

EVOLUTION & OTHER SCIENCES



This pattern of irreversible separation gives life's history its basic directionality.

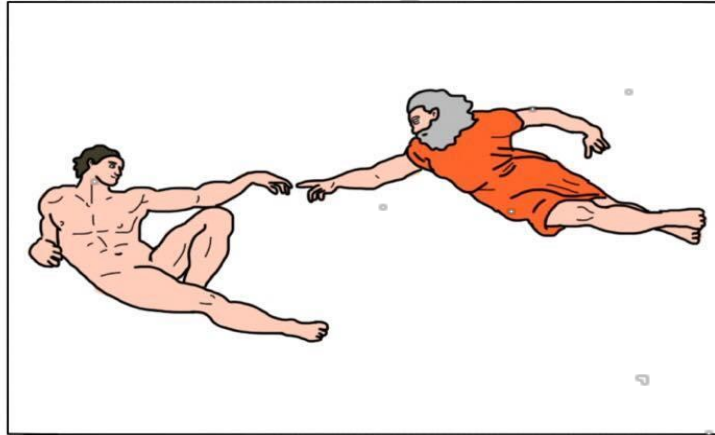
Mechanisms that can lead to changes in allele frequencies include natural selection, genetic drift, gene flow and mutation bias.

- natural selection — process that results in the adaptation of an organism to its environment by means of selectively reproducing changes in its genotype, or genetic constitution;
- genetic drift — random fluctuations in the frequencies of alleles from generation to generation due to chance events;
- gene flow — the movement of genes from one population to another population;
- mutation — the changing of the structure of a gene, resulting in a variant form that may be transmitted to subsequent generations, caused by the alteration of single base units in DNA, or the deletion, insertion, or rearrangement of larger sections of genes or chromosomes.

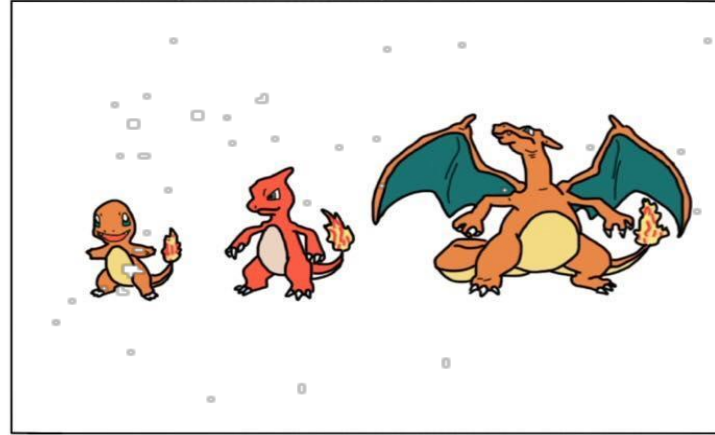


Evolution according to...

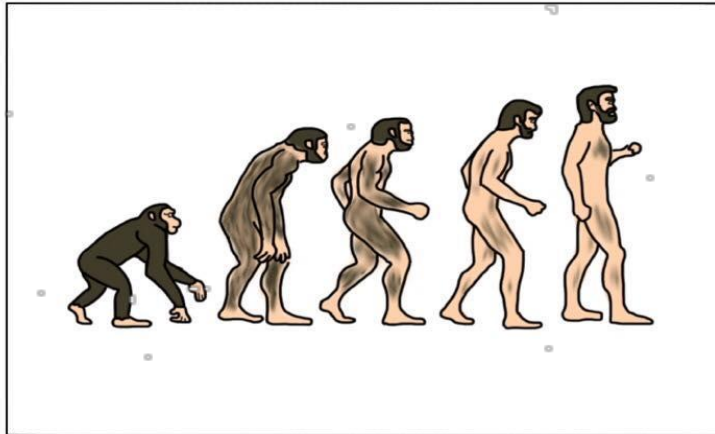
Religion



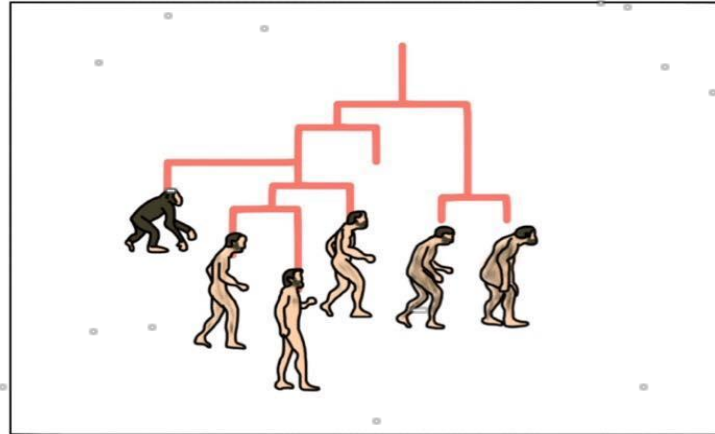
Pokémon



Regular people



Science

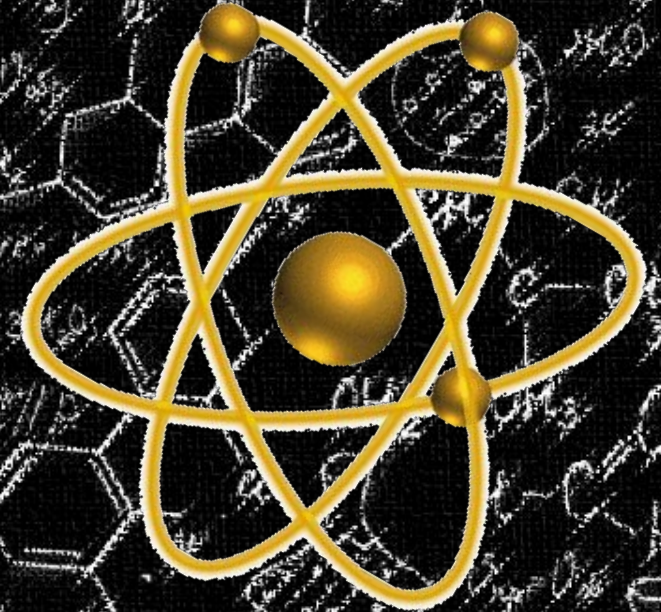


Sketching Science

YBiologyZ

Evolutionary biology provides the key to understanding the principles governing the origin and extinction of species.

It provides causal explanations, based on history and on processes of genetic change and adaptation, for the full sweep of biological phenomena, ranging from the molecular to the ecological.



It helps to explain our origins, our history, and how we function as organisms and interact with other life forms, all of which are crucial to understanding our future.

YPaleontologyZ

Paleontology is key to the study of evolution for two reasons:

The discovery of fossils showing forms of animals that had never previously been seen began to cast serious doubt upon creationist theories.

Fossils provide the only direct evidence of the history of evolution.

Evidence for early forms of life comes from fossils.

By studying fossils, scientists can learn how much (or how little) organisms have changed as life developed on Earth. There are gaps in the fossil record because many early forms of life were soft-bodied, which means that they have left few traces behind.



YChemistryZ

Chemical evolution is an important stage on the pathway to life, between the stage of "just chemistry" and the stage of full biological evolution.



Chemical evolution is the sequence of chemical changes in originally nonliving matter that give rise to life. The phrase "chemical evolution" is also used, in astronomy and cosmology, to describe the changing makeup of the Universe's stock of chemical elements through deep time since the Big Bang, from hydrogen and helium immediately after the Big Bang to the full array of elements observed today.

YMedicineZ



Evolutionary medicine has been defined as a research field applying evolutionary principles to understand human health and disease, and the mechanisms that change health and disease over time.

Also relevant for evolutionary medicine are the effects of epigenetic and physiological adaptability to general and local environmental factors. Human anatomy and physiology are regarded as evolutionary trade-offs, consequences of adaptation of the human body to its living circumstances.





What else?