

SOME OBJECTIONS TO EVOLUTION

Objection: (1) Evolution is only a theory, not a fact or law.

Response: In science, a theory is “ A well-substantiated explanation of some aspect of the natural world that incorporates facts, laws, inferences and tested hypotheses.”
(From the National Academy of Science, 1999)

Objection: (2) Evolution is not testable because it concerns events that happened in the past and, therefore, cannot be tested or re-created.

Response: Changes within a species over short times can indeed be observed, both in the laboratory and in the field. Recent examples of evolution include insecticide resistance, antibiotic resistance and other genetic changes as a result changing environmental conditions. Fossils and DNA provide a window to events that have happened in the past.

Objection: (3) Evolution cannot explain how life on Earth arose.

Response: The point of evolution is not to explain how life arose, but rather to explain the enormous diversity of life. Even if life came from outer space or was created by a supernatural being, evolution is still the best explanation for the diversity seen today.

Objection: (4) Evolution cannot explain how complex structures, such as eyes, might have come into being.

Response: There are countless examples from *extant* organisms that provide ideas about the events leading to complex structures. For example, we have an excellent idea about how primitive light-sensing organs have changed over time to become eyes with increasingly complex functions.

Objection: (5) Evolution cannot point to any transitional fossil forms that would support the origin of new species from a common ancestor.

Response: There are many detailed examples of fossil intermediates. For example, *Archaeopteryx* is a remarkably preserved specimen which links birds and dinosaurs. Similar examples include the evolution of horses, and the evolution of whales from terrestrial vertebrates. There are more than twenty different hominid fossils that are associated with human evolution.

Objection: (6) Evolution is inconsistent with belief in God or a higher being.

Response: Evolution says nothing about the existence of God; it is merely a scientific explanation for the diversity of life on Earth. The proportion of scientists that hold religious beliefs is about the same as for the public in general.

Objection: (7) Evolution minimizes the importance of humans and diminishes our species

Response: Evolution does not make value judgments about us or about any other species. Since over 90% of the species that have ever existed on Earth have gone extinct, including all hominids, it is remarkable that we have persisted. In addition, evolution provides evidence that all humans are indeed descended from the same parents. This is a welcome idea in a world divided along religious and ethnic lines.