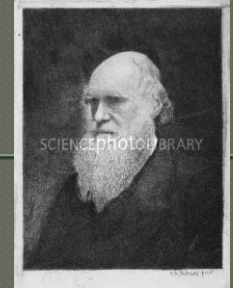


# Origin of Species

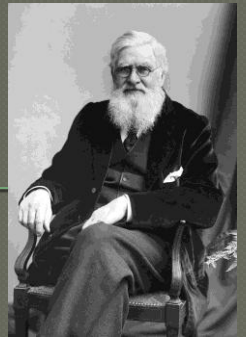
# Darwin's publication



- In 1859, Darwin published “On the origin of species”
- It was a 502 page book describing convincing evidence that species had evolved
- It also included ‘how’ species had evolved over time

# Alfred Russel Wallace

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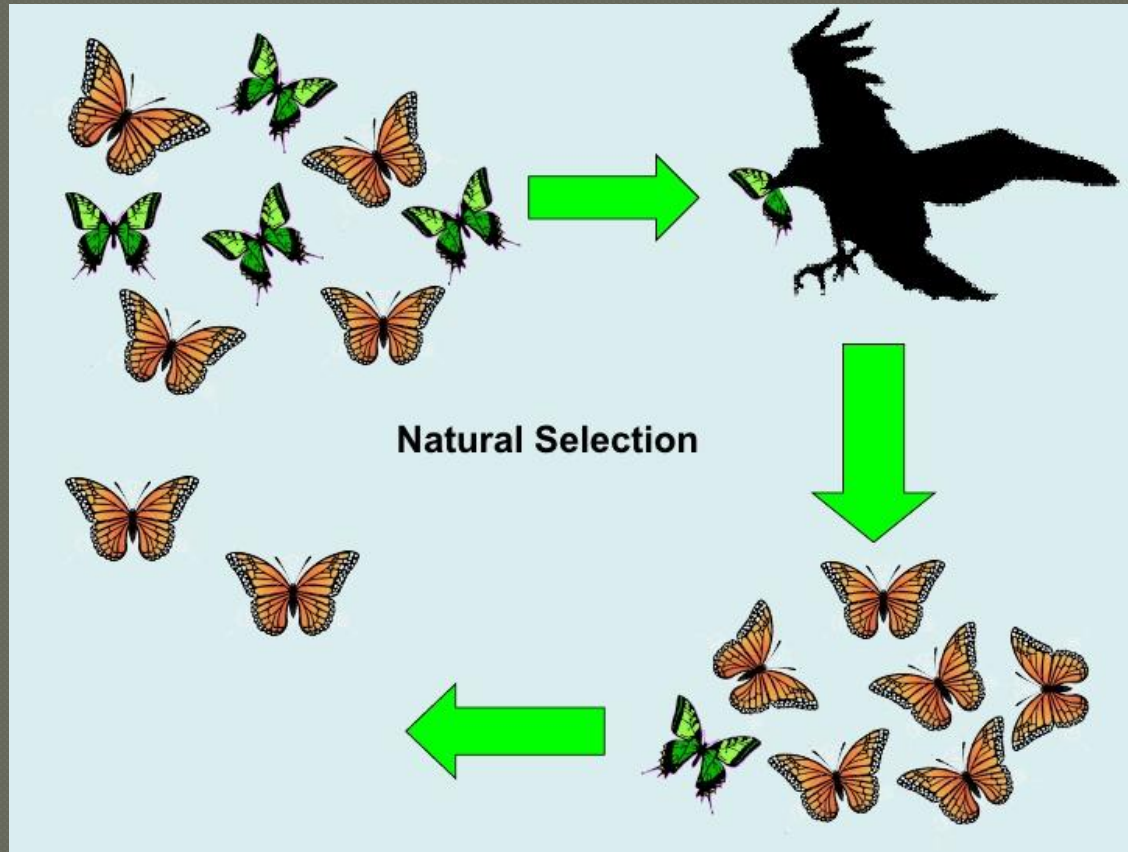
- Darwin initially hesitant to publish
- Alfred Russel Wallace was a biologist working in Malaysia
- In 1858, wrote a letter to Darwin explaining his own theory of species evolution.
- With support from Wallace and encouragement from other scientist, Darwin finally published a detailed account of his theory.

# Natural Selection

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- The way in which the environment, or nature, favours the reproductive success of certain individuals over others.
- Darwin's theory: Evolution was a result of natural selection over many generations.

# Natural Selection



# Natural Selection

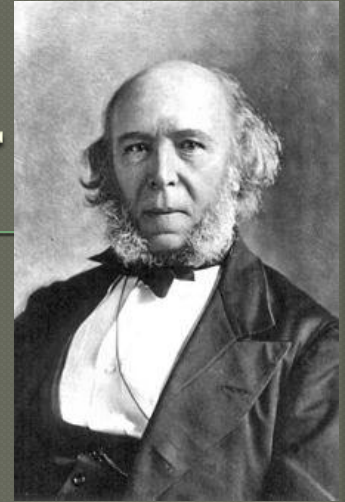
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## Observations

- All healthy populations produced much more offspring than could survive and reproduce
  - Faster and stronger organisms would have a higher chance of survival than slower and weaker organisms, therefore over time more offspring that are faster and stronger would be produced

# Herbert Spencer

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- A contemporary of Darwin
- Invented the phrase:  
**“Survival of the fittest”**
- He used this phrase to describe natural selection

# Adaptation

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- **A characteristic or feature of a species that makes it well suited for survival or reproductive success in its environment.**
- What are some species adaptation you can think of?



# The modern theory of evolution

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- Read textbook pages 308 – 313 and make summary notes for the following:
  - 1. Modern evolutionary synthesis
  - 2. Mutations
  - 3. Modern Paleontology