

Glossary

alchemy: A medieval speculative philosophy and form of chemistry largely attempting to change common metals into gold and produce an elixir of long life.

Arabah: The hot and dry elongated depression through which the Jordan River flows from the Sea of Galilee to the Dead Sea.

benighted: Being in a state of intellectual or moral darkness; ignorant.

book of nature: A reference to general revelation, which is the revelation of God through the created order (see Romans 1:18–20; Romans 2:14–15; Psalm 19:1–4); does not include God’s specific plan to reconcile the world to himself through Christ (the latter being special revelation found only in the Bible).

Cambrian Explosion (aka Cambrian radiation): As reflected in the fossil record, almost all of the animal body plans that have ever existed on earth abruptly appeared within the Cambrian period, about 530 million years ago. No traces of evolutionary precursors have as yet been discovered in the fossil record. As Oxford zoologist Richard Dawkins acknowledged, “It is as though [fossils] were just

planted there, without any evolutionary history.”
The difficulty this poses for the theory of evolution plagued Darwin himself.

common descent: The idea within biological evolutionary theory that all living things—humans, animals, plants, bacteria, etc.—descended with modification from shared ancestors. Darwin postulated that all living organisms on the earth descended from a single common ancestor. See also **Darwinian Tree of Life**.

cosmogenic: Concerning the origin and history of the universe.

Darwinian Tree of Life: In *The Origin of Species*, Charles Darwin wrote, “All the organic beings which have ever lived on this earth have descended from some one primordial form.” The only illustration Darwin included in his magnum opus is what he called the “great Tree of Life” (see page 159) depicting the natural history of life from the universal common ancestor (root) to modern species. See also **common descent**.

design: see **intelligent design**.

echolocation system: A sensory system used by whales, dolphins, bats, and other animals to discern the distance and direction of objects by emitting (usually high-pitched) sounds that echo back from the object.

empirical: Based on observation or experiment.

entropy: The measure of disorder in a closed system (also known as the second law of thermodynamics). The amount of energy that can be used to do work in an isolated system always decreases through time. The fact that the entropy of the universe increases over time implies that the universe came into being in the finite past.

evolutionary language barrier: Most intellectual disciplines develop a jargon or in-house language that can inhibit comprehension by those outside the discipline, but what is peculiarly ironic and telling about the rhetoric of evolutionary biology and related scientific disciplines is the ubiquitous reference to living organisms and their constituent parts (organs, cells, etc.) in terms of design and purpose, despite the evolutionist's incessant denial that such design and purpose is not real but only apparent. As Oxford zoologist Richard Dawkins famously wrote, "Biology is the study of complicated things that give the appearance of having been designed for a purpose." Francis Crick, codiscoverer of the double-helix of DNA, wrote, "Biologists must constantly keep in mind that what they see was not designed, but rather evolved."

exegetical liability: Incongruities and disadvantages that result from misinterpreting a text.

federal headship: Refers to the teaching that God chose the first man, Adam, to represent the entire human race such that on account of Adam's sin, all of his descendants (i.e., all of us) are born spiritually dead in sin. Christ is the "second man" who redeems all fallen humans who trust in him. As the apostle Paul put it, "For as in Adam all die, so in Christ all will be made alive" (1 Corinthians 15:22; cf. Romans 5:12–21; Ephesians 2:1–5).

Fertile Crescent: A region of the Middle East that served as the seat of ancient Mesopotamian civilization. Egypt, Assyria, Babylonia, Israel, and other nations developed in this fertile land ranging from the Nile Valley to the Tigris and Euphrates rivers.

fossil transitions: Fossil sequences representing identifiable evolutionary intermediate links between different kinds of organisms, such as between land mammals and whales, between reptiles and birds, or between primates and humans. To date, no compelling transition sequences have been discovered in the fossil record.

hominids: I use this term to refer to the classification of any bipedal primate of the family Hominidae, including species within the genera *Homo* and *Australopithecus* (see **Lucy**), which in evolutionary theory are conjectured to be closely related to humans. Only *Homo sapiens* (humans) are living today.

infinite regress: The idea that there is no first cause in a series of causes.

intelligent design: Literally refers to the purposeful arrangement of parts. Intelligent design theory maintains that particular patterns or features of the universe and of living things are best explained by appeal to an intelligent cause, not an undirected, purposeless process such as **natural selection** and random mutation.

kairological: Reference to time in relation to God's purposes as opposed to a strict *chronological* rendering of time. For example, kairologically speaking, God redeemed the world through Christ's death on the cross even though a significant percentage of the redeemed lived chronologically prior to Christ's death and resurrection.

literary polemic: A counter to a point of view sustained through literature (as opposed to common speech or writing).

literary subversion: An apologetic technique used by Old Testament and New Testament writers to communicate truth about God. These ancient writers took motifs and images common to the pagan cultures of their day and imaginatively used them to retell the story from a true perspective. For example, the psalmist subverts motifs concerning the pagan storm

god Baal and attributes them to Yahweh (Psalm 29). Paul subverts the story surrounding the altar to the Unknown God to exalt Christ to the Greek philosophers in the Areopagus (Acts 17:16–34).

Lucy: Nickname for a famous **hominid** fossil skeleton (roughly 40 percent complete) classified in the genus *Australopithecus*, which lived about 3.2 million years ago.

macroevolution: The dominant theory of biological evolution maintains that all living things (plants, animals, humans, etc.) have descended with modification from shared, common ancestors. Macroevolution refers to large-scale changes—such that one species transforms into another fundamentally different species exhibiting wholly different structures and functions. For example, birds are said to have evolved from dinosaurs, and whales from hippo-like land animals. This process would require the input of vast amounts of new information into the genetic code.

metanarrative: A grand, overarching story that explains all historical experience.

metaphysical implication: Something implied at the level of a larger philosophy or worldview. For example, **intelligent design** (ID) is not a religious doctrine—it is a scientific research program with

empirically testable hypotheses—but ID has profound *implications* for the truth or falsity of one’s worldview. Even so, we should carefully maintain the distinction between what ID *is* and what it *implies*.

microevolution: Changes in the gene expressions of a given type of organism occur, but a completely different species is not produced. For example, through selective breeding, dogs ranging from Great Danes to Chihuahuas have been produced from ancient wild dogs, all the while remaining dogs; and bacteria can develop resistance to antibiotics, all the while remaining bacteria. This process, perhaps misnamed, does not require the input of new information because the changes are largely a function of the genetic makeup already present in the gene pool of the species.

natural selection: The central mechanism of Darwin’s theory of evolution: organisms that are best adapted to their environment tend to survive in greater numbers than those less well adapted to their environment, which results in differential reproduction such that less well adapted organisms do not produce as many offspring as the best adapted organisms. So over time the heritable traits of the best adapted organisms become common and eventually dominate within the population. The source of variation on which natural selection operates is said

to be, principally, random genetic mutation. In reality, natural selection and random mutation account well for **microevolution** but not for **macroevolution**.

nature red in tooth and claw: Refers to the characteristic harshness of the natural world, from pestilence and parasitism to predation within the animal kingdom to natural disasters such as tsunamis, volcanoes, and tornados.

neo-Darwinism: Reflects current evolutionary theory. In the mid-nineteenth century, Darwin postulated that all living things descended with modification from shared ancestors by means of **natural selection** operating on random variation. But he had no justified theory of heredity (how genetic traits are passed from parents to offspring) and thus no compelling explanation for the causes of variation. In the twentieth century, random mutations within the genetic code came to be understood as the principal means of variation. Although natural selection operating on random mutation accounts well for **microevolution**, it does not account well for **macroevolution**.

old-earth creationism: I use this term to refer to a range of Christian creationist views, including **progressive creationism**, that hold in common the inspiration and inerrancy of Scripture but also hold that the Bible is silent on the age of the universe and the age of the

earth. Thus, for that data we must look to the book of nature. I do not categorize Darwinian theistic evolutionism (aka evolutionary creationism) within old-earth creationism.

philosophical naturalism: The worldview that nothing exists except the natural world, and all of nature is in principle entirely explainable in terms of science (physics and chemistry). This worldview is well codified in the famous aphorism of the late atheist astronomer Carl Sagan: “The Cosmos is all that is or was or ever will be.”

progressive creationism: A form of **old-earth creationism** holding that God intervened in earth’s history to create new forms of life progressively over geological history as manifested in the fossil record. Generally, progressive creationists deny **common descent**.

radiometric dating: Scientists observe that some varieties of atoms spontaneously change into other atoms at a predictable rate. For example, the specific form of the chemical element potassium known as potassium-40 changes into a specific form of the chemical element argon known as argon-40 (potassium-40, which has 19 protons and 21 neutrons in its nucleus, loses a proton and gains a neutron, becoming argon-40 with 18 protons and 22 neutrons). Carefully measuring the extent of this radioactive

decay within geologic samples enables scientists to determine the age of some materials.

spontaneous generation: A theory once widely held that nonliving matter could directly produce living organisms.

transitional fossils, or transitional forms: See fossil transitions.

vestigial: Lingering evidence of something that once was but no longer exists.

young-earth creationism: The view that the Bible must be interpreted to teach that God created the heavens and earth in six literal twenty-four-hour days roughly six thousand years ago (no more than ten thousand years ago). The Bible is said to establish one's framework of foundational assumptions concerning the age of the earth by which the young-earthier then reads the book of nature such that science is forged into a weapon to undermine standard geology and cosmology. Instead of young-earthers and old-earthers warring against each other, however, I believe that both ought to stand arm in arm together against naturalism, which is a real threat to biblical faith in our generation. (Naturalism is well-codified in the famous aphorism of the late atheist astronomer Carl Sagan: "The Cosmos is all that is or was or ever will be.")