

The background is a light beige color. On the left side, there are several blue dashed contour lines that curve upwards and to the right. A white circle is partially visible in the top-left corner. On the right side, there are more blue dashed contour lines, and a solid orange line curves upwards and to the right. A white circle is partially visible in the bottom-right corner.

Zoogeography

Lesson 2

At the beginning of the biogeography

Descriptive work

- + **Mid-18th century**: through worldwide explorations greater diversity of organisms was discovered.
- + Most people accepted the statements in the Bible: Earth and all living things that we see today had been created in a **single series of events** occurred a few thousands years before.
- + Since **God's actions** had always been **perfect**. **Animals and plants** that had been created were perfect, and **had not changed (evolved) or become extinct**, and that the world itself had always been as we see it today.

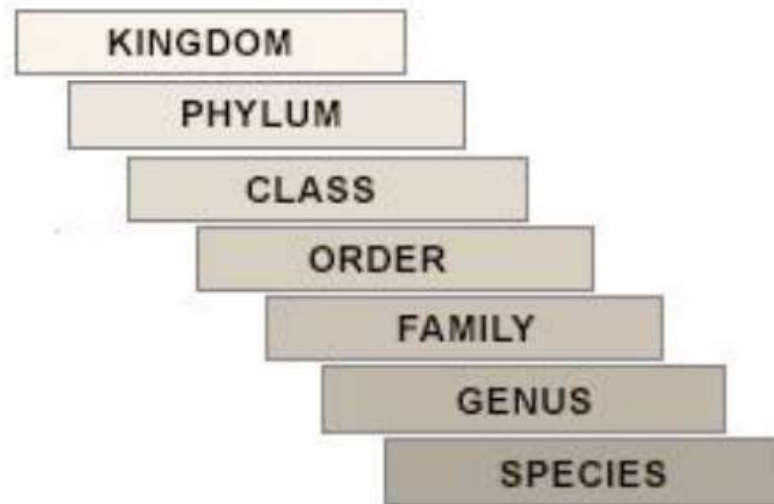
Explanation of the facts

Between then and mid-20th century: the limited vision was gradually replaced by the realization that both the living world and the planet that it inhabits are continually changing, driven by two great processes – the **biological process of evolution** and the **geological process of plate tectonics**.



Carolus Linnæus (1708-1778)

- + Swedish naturalist and taxonomist
- + Developed a system to classify life that included binomial nomenclature
- + Believed in Creation and thought it was his task to catalogue all of God's creations - called himself «God's registrar»



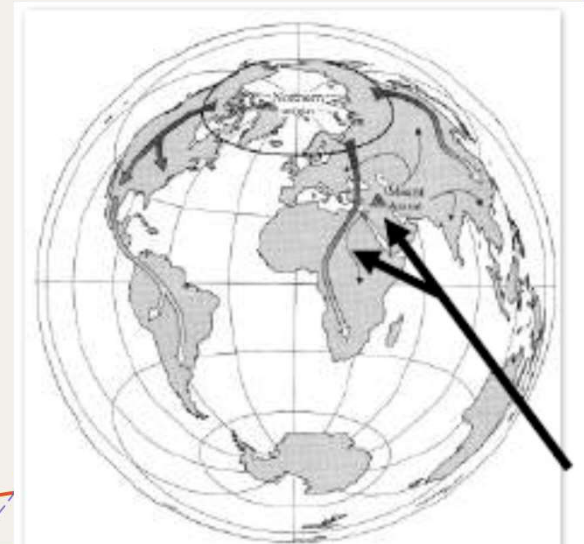
- He thought species were immutable, a question he pondered was:

How did different species become adapted to so many different environments?

His explanation was that Noah's Ark had landed on Mount Ararat

- This tall mountain had many different elevational zones
- Each immutable species was already adapted to a particular zone
- Each species spreads out to its respective environment over the globe after the Great Flood

He recorded also whereabouts in the world each species is found, but he did not synthesise these observations into floral or animals assemblages of the different continents or regions.



Georges-Louis Leclerc de Buffon

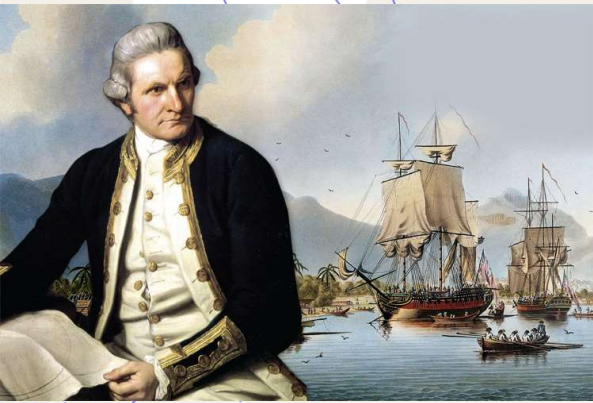
- + (1) He observed that different parts of the world, even those with similar conditions, were inhabited by distinct kinds of plants and animals.
- + (2) He found it unlikely that all species would be able to disperse across inhospitable habitats (and there were many inhospitable barriers)



Buffon's Law:

environmentally similar but isolated regions have distinct assemblages of mammals and birds





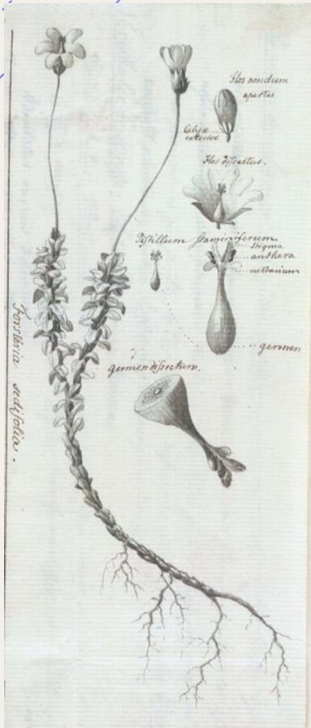
1772-1775 in his second voyage around the world, Captain James Cook and



British botanist Joseph Banks



German Johann Reinhold Forster and his son Georg Foster

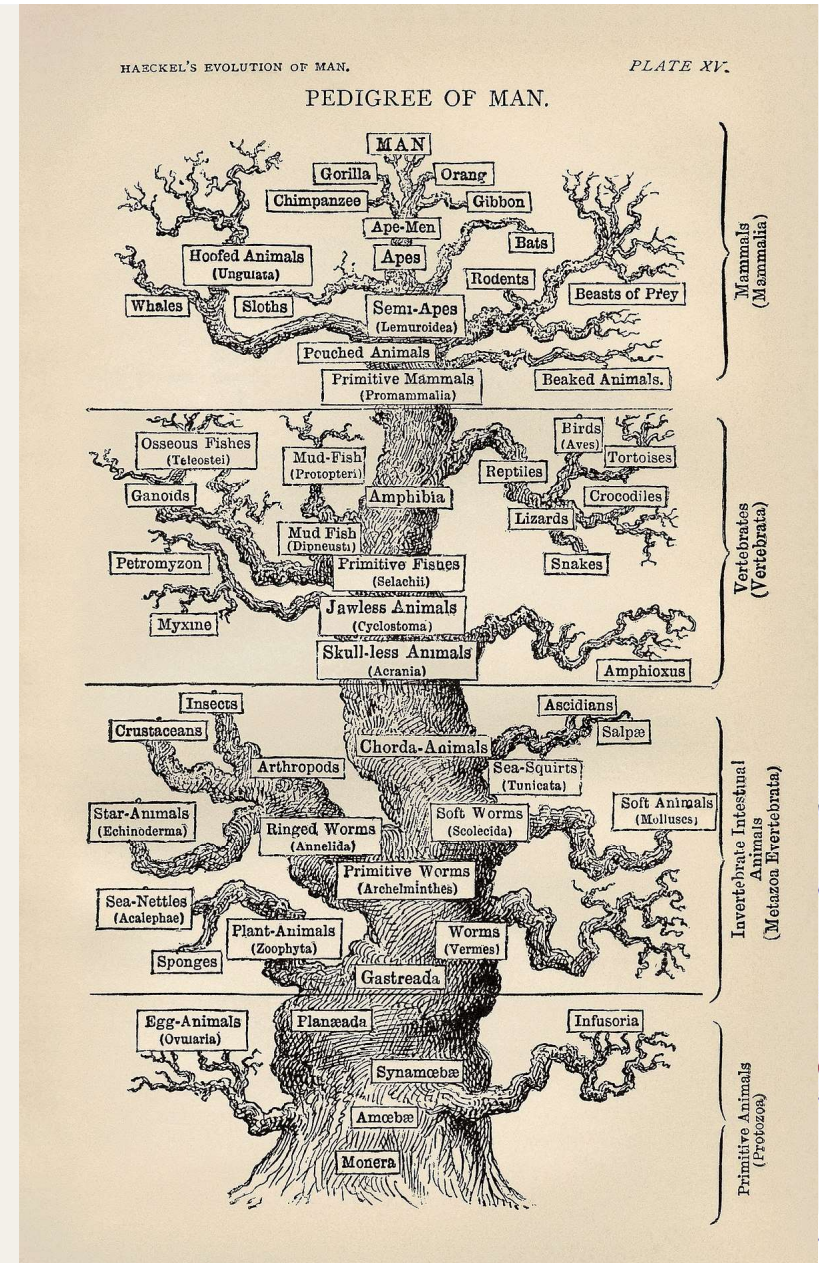


Foster found Buffon's Law applied to plants as well as animals, and also applied to any region of the world that was separated from others by geographical or climate barriers.▼

He realised the existence of the now-called GRADIENTS OF DIVERSITY

First seeds about the Evolution

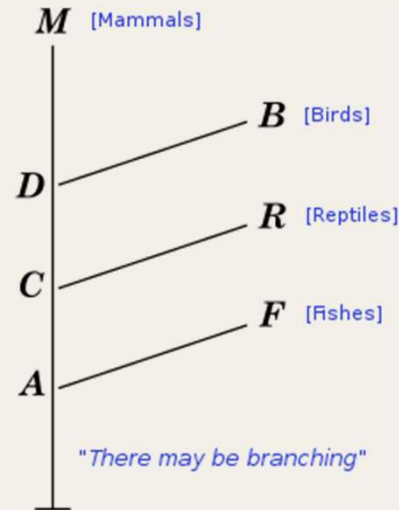
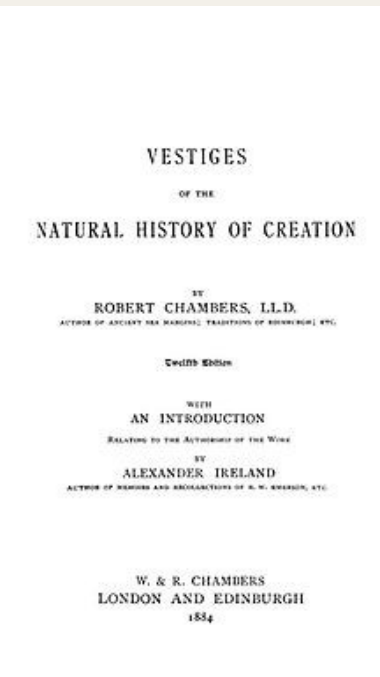
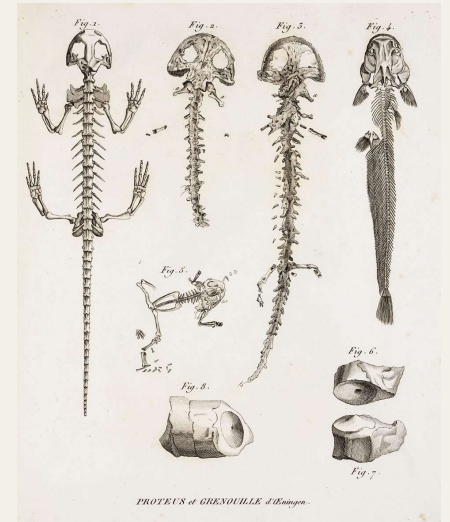
- + Late 18th century: SCALE OF BEINGS
- + Different groups of organisms could be allocated to 'lower' or 'higher' places according to the level of 'perfection' of their organisation, with human beings at the apex.
- + Lamarck (1802) suggested that 'lower' organisms might be found earlier in time and that they might gradually change into the 'higher' forms, due to an 'inherent tendency of life to improve itself'





Mammoths of Europe and North America, as well as many others, belonged to a quite different species from those of today and were **extinct**

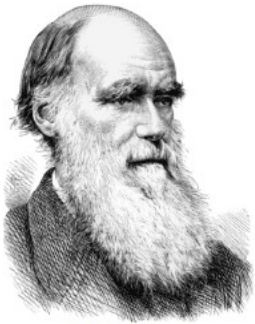
→ Opponent of Lamarck's theories



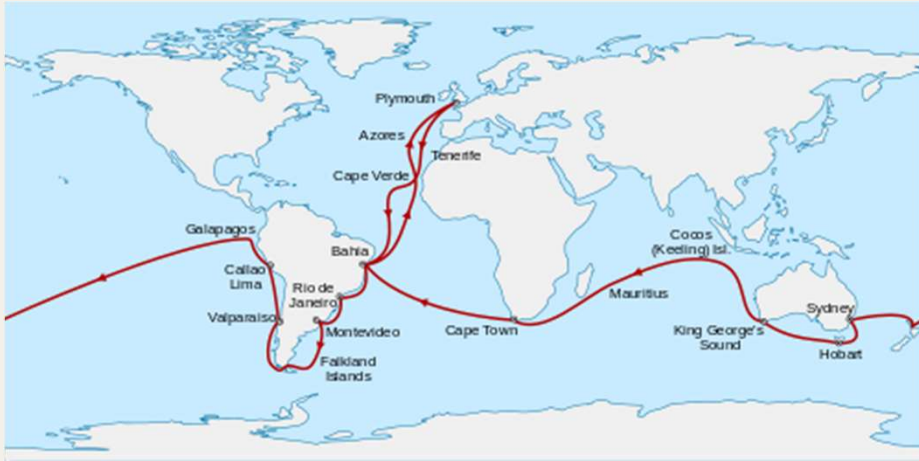
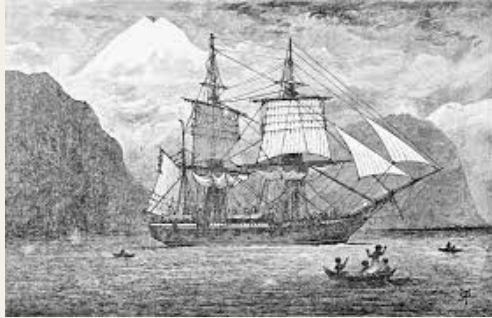
The work puts forward a cosmic theory of transmutation, which we now call evolution, as the "natural history of creation". It suggests that everything currently in existence has developed from earlier forms: solar system, Earth, rocks, plants and corals, fish, land plants, reptiles and birds, mammals, and ultimately man.

he writes in his concluding chapter, "is the first attempt to connect the natural sciences in a history of creation."

Early 19th century



CHARLES DARWIN



Alfred Russel Wallace (1823-1913)

father of biogeography



The Malay Archipelago

20 April 1854 (arrived in Singapore) - 1 April 1862



