely held beliefs of the time, as Darwin did. Imagine pulling together material from all these different people, adding his own findings, and turning it all into his theory. Imagine the torment Darwin must have endured during this time, knowing the skepticism that would follow the release of his findings. But, upon his death, Darwin was given one of the highest honors in England. Darwin is buried in Westminster Abbey, the final resting place of many of England's kings and queens. Why was he buried in such an important spot?

### Summary

- Darwin's ideas conflicted with widely held beliefs, such as the idea that organisms never change and that the world was only about 6,000 years old.
- Darwin was influenced by other scientists, including Lamarck, Lyell, and Wallace.

### Explore More

Use the resource below to answer the questions that follow.

- Nova: Great Minds Think Alike** at <http://www.pbs.org/wgbh/nova/evolution/great-minds-think-alike.html> .

- Where did Wallace travel? How did he pay for his trip?
- What happened to the collections Wallace collected in South America?
- How does the Malay Archipelago compare to the Galapagos Islands?
- What is the Wallace Line?

## Review

1. Compare and contrast Darwin's and Lamarck's views of evolution.
2. Why did Darwin hesitate to publish his theory?
3. Who was Charles Lyell? What significant aspect of Lyell's influenced Darwin?
4. Who was Alfred Wallace?

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## References

1. . [Portrait of Alfred Wallace](#) . Public Domain