

## 06.1 The general theory of evolution

### Definitions and descriptions

1. 'Transmutation of species' referred to changes that occur in species populations to evolve into another species.
2. Evolutionist Gerald A. Kerkut defined the General Theory of Evolution as the theory that all the living forms in the world have arisen from a single source which itself came from an inorganic form (G.A. Kerkut, *Implications of Evolution* (Oxford, UK: Pergamon, 1960), p. 157).
3. "Biological evolution ... is change in the properties of populations of organisms that transcend the lifetime of a single individual. The ontogeny of an individual is not considered evolution; individual organisms do not evolve. The changes in populations that are considered evolutionary are those that are inheritable via the genetic material from one generation to the next. Biological evolution may be slight or substantial; it embraces everything from slight changes in the proportion of different alleles within a population (such as those determining blood types) to the successive alterations that led from the earliest proto-organism to snails, bees, giraffes, and dandelions" (Futuyma DJ. *Evolutionary Biology*, 2nd ed. Sunderland (MA): Sinauer, 1986: 7).

### History

1. Jean-Baptiste Lamarck proposed his theory for transmutation of species in his book, *Philosophie Zoologique* (1809).
  - a. He believed that simple life forms originate by spontaneous generation.
  - b. Spontaneous generation is the belief that organisms originate from non-living matter.
  - c. He believed that organs in species appear or disappear based on use like exercised muscles.
  - d. He believed that by cutting the tails off of mice, their offspring would be born with short tails.
  - e. He believed that species increase in complexity over time from one generation to the next.
  - f. An anonymous paper in 1826 first used the word *evolved*, as it is currently used, praising Lamarck for explaining how the higher animals had "evolved" from the "simplest worms".
2. In 1844, Scottish publisher Robert Chambers anonymously published a book titled *Vestiges of the Natural History of Creation* proposing an "evolutionary scenario for the origins of the solar system and life on earth. He claimed that the fossil record showed a progressive ascent of animals with current animals being branches off a main line that leads progressively to humanity" ([http://en.wikipedia.org/wiki/Transmutation\\_of\\_species](http://en.wikipedia.org/wiki/Transmutation_of_species)).
3. In 1858, ecologist Alfred Wallace proposes gradual evolutionary change in organisms over time.
4. In 1859, Charles Darwin popularizes gradual evolutionism and natural selection in his book titled, "On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life".
  - a. Proposed that the fittest phenotypes of organisms are survivors of Natural Selection pressures.
  - b. Presented evidence of variation in phenotypes in a variety of populations to support his theory of natural selection.
  - c. Darwin's racism is especially exposed in his book titled, *Descent of man*, in which he describes natural selection taking place in the human population saying: "At some future period, not very distant as measured by centuries, the civilised races of man will almost certainly exterminate, and replace, the savage races throughout the world. At the same time the anthropomorphous apes . . . will no doubt be exterminated. The break between man and his nearest allies will then be wider, for it will intervene between man in a more

civilised state, as we may hope, even than the Caucasian, and some ape as low as a baboon, instead of as now between the negro or Australian and the gorilla.”

5. In 1915, T. H. Morgan initiates attempts to demonstrate that mutations produce new species in fruit flies (*Drosophila melanogaster*). Over a period of 100 years producing millions of generations of fruit flies, no new species resulted. The mutations merely increased the genetic variations in the population rather than create new species.
6. In 1942, a ‘Modern evolutionary synthesis’ was proposed by Julian Huxley in his book titled, *Evolution: The Modern Synthesis*. This concept brought together various fields of study in biology, such as genetics, paleontology, population genetics, anatomy, and embryology, to collaborate and unify around the general theory of evolution.
  - a. ‘Modern evolutionary synthesis’ is called by some ‘neo-Darwinism’. Darwinism proposes the sufficiency of natural selection to account for species change, whereas neo-Darwinism includes the necessity of Mendelian genetics.
  - b. Julian Huxley summarizes ‘evolutionary synthesis’ saying: “Mendelism is now seen as an essential part of the theory of evolution. Mendelian analysis does not merely explain the distributive hereditary mechanism: it also, together with selection, explains the progressive mechanism of evolution” (Huxley JS. *Evolution: The Modern Synthesis*. London: Allen & Unwin, 1942: 26). Distributive hereditary refers to how genes are distributed from generation to generation by means of genetic shuffling. Progressive evolution refers to preservation of genes in successive generations leading to preservation of change over time.

### **Natural selection**

1. Selection pressures eliminate phenotypes that are not able to survive. They do not add to populations.
2. Selection pressures do not cause organisms to change or adapt to their environment.
3. Because natural selection eliminates phenotypes, it is not the source of change in populations. It acts only on phenotypes that already exist.
4. Natural selection contributes to the change in frequency of alleles already present in populations.
5. Selection for phenotype is selecting for genotype.
6. Surviving phenotypes necessarily means that their genotypes also survive making it possible for survivors to reproduce and pass on their genotype and subsequent phenotype to the next generation.
7. Darwin’s concept of “Survival of the fittest” is not longer accepted as correct. It is replaced with the concept “survival of those fit enough”.
8. “Natural Selection is not Evolution. Yet, ever since the two words have been in common use, the theory of Natural Selection has been employed as a convenient abbreviation for the theory of Evolution by means of Natural Selection, put forward by Darwin and Wallace” (Fisher RA. *The Genetical Theory of Natural Selection*. NY: Dover, 1958).
9. Natural selection deals with frequency changes brought about by differences in ecology among heritable phenotypes; evolution includes this as well as random effects and the origin of these variants (Endler JA. Natural selection: Current usages. In: Keller E, Lloyd E, eds. *Keywords in Evolutionary Biology*. Cambridge (MA): Harvard University Press, 1992: 221).

### **The evolution of defining evolution**

1. Contemporary evolutionists attempt to include all changes of any kind in populations into the meaning of evolution.

- a. "Evolution may be defined as any net directional change or any cumulative change in the characteristics of organisms or populations over many generations — in other words, descent with modification... It explicitly includes the *origin* as well as the *spread* of alleles, variants, trait values, or character states. Evolution may occur as a result of natural selection, genetic drift, or both; the minimum requirements are those for either process. Natural selection does not necessarily give rise to evolution, and the same is true for genetic drift" (Endler JA. *Natural Selection in the Wild*. Princeton: Princeton University Press, 1986:5).
- b. "Population geneticists use a different definition of evolution: a change in allele frequencies among generations. This meaning is quite different from the original; it now includes random as well as directional changes ..., but it does not require the origin of new forms. It is roughly equivalent to microevolution (subspecific evolution; macroevolution involves major trends, or trans-specific evolution...). Unfortunately, the use of the population genetics definition often results in an overemphasis on changes in allele frequencies and an underemphasis on (or no consideration of) the *origin* of the different alleles and their properties. Both are important in evolution.... An additional problem is that, for quantitative genetic traits, the frequencies of alleles at many contributing loci can change while the overall mean and variance of the trait remain roughly constant" (Endler JA. *Natural Selection in the Wild*. Princeton: Princeton University Press, 1986: 7-8).
- c. Microevolution refers to small, unlimited, inheritable changes that occur within a species from generation to generation.
  - i. This involves mechanisms for population genetics such as genetic drift, natural selection, mutation, and founder effect.
  - ii. Population genetics is simply the study of genetic variations within a species' population.
  - iii. For some, this word distinguishes it from the general theory of evolution referred to as macroevolution, however, for most, it is evolution in general because it involved unlimited change.
  - iv. Creationists should use the term *variation* rather than *microevolution* to communicate limited change rather than unlimited change.
- d. Macroevolution refers to the study of the origin and change of higher taxa (Kingdom, phyla, class, order) on earth evolved from a common ancestor.
  - i. This is often referred to as "descent with modification" from a common ancestor.
  - ii. This is also often referred to as the general theory of evolution.
  - iii. This is often abbreviated and simply called *evolution*. This is what most people think of when the word *evolution* is used.
  - iv. Macroevolution proposes that all life on earth (viruses, fungi, plants, animals, and man) descended from one common ancestor through many different lineages. Ultimately, their claim involves living species evolving from lifeless molecules, which evolved from nothing exploding into everything.
  - v. Macroevolution claims that it is the result of microevolutionary events taking place over millions of years. However, attempts to demonstrate such unlimited capacity for change have failed. Observation shows that variations in populations are limited within a species and that populations resist change (<http://creation.com/molecular-limits-natural-variation>).

- vi. This requires adding huge amounts of new genetic information to successive generations.

### **Phylogenetics**

1. Phylogenetics is the study of evolutionary relationships among organisms.
2. Evolutionists develop 'trees of life' to show relatedness between organisms.
3. 'Trees of life' are evolutionary diagrams used to show relatedness between organisms and the alleged descent from a common ancestor. These trees are also called phylogenetic trees resulting from the study of evolution.
4. Evolutionists propose that descent from a common ancestor is revealed by molecular and morphological homologies.
5. Morphological classification relies on anatomical similarities (phenotype) to show evolutionary relationships.
6. Genetic classification relies on genetic similarities (genotype) to show evolutionary relationships.
7. Cladistics relies on grouping organisms based on shared traits associated with a supposed common ancestor.
8. Homologies are similar characteristics observed in various organisms. Evolutionists assume that greater similarity infers genetic relatedness.
9. German zoologist Ernest Haeckel's evidence to support the claim that 'ontogeny recapitulates phylogeny' was discovered to be fraudulent by a university court in Jena. In 1915, J. Assmuth Ernest R. Hull published details about the scandal in their book titled, "Haeckel's Frauds and Forgeries."
10. Ontogeny recapitulates phylogeny is a term used to refer to the phylogenetic stages of evolution being repeated during embryological development of a fetus.
11. Findings that morphological (phenotype) homologies often do not correspond to molecular (genotype) homologies discounts the suggestion that similarity shows relatedness.
12. Phylogenetic methods used on organisms with known relatedness developed in just a few years show an error rate that calls into question phylogenetic charts for organisms separated by long periods of time.
13. Computers and their codes are similar but are all purposefully, and intelligently designed. The assumption that similarity shows relatedness among organisms has not been demonstrated.
14. Phylogenetic trees show the ability of scientists to organize and classify organisms like classifying trucks and cars. There are similarities observed by the scientist, but there is no relatedness.
15. Punctuated equilibrium proposes that populations resist change until unusual events occur resulting in rapid change. This is used to explain why missing links in the fossil record are missing. It is an excuse for the absence of evidence.

### **Commonality and homologies in life**

1. Life shares many things in common including nutrient and energy requirements.
2. Evolutionists assume that commonality indicates relatedness. Evolutionists assume that organizing species into the categories of similarity and differences shows genetic relatedness. Evolutionists assume that absolute naturalism is the only acceptable interpretation of facts.
3. Intelligent design suggests that a common energy source (sun) and common nutrient elements (C, H, and O) explains the reason for common metabolic pathways in organisms. Likewise, such commonality of chemistry and physics among life would suggest a common code to guide the metabolism of the same nutrients using the same energy source.
4. The accidental and random occurrence of life's code according to evolution should also give rise to the possible existence of non-nucleic acid code. Such a code has never been found. Likewise, no

other variations are observed to suggest that life's existence is the result of naturally occurring random accidents.

### **The hallmarks of evolution evidence explained**

1. Mosquitoes and bacteria: Variation within a species population or transmutation from one kind of organism into another kind?
2. Moths: <http://creation.com/the-moth-files>
3. Archaeopteryx: <http://creation.com/birds-fliers-from-the-beginning>
4. Humans: <http://creation.com/refuting-evolution-chapter-6-humans-images-of-god-or-advanced-apes>  
<http://creation.com/human-evolution-stories>  
<http://www.discovery.org/a/21951>
5. Ida: "eighth wonder of the world", NOT! <http://creation.com/darwin-fossil-ida-hype>  
<http://www.ideacenter.org/contentmgr/showdetails.php/id/1503>
6. *Australopithecus sediba*: <http://www.apologeticspress.org/APPubPage.aspx?cid=4508>
7. Ardi, *Ardipithecus ramidus*: <https://answersingenesis.org/missing-links/bye-bye-missing-link/>
8. Horses: <http://creation.com/the-non-evolution-of-the-horse>
9. Whales: <http://creation.com/whale-evolution-fraud>
10. Tiktaalik: <http://creation.com/abandoned-transitional-forms>  
<http://creation.com/tiktaalik-pelvis>
11. Genetic similarities: the amount of difference between our genomes corresponds to how long ago our genetic lines diverged. <http://creation.com/human-chimp-dna-similarity-re-evaluated>
12. Geological column: claim that progression from simple to complex life in older to younger strata supports. <http://creation.com/geologic-column-global-sequence>  
<http://creation.com/fossils-wrong-place>

### **Unresolved questions about evolution**

1. As long as questions remain unanswered, debate and doubt will not go away.
2. What is the best evidence that shows that the general theory of evolution is actually a fact? (insist on evidence showing change beyond simple variation within a population)
3. If science is about reasoning and debate, why do evolutionists censor controversies, fraud, and weaknesses of the evolution theory from textbooks?
4. Science is supposed to be objective and unbiased. So, what justifies an atheistic (naturalistic) bias in science over an agnostic approach that allows for the possibility of natural or supernatural origin?
5. What triggered the Cambrian Explosion, why did so much change occur at this time?
6. How can an intelligent designer be dismissed in light of complexity observed in life and the abundance of information needed to code for that complexity?
7. What fossil evidence exists showing the evolution of one major kind of organism into another? (to avoid examples of simple variations, ask for an example of one taxon "class" becoming another)
8. If cars and non-related organisms can show similarity, what is the basis for inferring that homologous phenotypes represent phylogeny?
9. What evidence is there that mutation can or has produced unique, new structures rather than modified features?
10. What is the evidence that shows that mutations can supply an increase of new information rather than just modifying existing genetic information?
11. What evidence suggests that mutation and natural selection changes have no limitations to change one kind organism into another?
12. What evidence shows a transitional form with partially developed, nonfunctional features (such as 10% of a wing)?
13. Why have new body plans not developed since the Cambrian explosion?

14. Why is Haeckel's "law of biogenesis" that ontogeny recapitulates phylogeny still used as evidence for evolution after being exposed as a fraudulent claim?
15. How do you explain phenotype differences when genotypes are similar, and how genotype differences produce phenotype similarities?
16. If a hundred years of intensive research on millions of generations of mutant fruit flies has produced nothing but more fruit flies, what other laboratory evidence exists to show that transmutations from one kind of organism into another can happen?
17. How did mindless molecules overcome the laws of thermodynamics to initiate life?
18. What specific evidence supports the claim of a natural origin of life? (life from non-life in contradiction to the law of biogenesis)
19. If life could spontaneously exist by chance, then why have scientists not been able to create life in the laboratory with controlled experiments? Likewise, if scientists cannot succeed in creating life in the laboratory, then what evidence is there that life could create itself by chance?
20. What evidence justifies the evolution proposal that life spontaneously arose from non-living material in spite of the calculations showing that such occurrence is astronomically improbable.
21. How did the DNA code and mechanisms of replication and translation originate?
22. By what means did the code of life and the enzymes necessary to make the code originate? Which came first: the code to make the enzymes or the enzymes to make the code?
23. Explain how something can come from nothing in contradiction to the first law of thermodynamics.
24. The universe is experiencing heat death as predicted by the second law of thermodynamics. So how do evolutionists justify proposing that energy always existed and had no beginning?
25. What is the evidence that the universe increased in its order and complexity after the big bang in contradiction to the second law of thermodynamics.
26. Evolution rests upon the unproven assumptions of naturalism, similarities equal relatedness, organization of simple to complex means evolution, explanations for why evidence is missing is evidence for their theory, that the ability to change means change is unlimited.