

Chapter 4:

Do Fossils Show Evolution?

David V. Bassett, M.S.



Why is this Chapter Important?

There is no more fundamentally important debate raging in the midst of the current global culture war of ideas than the controversy over origins. The creation-evolution issue is foundational to everyone's worldview and, as such, is a priority topic that must be regarded, wrestled with, and ultimately resolved. Since ultimate origins are "one-time only" happenings of the unobservable, non-repeatable past (referred to as "singularities"), they must *philosophically be accepted by faith*, based on what one believes about the beginning history of the Universe, of the Earth, of life, and of mankind. These faith-beliefs, in turn, result in predictions about the present-day world of which we are a part. Consequently, these expectations can be either confounded or confirmed by observable evidence and/or scientific experimentation. This line of reasoning can, and should, be applied to the fossil record of the Earth's surface rocks since these layers are present-day evidence of past geological processes and their fossil contents are present-day evidence of past biological organisms. The fossil record is thus where one should look to find scientific answers about the Earth's early history and its ancient life forms.

If the reader were to objectively examine the testimony of Earth's surface rocks and the fossil remains contained therein for insight regarding origins, they would find that the fossil record does not uphold *any* textbook claim that the fossils document evolutionary progression and random change through only natural means over hundreds of millions of years. It is this atheistic *religion of naturalism* (aka evolutionary humanism) which is being continuously — sometimes forcefully — promoted by our culture in an all-out attempt to secularize our society away from the belief that the cosmos has been created by a supernatural, eternal Being to whom we are morally responsible and inevitably accountable since we have been created—not evolved!—in His image. It is only this latter, bible-based understanding (as revealed in the early chapters of the Book of Genesis) that is instead overwhelmingly confirmed by the fossil record's silent proclamation of detailed design, downward development and diversity, and the deluge-driven death of Noah's Flood!

In short, the fossils glaringly support the young-Earth biblical history of the recent, special creation of our world followed by a single Earth-covering Flood on our planet less than 4,400 years ago. Thus, accepting the faith-claims of evolutionary naturalism or secular humanism as the proper perspective for interpreting the physical world (as relentlessly encouraged by today's public educational system and, unfortunately, also increasingly so by the private-school sector as well) is to be indoctrinated into a never-settled, anti-evidence religious system that is neither justified by thoughtful, consistent reasoning nor verified by solid, scientific evidence.

Introduction

Most scientific hypotheses describe experimentally repeatable occurrences which are directly observable in the present. Charles Darwin's concept of "*phyletic gradualism*,"

the belief that all *phyla* (i.e., complex fundamental groups of living organisms) are biologically related to each other by means of *gradual*, upward evolution from a single-celled, ancestral form of the ancient past is, however, outside the scope of the scientific method of objective, observed, operational science.

By contrast, an explanatory framework, not a scientific hypothesis, deals with unique, irreversible, non-repeating, one-time-only events of the past—referred to as “ultimate origins” or “singularities.” These fall in the realm of origin-science, also called forensic science. As first explained in the introduction to this book, origin-science hypotheses are open to both the individual opinion and worldview biases of the interpreter, and cannot be directly checked by the observation, theorization, and experimentation of the scientific method. Instead, their truth claims are evaluated by either comparing similarities between present and past causes or by considering circumstantial evidence through a pre-supposed, faith-based (biblical or naturalistic) worldview perspective.

Therefore, in the absence of direct observations made over supposed “deep time” (see introduction), Darwinists interpret the fossil record, or the remains of past life found within the rocks of the Earth’s crust, as circumstantial evidence that biological species have originated solely by means of “natural selection” from a universal common ancestor. Do fossils really show the evolutionary “tree of life” preserved in stone? Thus, this Darwinian model that all life that has ever existed on Earth is one grand, biologically-related family would predict that this fossil record should show the following three features:

1. Ancestral Forms: Lowest rocks contain few relatively “simple” ancestral life forms (i.e., *the less-evolved root organisms*).

2. **Intermediate Forms:** Life forms gradually display new organs and other body designs in an uninterrupted, increasingly advanced chain (i.e., *the transitional trunk*).
3. **Divergent Forms:** Ever-increasing numbers of more and more genetically complex diverse organisms (i.e., *the more-evolved branches*) occupy the higher geological strata.

Upon closer inspection, however, the fossil record actually falsifies *all three* evolutionary model predictions. Instead, the fossil record biologically, paleontologically, and geologically supports *all* biblical creation criteria without exception. Each of these three will be evaluated next.

Strike One!—Evolutionary “Ancestral Forms” Never Existed

Rather than phyla coming about by natural selection, somehow adding new genes and organs to pre-existent ancestors as Darwin’s ideas predicted, the fossil record provides no hint in the lowest known fossil-bearing rocks (named “Precambrian” and “Cambrian”) of single-celled organisms morphing into the multi-celled creatures. The “Cambrian Explosion” describes the sudden appearance of all the radically-different blueprint types of each animal all in one rock system. This gap—which has been confirmed within the fossil record globally—should not even exist locally if evolutionism is true.

Jonathan Wells, in his eye-opening book entitled *Icons of Evolution: Science or Myth?—Why Much of What We Teach about Evolution Is Wrong* wrote:

...in Darwin’s theory, there is no way phylum-level differences could have appeared right at the start.

Yet that is what the fossil record shows... In other words, the highest levels of the biological hierarchy appeared right at the start. Darwin was aware of this, and considered it a major difficulty for his theory... Darwin was convinced, however, that the difficulty was only apparent.... Many paleontologists are now convinced that the major groups of animals really *did* appear abruptly in the early Cambrian. The fossil evidence is so strong, and the event so dramatic, that it has become known as “the Cambrian explosion,” or “biology’s big bang”⁸⁶ (emphasis added).

This sudden appearance of all the major, complex body-plans of biology in the lowest of the sedimentary rock layers without any clear-cut, “simpler” forms gradually leading up to them argues against evolution. This same evidence, however, can easily be interpreted as scientific support for the biblical teaching of an Earth-covering Flood rapidly burying the God-designed creatures of the pre-Flood ocean bottom at the very beginning of this catastrophe! Mr. Van Wingerden describes this Flood in Chapter 2.

Strike Two!—Evolutionary “Transitional Forms” Never Existed

If all living things are indeed related to each other through a gradual development of pre-existing organisms as Charles Darwin said, and as is often illustrated by so-called branching “evolutionary tree” diagrams known as “phylogenetic charts,” then we would expect to find countless intermediate species or transitional forms (i.e., one animal kind turning into another) between major biological groupings like phyla. Transitional *creatures*, supposedly exemplified by such headlines as ape-to-man “hominids,” the coelacanth fish,⁸⁷ and Archaeopteryx (an extinct bird that evolutionists

believe possesses some reptilian-like features causing it to be classified as an evolutionary transitional form⁸⁸) are supposed to bridge classification boundaries by possessing transitional *features*.

However, even Archaeopteryx — promoted by evolutionists at one time as the prime example of an intermediate form or “missing link” candidate between reptiles and birds — would not qualify as a *transitional* fossil since its socketed teeth, long bony tail, and wing-claws are all *fully-formed* structures of its alleged fossil representatives, showing no signs of *partial* evolutionary development. Without true transitional structures, does the fossil record support or upsettingly contradict the Darwinian view of phyletic gradualism? Percival Davis and Dean H. Kenyon ask in their book, *Of Pandas and People* (1989):

Does Darwin’s theory match the story told by the fossils? To find out, we must first ask, what kind of story would it match? His theory posited that living things formed a continuous chain back to one or a few original cells. If the theory is true, the fossils should show a continuous chain of creatures, each taxon leading smoothly to the next. In other words, there should be a vast number of transitional forms connecting each taxon with the one that follows. The differences separating major groups in taxonomy [such as invertebrates and the first fish] are so great that they must have been bridged by a huge number of transitional forms. As Darwin himself noted in *The Origin of Species* (1859), “The number of intermediate varieties, which formerly existed on earth [must] be truly enormous.” *Yet this immense number of intermediates simply does not exist in the fossil record.* The fossils do not reveal a string of creatures leading up to fish, or to reptiles, or to birds. Darwin

conceded this fact: “Why then is not every geological formation and every stratum full of such intermediate links? *Geology assuredly does not reveal any such finely graduated organic chain.*” Indeed, this is, in Darwin’s own words, “the most obvious and gravest objection which can be urged against my theory”⁸⁹ (emphasis added).

If evolutionary gradualism were true, then every organism’s genetics would be evolving out of its inferior/past/ancestral code into a superior/future/descendant form. In short, *every life-form would be transitional* between what it once was and what it is evolving into. However, the fossil record does not match this idea. The origin of every distinct, self-bounded biological body plan is not connected by evolutionary intermediates with transitioning structures at all, either to the supposed “universal common ancestor” or to the plentiful variety within its own bounded phylum!

Instead, all preserved and present phyla demonstrate *stasis*—the dominant fossil trend of maintaining anatomical sameness. They show essentially no change in appearance over time, though some show a decrease in size. In addition, 95% of the fossil record phyla are comprised of marine invertebrates, some of which are found throughout its entire vertical span of rocks.⁹⁰ Thus, the completeness of the fossil record is being finally recognized after more than 150 years of fossil collecting and more than 200,000,000 fossils found. *Newsweek’s* 1980 admission of Darwin’s elusive intermediate species being only imaginative is still embarrassingly accurate:

The missing link between man and apes... is merely the most glamorous of a whole hierarchy of phantom creatures. *In the fossil record, missing links are the rule...* The more scientists have searched for the

transitional forms between species, the more they have been frustrated.⁹¹ (emphasis added)

In their journal disclosure, evolutionists Stephen Jay Gould and Niles Eldridge have honestly admitted the pseudo-scientific, philosophical origin of Darwin's view by their candid confession that "*Phyletic gradualism* [gradual evolution]... *was never 'seen' in the rocks* ... It [gradualism] expressed the cultural and political biases of 19th century liberalism" (emphasis added).⁹² Thus, the "onward and upward" notion of evolutionary progress involving innovation and integration was a product of various social prejudices, not science.

Darwin had every hope that future research would reveal numerous transitional forms in the fossil record.⁹³ Now, after 150+ years of digging and millions of additional fossils identified and catalogued, do we have enough evidence to conclude whether transitional forms exist? Remember, if evolution is true, it would take numerous "prior versions" to move between forms—e.g., from a mouse to a bat.

To investigate this issue, Dr. Carl Werner and his wife Debbie invested over 14 years of their lives investigating "the best museums and dig sites around the globe [and] photographing thousands of original fossils and the actual fossil layers where they were found."⁹⁴

After visiting hundreds of museums and interviewing hundreds of paleontologists, scientists, and museum curators, Dr. Werner concluded: "Now, 150 years after Darwin wrote his book, this problem still persists. Overall, the fossil record is rich—200 million fossils in museums—but the predicted evolutionary ancestors are missing, seemingly contradicting evolution."⁹⁵ He continues with a series of examples:

- Museums have collected the fossil remains of 100,000 individual dinosaurs, but have not found a single direct ancestor for any dinosaur species.

- Approximately 200,000 fossil birds have been found, but ancestors of the oldest birds have yet to be discovered.
- The remains of 100,000 fossilized turtles have been collected by museums, yet the direct ancestors of turtles are missing.
- Nearly 1,000 flying reptiles (pterosaurs) have been collected, but no ancestors showing ground reptiles evolving into flying reptiles have been found.
- Over 1,000 fossil bats have been collected by museums, but no ancestors have been found showing a ground mammal slowly evolving into a flying mammal.
- Approximately 500,000 fossil fish have been collected, and 100,000,000 invertebrates have been collected, but ancestors for the theoretical first fish—a series of fossils showing an invertebrate changing into a fish—are unknown.
- Over 1,000 fossil sea lions have been collected, but not a single ancestor of sea lions has been found.
- Nearly 5,000 fossilized seals have been collected, but not a single ancestor has been found.

If this was not enough, one more key consideration should clearly convince. What if, after countless millions of hours spent by researchers mining the crust of the Earth for fossil evidence, the fossil record is essentially *complete*? That is, it stands to reason that the millions of fossils we have collected over the last 150 years *exhaustively* record all basic life forms that ever lived, with only a few additional “big surprises” to be found. Given this, can we say that the question of transitional forms has been *asked and answered*?

One way to find out is to “calculate the percentage of those animals living today that have also been found as fossils. In other words, if the fossil record is comprised

of a high percentage of animals that are living today, then the fossil record could be viewed as being fairly complete; that is, most animals that have lived on the Earth have been fossilized and discovered.”⁹⁶ Carl Werner provides a chart demonstrating the results of such an investigation:⁹⁷

- Of the 43 living land animal *orders*, such as carnivores, rodents, bats, and apes, nearly all, or 97.7% have been found as fossils. This means that at least one example from each animal order has been collected as a fossil.
- Of the 178 living land animal *families*, such as dogs, bears, hyenas, and cats, 87.8% have been found in fossils.

Evolution has had its chance—over 150 years and millions of fossils—to prove itself, and it has come up wanting. The theory has been weighed, tested, measured, and falsified. Aren’t 200 million opportunities and one and one-half centuries enough time to answer the issue that *confounded* Darwin himself?

Why, if species have descended from other species by fine gradations, do we not everywhere see innumerable transitional forms? Why is not all nature in confusion, instead of the species being, as we see them, well defined?...But, as by this theory innumerable transitional forms must have existed, why do we not find them embedded in countless numbers in the crust of the earth?...But in the intermediate region, having intermediate conditions of life, why do we not now find closely-linking intermediate varieties? This difficulty for a long time quite confounded me.⁹⁸

Strike Three! — Evolutionary “Divergent Forms” Never Existed

Darwinian evolution predicts that as phyla continue to diverge or branch out from their ancestral, evolutionary stock, their numbers should increase just as tree limbs radiate from a central trunk and then multiply outward from each other. According to Wells, “Some biologists have described this in terms of ‘bottom-up’ versus ‘top-down’ evolution. *Darwinian evolution is ‘bottom-up,’ referring to its prediction that lower levels in the biological hierarchy should emerge before higher ones. But the Cambrian explosion shows the opposite*” (emphasis added).⁹⁹ The fossil record evidence indicates that the number of phyla in fact decreases from about 50–60 at the “Cambrian Explosion” to approximately 37 living phyla. Extinction—the opposite of evolution’s required new phyla—have certainly occurred.¹⁰⁰ “*Clearly the Cambrian fossil record explosion is not what one would expect from Darwin’s theory. Since higher levels of the biological hierarchy appear first, one could even say that the Cambrian explosion stands Darwin’s tree of life on its head*” (emphasis added).¹⁰¹

Rather than a “bottom-up” continuum of ever-morphing divergent forms, the fossil record clearly reveals definite gaps between, and “top-down” hierarchical variation within, phyla. In fact, these anatomical differences separating major design themes make biological classification of organisms (taxonomy) possible!¹⁰² Without these clear-cut gaps between organism kinds, biologists would not be able to divide plants and animals into their respective kingdoms, phyla, classes, orders, families, genera, and species.

Those familiar with the Bible will recognize that one would expect these gaps between biological kinds if all terrestrial life reproduced “after its own kind,” a truth that the Scriptures declares *ten times* in its first chapter (Genesis 1:11,

12, 21, 24, 25). In fact, even the New Testament affirms that “All flesh is not the same flesh, but there is one kind of flesh of men, another flesh of beasts, another of fish, and another of birds” (1 Corinthians 15:39). Obviously, since God’s written Word lists different creature groupings as separate kinds with anatomically unique “flesh,” biological classification ultimately describes “a created arboretum” of various types of trees, and not a single “evolutionary tree of life” that connects all organisms as Charles Darwin proposed.

With No Fossil Evidence to Support It, Gradualism Strikes Out!

Those who have scientifically examined the fossil record firsthand are justifiably adamant that it completely falsifies all three of the essential evolutionary elements needed to substantiate the concept of an integrated “tree of life.” The fossil record bears witness that there are (1) *no ancestral roots*—no “primitive” organisms between microfossils and visible life, (2) *no transitional trunk*—no anatomically-intermediate creatures with structurally-transitional features (e.g., partially-evolved organs, limbs, etc.), and (3) *no divergent branches*—no new phyla being genetically descended from less-evolved “common ancestors.”

Explaining the Fossil Record—A Creation Model Homerun!

Well, if the fossil record does not support the evolutionary predictions of ancestral roots, transitional trunk, and divergent branches with regard to the major categories of life, what does it show? To summarize thus far, the fossil record clearly reveals the following about the major classification divisions of organisms:

1. Separation from other phyla by definite, unbridgeable gaps with no ancestor-descendant/bottom-to-top transitional-relationship;
2. All forms suddenly appear as unique body plans with fully-formed characteristic structures;
3. All phyla are represented from the beginning by fossil forms, thus demonstrating fossil-record completeness;
4. All are complex, functional, and were or still are able to survive;
5. All show no innovative change in their basic anatomical form after they first appear as fossils—only minor, top-down variation within a blueprint design;
6. Nearly all (95%) are phyla of marine invertebrates;
7. Many of these are found throughout the fossil record, not restricted to a certain vertical range of rock; and
8. Extinction has decreased the number of sub-kingdom plant and animal classification divisions from 50–60 phyla to nearly 37 phyla—the opposite direction of evolution.

In addition, the fossil record confirms biblical creation/global Flood predictions by showing the following:

9. Polystrate fossils cutting across multiple rock layers, supporting rapid sedimentation and catastrophic burial of life-forms;
10. Fossil graveyard deposits;
11. Mass killing and the violent death of creatures;
12. Mixed groupings of organisms from various ecological zones of different habitat and elevation;
13. Highly energetic, destructive processes capable of burying organisms alive, ripping creatures apart, and/or transporting their carcasses great distances;

14. Rock formations with mostly ocean-dwelling creatures catastrophically fossilized;
15. All fossils in continental rocks, not ocean-bottom sediments;
16. Some geologic deposits covering hundreds of thousands of square miles and spanning several continents.

With this being the case, it should therefore be quite obvious that the fossil record is not at all like Charles Darwin's interpretation of an evolutionary "tree of life" preserved in stone. The fossil record has indeed had the last word!

Endnotes



- ¹ Ken Ham, “Culture and Church in Crisis,” AnswersInGenesis.com: <http://www.answersingenesis.org/articles/am/v2/n1/culture-church-crisis> (January 1, 2014) and survey data: [http://www.answersingenesis.org/articles/am/v2/n1/aig-poll \(data\)](http://www.answersingenesis.org/articles/am/v2/n1/aig-poll%20(data)) (January 1, 2014).
- ² Results for this USA Today/Gallup poll are based on telephone interviews conducted May 10–13, 2012, with a random sample of 1,012 adults, aged 18 and older, living in all 50 U.S. states and the District of Columbia.
- ³ Frank Newport, “In U.S., 46% Hold Creationist View of Human Origins: Highly Religious Americans most likely to believe in Creationism,” Gallop.com: <http://www.gallup.com/poll/155003/hold-creationist-view-human-origins.aspx> (June 1, 2012).
- ⁴ Kenneth R. Miller & Joseph S. Levine, *Biology* (Boston, Mass: Pearson, 2010): 466.
- ⁵ Introduction and Table from: “The Bible and Science Agree,” Creationism.org: <http://www.creationism.org/articles/BibleSci.htm> (January 1, 2014).
- ⁶ Ken Ham & T. Hillard, *Already Gone: Why your Kids will Quit Church and what you can do stop it* (Green Forest, AR: Master Books, 2009).
- ⁷ S. Michael Houdmann, “How and when was the Canon of the Bible put together?” Got Questions Online: <http://www.gotquestions.org/canon-Bible.html> (November 7, 2013).

- ⁸ The reader is encouraged to review these additional resources: Henry Halley, *Halley's Bible Handbook* (Grand Rapids: Zondervan Publishing House, 1927, 1965); Arthur Maxwell, *Your Bible and You* (Washington D.C.: Review and Herald Publishing Association, 1959); Merrill Unger, *Unger's Bible Handbook* (Chicago: Moody Press, 1967).
- ⁹ For example, in 1946 the Dead Sea Scrolls were discovered, which included over 900 manuscripts dating from 408 B.C. to A.D. 318. These manuscripts were written mostly on parchment (made of animal hide) but with some written on papyrus. Because these materials are fragile, they have to be kept behind special glass in climate controlled areas.
- ¹⁰ Josh McDowell, *The New Evidence that Demands a Verdict* (Nashville: Thomas Nelson Publishers).
- ¹¹ McDowell, *The New Evidence that Demands a Verdict*, p.38.
- ¹² McDowell, *The New Evidence that Demands a Verdict*, p.38.
- ¹³ Most of the 11 verses come from 3 John. See: Norman Geisler & William Nix. *A General Introduction to the Bible* (Chicago: Moody Press, 1986), 430.
- ¹⁴ Geisler & Nix, *A General Introduction to the Bible*, p. 430.
- ¹⁵ Theophilus ben Ananus was the High Priest in Jerusalem from A.D. 37 to 41 and was one of the wealthiest and most influential Jewish families in Iudaea Province during the 1st century. He was also the brother-in-law of Joseph Caiaphas, the High Priest before whom Jesus appeared. See Wikipedia and B. Cooper, *The Authenticity of the Book of Genesis* (Portsmouth, UK: Creation Science Movement, 2012).
- ¹⁶ B. Cooper, *Authenticity of the New Testament, Vol. 1: The Gospels*. Electronic book (2013).
- ¹⁷ The Digital Dead Sea Scrolls Online, Directory of Qumran Dead Sea Scroll: <http://dss.collections.imj.org.il/isaiah> (December 10, 2013).
- ¹⁸ Source for DSS: Fred Mille, "Qumran Great Isaiah Scroll," Great Isaiah Scroll: <http://www.moellerhaus.com/qumdir>.

- htm; Source for Aleppo Codes JPS: “Mechon Mamre” (Hebrew for Mamre Institute): <http://www.mechon-mamre.org/p/pt/pt1053.htm> (December 10, 2013).
- ¹⁹ Norman & Nix. *A General Introduction to the Bible*.
- ²⁰ Samuel Davidson, *Hebrew Text of the Old Testament*, 2d ed. (London: Samuel Bagster & Sons, 1859), 89.
- ²¹ Mary Fairchild, “44 Prophecies of the Messiah Fulfilled in Jesus Christ,” About.com: <http://christianity.about.com/od/biblefactsandlists/a/Prophecies-Jesus.htm> (December 18, 2013).
- ²² See: Genesis 7:19 (“all the high hills under the whole heaven were covered”); Genesis 7:21–22 (“all flesh died that moved upon the earth...all that was in the dry land”); Matthew 24:39 (“The flood came, and took them all away”); and 2 Peter 3:6 (“By these waters also the world of that time was deluged and destroyed.”). God also promised in Genesis 9:11 that there would be no more floods like the one of Noah’s day.
- ²³ Ken Ham, “They Can’t Allow “It”!” AnswersinGenesis.com: <http://www.answersingenesis.org/articles/au/cant-allow-it> (January 1, 2014).
- ²⁴ Eva Vergara & Ian James, “Whale Fossil Bonanza in Desert Poses Mystery,” Science on msnbc.com: http://www.msnbc.msn.com/id/45367885/ns/technology_and_science-science/ (November 20, 2013).
- ²⁵ D.A. Eberth, D.B. Brinkman, & V. Barkas, “A Centrosaurine Mega-bonebed from the Upper Cretaceous of Southern Alberta: Implications for Behaviour and Death Events” in *New Perspectives on Horned Dinosaurs: The Ceratopsian Symposium at the Royal Tyrrell Museum* (September 2007).
- ²⁶ Michael Reilly, “Dinosaurs’ Last Stand Found in China?” Discovery.com: <http://news.discovery.com/earth/dinosaurs-last-stand-found-in-china.htm> (January 1, 2014).
- ²⁷ Michael J. Oard, “The Extinction of the Dinosaurs,” *Journal of Creation* 11(2) (1997): 137–154.

- ²⁸ J.R. Horner & J. Gorman, *Digging Dinosaurs* (New York: Workman Publishing, 1988), 122–123.
- ²⁹ John Woodmorappe, “The Karoo Vertebrate Non-Problem: 800 Billion Fossils or Not,” *CEN Technical Journal* 14, no.2 (2000): 47.
- ³⁰ R. Broom, *The Mammal-like Reptiles of South Africa* (London: H.F.G., 1932), 309.
- ³¹ Steven Austin, “Nautiloid Mass Kill and Burial Event, Redwall Limestone (Lower Mississippian) Grand Canyon Region, Arizona and Nevada,” in Ivey Jr. (Ed.). *Proceedings of the Fifth International Conference on Creationism* (Pittsburg, Pennsylvania: Creation Science Fellowship): 55–99.
- ³² Andrew Snelling, *Earth’s Catastrophic Past: Geology, Creation & the Flood*, Vol. 2 (Dallas, TX: Institute for Creation Research, 2009), 537.
- ³³ Snelling, *Earth’s Catastrophic Past: Geology, Creation & the Flood*, p. 537.
- ³⁴ David Cloud, *An Unshakeable Faith: A Christian Apologetics Course* (Port Huron, MI: Way of Life Literature, 2011).
- ³⁵ Snelling, *Earth’s Catastrophic Past: Geology, Creation & the Flood*, p. 538.
- ³⁶ Snelling, *Earth’s Catastrophic Past: Geology, Creation & the Flood*, p. 539.
- ³⁷ Andrew Snelling, “The World’s a Graveyard Flood Evidence Number Two,” *AnswersinGenesis*: <http://www.answersingenesis.org/articles/am/v3/n2/world-graveyard> (January 1, 2014).
- ³⁸ Cloud, *An Unshakeable Faith: A Christian Apologetics Course*.
- ³⁹ Cloud, *An Unshakeable Faith: A Christian Apologetics Course*.
- ⁴⁰ N. O. Newell, “Adequacy of the Fossil Record,” *Journal of Paleontology*, 33 (1959): 496.

- ⁴¹ Darwin, *The Origin of Species*, p. 298.
- ⁴² Luther Sunderland, *Darwin's Enigma* (Arkansas: Master Books, 1998), 129.
- ⁴³ Cloud, *An Unshakeable Faith: A Christian Apologetics Course*.
- ⁴⁴ Photo by Ian Juby. Reproduced with permission. Tas Walker, "Polystrate Fossils: Evidence for a Young Earth," Creation.com: <http://creation.com/polystrate-fossils-evidence-for-a-young-earth> (January 3, 2014).
- ⁴⁵ John D. Morris, "What Are Polystrate Fossils?" *Acts & Facts*, 24 (9) (1995).
- ⁴⁶ Tas Walker & Carl Wieland, "Kamikaze ichthyosaur? Long-age Thinking Dealt a Lethal Body Blow," *Creation Magazine*, 27 (4) (September 2005). See: Creation.com: <http://creation.com/kamikaze-ichthyosaur> (December 31, 2013).
- ⁴⁷ Walker & Wieland, 2005 (figure reproduced with permission: Creation.com).
- ⁴⁸ Carl Wieland, *Stones and Bones* (Green Forest, AR: Master Books, 1984).
- ⁴⁹ Andrew Snelling, "Transcontinental Rock Layers: Flood Evidence Number Three," Answers Magazine.com: <http://www.answersingenesis.org/articles/am/v3/n3/transcontinental-rock-layers> (December 17, 2013).
- ⁵⁰ David Catchpole, "Giant Oysters on the Mountain," *Creation*, 24 (2) (March 2002): 54–55.
- ⁵¹ Richard F. Flint. *Glacial Geology and the Pleistocene Epoch* (New York: Wiley, 1947), 514–515.
- ⁵² Humans lived much longer before the Flood due to both changes in human DNA (from sin entering the world through the fall of Adam) and climate changes in the post-flood world. See D. Menton & G. Purdom, "Did People Like Adam and Noah Really Live Over 900 Years of Age?" in Ken Ham. *The New Answers Book 2* (Green Forest: AR Master Books), 164; David Menton & Georgia

- Purdom, “Chapter 16: Did People Like Adam and Noah Really Live Over 900 Years of Age?” (May 27, 2010). AnswersinGenesis.com: <http://www.answersingenesis.org/articles/nab2/adam-and-noah-live> (January 1, 2014).
- ⁵³ There is no conflict regarding the estimated age of these trees and the estimated time of Noah’s Flood. See: Mark Matthews, “Evidence for multiple ring growth per year in Bristlecone Pines,” *Journal of Creation*, 20 (3) (2006): 95–103.
- ⁵⁴ D.E Kreiss, “Can the Redwoods Date the Flood?” *Institute for Creation Research Impact* (Article #134, 1984).
- ⁵⁵ Michael Oard, “The Remarkable African Planation Surface,” *Journal of Creation* 25 (1) (2011): 111–122.
- ⁵⁶ Dr. Hong earned his Ph.D. degree in applied mechanics from the University of Michigan, Ann Arbor.
- ⁵⁷ S.W. Hong, S.S. Na, B.S. Hyun, S.Y. Hong, D.S. Gong, K.J. Kang, S.H. Suh, K.H. Lee, and Y.G. Je, “Safety investigation of Noah’s Ark in a seaway,” Creation.com: <http://creation.com/safety-investigation-of-noahs-ark-in-a-seaway> (January 1, 2014).
- ⁵⁸ John Whitcomb, *The World that Perished* (Grand Rapids, Michigan: Baker Book House, 1988), 24.
- ⁵⁹ See John Woodmorappe, *Noah’s Ark: A Feasibility Study* (Dallas, TX: Institute for Creation Research, 2009).
- ⁶⁰ Woodmorappe, *Noah’s Ark: A Feasibility Study*, 2009.
- ⁶¹ Readers are encouraged to study where the water went after the Flood at the AnswersinGenesis.com website.
- ⁶² Humans lived much longer before the Flood due to both changes in human DNA (from sin entering the world through the fall of Adam) and climate changes in the post-flood world. See D. Menton & G. Purdom, “Did People Like Adam and Noah Really Live Over 900 Years of Age?” in Ken Ham. *The New Answers Book 2* (Green Forest: AR Master Books), 164; David Menton & Georgia Purdom, “Chapter 16: Did People Like Adam and Noah

- Really Live Over 900 Years of Age?" (May 27, 2010). AnswersinGenesis.com: <http://www.answersingenesis.org/articles/nab2/adam-and-noah-live> (January 1, 2014).
- ⁶³ There are several resources for this topic of study. See, for example: "Michael Oard, "Chapter 7: The Genesis Flood Caused the Ice Age," (October 1, 2004), AnswersinGenesis.com: <http://www.answersingenesis.org/articles/fit/flood-caused-ice-age> (January 6, 2014).
- ⁶⁴ Ken Ham, "What Really Happened to the Dinosaurs?" (October 25, 2007), AnswersinGenesis.com: <http://www.answersingenesis.org/articles/nab/what-happened-to-the-dinosaurs> (January 6, 2014).
- ⁶⁵ Miller & Levine, *Biology*, p. 466.
- ⁶⁶ Gunter Faure, *Principles of Isotope Geology*, 2nd ed. (John Wiley & Sons, 1986), 41, 119, 288.
- ⁶⁷ A.O. Woodford, *Historical Geology* (W.H. Freeman and Company, 1965), 191–220.
- ⁶⁸ Judah Etinger, *Foolish Faith* (Green Forest, AR: Master Books, 2003), Chapter 3.
- ⁶⁹ Larry Vardiman, "The Age of the Earth's Atmosphere, a Study of the Helium Flux through the Atmosphere," *Institute for Creation Research*, 1990.
- ⁷⁰ C.S. Noble & J.J. Naughton, *Science*, 162 (1968): 265–266.
- ⁷¹ Data compiled and modified after Snelling (1998): Andrew Snelling, "The Cause of Anomalous Potassium-Argon "ages" for Recent Andesite Flows at Mt. Ngauruhoe, New Zealand, and the Implications for Potassium-argon Dating," in Robert E. Walsh (ed.), *Proceedings of the Fourth International Conference on Creationism* (1998), 503–525.
- ⁷² J. Hebert, "Rethinking Carbon-14 Dating: What Does It Really Tell Us about the Age of the Earth?" *Acts & Facts* 42 (4) (2013): 12–14.
- ⁷³ Modified from: J. Baumgardner, "Carbon-14 Evidence for a Recent Global Flood and a Young Earth." In *Radioisotopes and the Age of the Earth: Results of a*

- Young-Earth Creationist Research Initiative*. Vardiman, L., A. A. Snelling, and E. F. Chaffin, eds. (San Diego, CA: Institute for Creation Research and Chino Valley, AZ: Creation Research Society), 605 (Table 2).
- ⁷⁴ M.J. Walter, S.C. Kohn, D. Araugo, G.P. Bulanova, C.B. Smith, E. Gaillou, J. Wang, A. Steele, S. B., Shirey, “Deep Mantle Cycling of Oceanic Crust: Evidence from Diamonds and Their Mineral Inclusions,” *Science*, 334 no. 6052 (September 15, 2011): 54–57.
- ⁷⁵ Walter et al., 2011.
- ⁷⁶ Modified from Baumgardner, 2005, Table 6, p. 614.
- ⁷⁷ Baumgardner, 2005.
- ⁷⁸ Brian Thomas, “*The Incredible, Edible ‘190 Million-Year-Old Egg,’*” Institute for Creation Research Online: <http://www.icr.org/article/7415/> (December 8, 2013).
- ⁷⁹ M.H. Schweitzer, L. Chiappe, A. C. Garrido, J.M. Lowenstein, & S.H. Pincus, “Molecular Preservation in Late Cretaceous Sauropod Dinosaur Eggshells,” *Proceedings of the Royal Society B: Biological Sciences*, Volume 272 (1565) (2005): 775–784.
- ⁸⁰ Brian Thomas, “Published Reports of Original Soft Tissue Fossils” Institute for Creation Research Online: <http://www.icr.org/soft-tissue-list/> (December 20, 2013).
- ⁸¹ Brian Thomas, “A Review of Original Tissue Fossils and Their Age Implications,” in M. Horstemeyer (ed.), *Proceedings of the Seventh International Conference on Creationism* (2013).
- ⁸² Data compiled and simplified from Tables 1 and 2 in Austin and Humphries (1990): Stephen Austin & D. Humphreys, Russell, “The Sea’s Missing Salt: A Dilemma for Evolutionists,” in R. E. Walsh & C. L. Brooks (eds.), *Proceedings of the Fourth International Conference on Creationism* (1990), 17–33.
- ⁸³ Snelling, *Earth’s Catastrophic Past*.
- ⁸⁴ Snelling, *Earth’s Catastrophic Past*.

- ⁸⁵ Don DeYoung, *Thousands..Not Billions* (Green Forest, AR: Master Books, 2005).
- ⁸⁶ Jonathan Wells, *Icons of Evolution: Science or Myth?—Why Much of What We Teach About Evolution Is Wrong* (Washington, D.C.: Regnery Publishing, Inc., 2000), 35, 37.
- ⁸⁷ The coelacanth is supposedly an ancestor to amphibians that dates back 300 million years; however, the coelacanth appears “suddenly” in the fossil record, and modern coelacanths “were also found to give birth to live young (like some sharks), unlike their supposed descendants, the amphibians.” See: K.S. Thomson, *Living Fossil* (New York, NY: W.W. Norton & Company, 1991), 137–144.
- ⁸⁸ Creationwiki.com: <http://creationwiki.org/Archaeopteryx> (January 3, 2014).
- ⁸⁹ Percival Davis, Dean H. Kenyon, & Charles B. Thaxton (ed). *Of Pandas and People: The Central Question of Biological Origins*, 2d ed. (Dallas, TX: Haughton Publishing Company, 1989), 22–23.
- ⁹⁰ John D. Morris, *The Young Earth: The Real History of the Earth, Past, Present, and Future* (Colorado Springs, CO: Master Books, 1994).
- ⁹¹ Jerry Adler & John Carey, “Is Man a Subtle Accident?” *Newsweek*, 8, no. 95 (Nov. 3, 1980), 96.
- ⁹² Stephen J. Gould & Niles Eldredge, “Punctuated Equilibria: The Tempo and Mode of Evolution Reconsidered,” *Paleobiology*, 3, no. 2 (April 1977), 115–151.
- ⁹³ Brian Thomas, “150 Years Later, Fossils Still Don’t Help Darwin,” Institute for Creation Research Online: <http://www.icr.org/article/4546/> (December 20, 2013).
- ⁹⁴ Carl Werner, “Evolution the Grand Experiment,” *The Grand Experiment*: <http://www.thegrandexperiment.com/index.html> (January 1, 2014).
- ⁹⁵ Carl Werner, *Living Fossils. Evolution: The Grand Experiment* (Vol. 2) (Green Forest, AR: New Leaf Press, 2008), 242.

- ⁹⁶ Carl Werner, *Evolution: The Grand Experiment* (Green Forest, AR: New Leaf Press, 2007), 86.
- ⁹⁷ Chart adapted from: Michael Denton, *Evolution: A Theory in Crisis* (Bethesda: Adler & Adler, 1985).
- ⁹⁸ Charles Darwin, *The Origin of Species by Means of Natural Selection* (New York: The Modern Library, 1859), 124-125.
- ⁹⁹ Wells, *Icons of Evolution: Science or Myth?—Why Much of What We Teach About Evolution Is Wrong*, pp. 41–42.
- ¹⁰⁰ Robert F. DeHaan & John L. Wiester, “*The Cambrian Explosion: The Fossil Record & Intelligent Design*,” *Touchstone* (July/August 1999), 65–69.
- ¹⁰¹ Wells, *Icons of Evolution: Science or Myth?—Why Much of What We Teach About Evolution Is Wrong*, 42.
- ¹⁰² DeHaan & Wiester, 1999, p. 68.
- ¹⁰³ Paul S. Taylor, *The Illustrated ORIGINS Answer Book*, 4th ed. (Mesa, AZ: Eden Productions, 1992), 97.
- ¹⁰⁴ A fourth category also exists: Those findings that are unknown or unidentified.
- ¹⁰⁵ William K. Gregory, “Hesperopithecus Apparently Not an Ape nor a Man,” *Science*, 66 (1720) (December 16, 1927): 579-581.
- ¹⁰⁶ Ralph M. Wetzell, et al., “Catagonus, An ‘Extinct’ Peccary, Alive in Paraguay,” *Science*, 189 (4200) (Aug. 1, 1975): 379.
- ¹⁰⁷ Duane T. Gish, *Evolution: The Fossils Still Say NO!* (El Cajon, CA: Institute for Creation Research, 1995), 328.
- ¹⁰⁸ Herbert Wray, “Was Lucy a Climber? Dissenting Views of Ancient Bones,” *Science News*, 122 (August 21, 1982): 116.
- ¹⁰⁹ Brian G. Richmond & David S. Strait, “Evidence That Humans Evolved From a Knuckle-Walking Ancestor,” *Nature*, 404 (6776) (March 23, 2000), 339–340, 382–385.
- ¹¹⁰ Sir Solly Zuckerman, *Beyond the Ivory Tower* (London: Taplinger Publishing Co., 1970), 78.

- ¹¹¹ Wray Herbert, “Lucy’s Uncommon Forbear,” *Science News*, 123 (February 5, 1983): 89.
- ¹¹² Albert W. Mehler, “Lucy—Evolution’s Solitary Claim for an Ape/Man: Her Position is Slipping Away,” *Creation Research Society Quarterly*, 22 (3) (December, 1985): 145.
- ¹¹³ Marvin L. Lubenow, *Bones of Contention* (Grand Rapids, MI: Baker Books, 1992), 179.
- ¹¹⁴ DeWitt Steele & Gregory Parker, *Science of the Physical Creation*, 2d ed. (Pensacola, FL: A Beka Book, 1996), 299.
- ¹¹⁵ “NewstoNote” (October 3, 2009). AnswersinGenesis.com: <http://www.answersingenesis.org/articles/2009/10/03/news-to-note-10032009> (January 5, 2014).
- ¹¹⁶ B. Asfaw, R.T. Kono, D. Kubo, C.O. Lovejoy, T.D. White, “The Ardipithecus Ramidus Skull and its Implications for Hominid Origins,” *Science* 326 (October 2, 2009): 5949.
- ¹¹⁷ Brian Thomas, “Did Humans Evolve from ‘Ardi’?” Acts and Facts (October 6, 2009), ICR.com: <http://www.icr.org/article/4982/> (January 6, 2014).
- ¹¹⁸ Kate Wong, “Weak Link: Fossil Darwinius Has Its 15 Minutes: Skepticism about a fossil cast as a missing link in human ancestry,” *Scientific American*: <http://www.scientificamerican.com/article.cfm?id=weak-link-fossil-darwinius> (January 6, 2014).
- ¹¹⁹ National Geographic News, “Missing Link Found: New Fossil Links Humans, Lemurs?” National Geographic News: <http://news.nationalgeographic.com/news/2009/05/090519-missing-link-found.html> (January 5, 2014).
- ¹²⁰ “Ida (*Darwinius masillae*): the Missing Link at Last? Does Ida Deserve the Attention? A Preliminary Comment,” AnswersinGenesis.com: <http://www.answersingenesis.org/articles/2009/05/19/ida-missing-link> (January 5, 2014).
- ¹²¹ Marvin L. Lubenow, “Recovery of Neandertal mtDNA: An Evaluation,” *CEN Technical Journal*, 12 (1) (1998): 89.

- ¹²² Jack Cuozzo, “Buried Alive: The Truth about Neanderthal Man,” *Truths That Transform Action Sheet* (Radio Program, aired on March 14–15, 2000).
- ¹²³ Lubenow, 1992, p. 63.
- ¹²⁴ DeWitt Steele & Gregory Parker, *Science of the Physical Creation*, 2nd ed (Pensacola, FL: A Beka Book, 1996), 301.
- ¹²⁵ M.L. Lubenow, “Recovery of Neandertal mDNA: An Evaluation,” *CEN Technical Journal*, 12 (1) (1998): 89–90.
- ¹²⁶ Jack Cuozzo, *Buried Alive: The Startling Truth About Neanderthal Man* (Green Forest, AZ: Master Books, 1998), 162, 163, 203.
- ¹²⁷ Cuozzo, *Buried Alive: The Truth about Neanderthal Man* (2000).
- ¹²⁸ Green, R. E. et al. A Draft Sequence of the Neandertal Genome. *Science*. 328 (5979) (2010): 710–722.
- ¹²⁹ Steele & Parker, *Science of the Physical Creation*, pp. 301–302.
- ¹³⁰ Vance Ferrell, *The Evolution Cruncher* (Altamont, TN: Evolution Facts, Inc., 2001), 529.
- ¹³¹ Lubenow, 1992, p. 235.
- ¹³² Ian Taylor, “Fossil Man” Creation Moments Online: <http://www.creationmoments.com/content/fossil-man> (January 1, 2014).
- ¹³³ Vance Ferrell, *The Evolution Cruncher* (Altamont, TN: Evolution Facts, Inc., 2001), 529.
- ¹³⁴ Lubenow, 1992, p. 99.
- ¹³⁵ Eugene DuBois, “On the Fossil Human Skulls Recently Discovered in Java and Pithecanthropus Erectus,” *Man*, 37 (January 1937): 4.
- ¹³⁶ Pat Shipman, “On the Trail of the Piltdown Fraudsters,” *New Scientist*, 128 (October 6, 1990): 52.
- ¹³⁷ Lubenow, 1992, pp. 42–43.
- ¹³⁸ Lubenow, 1992, pp. 139–140.
- ¹³⁹ Richard Dawkins, *River out of Eden* (Basic Books, 1995), 98.

- ¹⁴⁰ John D. Morris, “Does ‘The Beak of the Finch’ Prove Darwin Was Right?” ICR.org: <http://www.icr.org/article/1135/> (January 1, 2014).
- ¹⁴¹ This orchard model was developed by Dr. Kurt Wise and has been refined by many creation scientists over the years.
- ¹⁴² Miller & Levine, *Biology*, pp. 466-467.
- ¹⁴³ Other translations, such as the NIV, translate this section as “great creatures of the sea.” The Hebrew phrase used for “great sea creatures” is hattannînim haggədôlîm (תַּנִּינִים גְּדוֹלִים מִן הַיָּם). The lemma gadôl (גָּדוֹל) certainly means big or great great. Tannîm (תַּנִּינִים) is often translated “sea monsters” or “dragons.” Thus while the KJV translates this as “great whales,” the term is broader. It would also include living large sea creatures like the great white shark and the whale shark. Surprising as it is to those used to faulty “millions of years” claims, the term would also include many famous extinct sea creatures. These include ichthyosaurs (from the Greek for “fish lizard”), somewhat like reptilian versions of dolphins; some grew huge, such as the 21-m (69-foot)-long *Shastasaurus sikanniensis*. Other creatures included in the term tannîm would be the short-necked long-headed pliosaurs, such as *Liopleurodon*, 6.4 (21 feet) long, although the 1999 BBC series *Walking With Dinosaurs* portrayed it as 25 m (82 ft.) long, far larger than any known specimen. There were also the long-necked plesiosaurs such as *Elasmosaurus*, 14 m (46 feet) long, half of it the neck. Other tannin created on Day 5 were mosasaurus, like marine versions of monitor lizards, the largest of which was *Hainosaurus*, at 17.5 meters (57 ft.) long.
- ¹⁴⁴ Werner, *Evolution: The Grand Experiment*, p. 40.
- ¹⁴⁵ N.D. Pyenson, et al., “Discovery of a Sensory Organ that Coordinates Lunge Feeding in Rorqual Whales,” *Nature* 485 (7399) 2012: 498–501. J. Sarfati, “Baleen

- Whales have Unique Sensory Organ,” *Creation* 35 (4) (2013): 38–40.
- ¹⁴⁶ Charles Darwin, *The Origin of Species* 1st ed. (1865): Chapter 6, p. 184.
- ¹⁴⁷ Francis Darwin, *More Letters of Charles Darwin* (London: J. Murray, 1903): 162.
- ¹⁴⁸ Leigh Van Valen, “Deltatheridia, a New Order of Mammals,” *Bulletin of the American Museum of Natural History* 132 (1966): 92.
- ¹⁴⁹ Philip D. Gingerich & D. E. Russell, “Pakicetus inachus, a new archaeocete (Mammalia, Cetacea) from the early-middle Eocene Kuldana Formation of Kohat (Pakistan),” *University of Michigan Museum of Paleontology*, 25 (1981): 235–246.
- ¹⁵⁰ University Of Michigan, “New Fossils Suggest Whales And Hippos Are Close Kin,” *Science Daily* (September 20, 2001); University Of California, Berkeley, “UC Berkeley, French Scientists Find Missing Link Between The Whale And Its Closest Relative, The Hippo,” *Science Daily* (February 7, 2005); Patricia Reaney, “Fossil Finds Show Whales Related to Early Pigs,” Greenspun: http://www.greenspun.com/bboard/q-and-a-fetch-msg.tcl?msg_id=006QvI.
- ¹⁵¹ Werner, *Evolution: The Grand Experiment*, p. 40.
- ¹⁵² Casey Luskin, “Nice Try! A Review of Alan Rogers’s The Evidence for Evolution,” (October 18, 2011), *Evolution News*: http://www.evolutionnews.org/2012/04/a_review_of_ala058641.html (December 25, 2013).
- ¹⁵³ “Debate on Origins of Life,” *Discovery Institute*: <http://www.discovery.org/v/1711>, (December 25, 2013).
- ¹⁵⁴ Luskin, 2011.
- ¹⁵⁵ Miller & Levine, *Biology*, p. 466.
- ¹⁵⁶ Philip D. Gingerich, NA. Wells, Donald Russell, S.M. Shaw, “Origin of Whales in Epicontinental Remnant

- Seas: New Evidence from the Early Eocene of Pakistan,” *Science* 220 (4595) (April 22, 1983): 403–406.
- ¹⁵⁷ Phillip Gingerich, “The Whales of Tethys,” *Natural History*, (April 1994): 86.
- ¹⁵⁸ P.D. Gingerich, “Evidence for Evolution from the Vertebrate Fossil Record,” *Journal for Geological Education*, 31 (1983): 140-144.
- ¹⁵⁹ Christian de Muizon, “Walking with Whales,” *Nature* 413, (September 20, 2001): 259–260.
- ¹⁶⁰ G.M. Thewissen, E.M. Williams, L.J. Roe, & S.T. Hussain, “Skeletons of Terrestrial Cetaceans and the Relationship of Whales to Artiodactyls,” *Nature* 413 (September, 2001): 277-281.
- ¹⁶¹ David Quammen, “Was Darwin Wrong?” *National Geographic*, 206 (5) (November, 2004): 2–35.
- ¹⁶² Fossilworks Paleobiology Database: <http://fossilworks.org> (December 25, 2013).
- ¹⁶³ Miller & Levine, *Biology*, p. 466.
- ¹⁶⁴ Michael Denton, *Evolution: A Theory in Crisis*, (Bethesda: Adler & Adler, 1985), 210-211,
- ¹⁶⁵ Werner, *Evolution: The Grand Experiment*, pp. 137–138.
- ¹⁶⁶ Fossilworks Paleobiology Database: <http://fossilworks.org> (December 25, 2013).
- ¹⁶⁷ J. G. M. Thewissen & E. M. Williams, “The Early Radiations of Cetacea (Mammalia): Evolutionary Pattern and Developmental Correlations,” *Annual Review of Ecological Systems*, 33 (2002): 73–90.
- ¹⁶⁸ Miller & Levine, *Biology*, p. 466.
- ¹⁶⁹ Working Group on Teaching Evolution, “National Academy of Sciences Teaching about Evolution and the Nature of Science, (Washington, D.C.: National Academy Press, 1998): 18.
- ¹⁷⁰ Carl Werner, *Evolution: The Grand Experiment* (DVD) (Based on interview conducted on August 28, 2001),

- (Green Forest, AR: New Leaf Publishing Group/Audio Visual Consultants Inc.).
- ¹⁷¹ “Basilosaurus,” Celebrating 100 Years: Explore Our Collections, Smithsonian National Museum of Natural History: <http://www.mnh.si.edu> (February 10, 2012).
- ¹⁷² Phillip Gingerich, *The Press-Enterprise*, (July 1, 1990): A-15.
- ¹⁷³ Philip Gingerich, B. Holly Smith, & Elwyn L. Simons, “Hind limbs of Eocene Basilosaurus: Evidence of Feet in Whales,” *Science*, Vol. 249, (July 13, 1990): 156.
- ¹⁷⁴ “Whales with ‘non-feet,’” Creation.com: <http://creation.com/focus-142#nonfeet> (December 26, 2013).
- ¹⁷⁵ Jonathan Sarfati, “Science, Creation and Evolutionism: Response to the Latest Anticreationist Agitprop from the US National Academy of Sciences (NAS),” Creation.com: <http://creation.com/science-creation-and-evolutionism-refutation-of-nas> (December 26, 2013).
- ¹⁷⁶ D.T. Gish, *Evolution: The Fossils still say no!* (El Cajon, CA: Institute for Creation Research, 1985): 206–208.
- ¹⁷⁷ Jonathan Silvertown (ed), *99% Ape: How Evolution Adds Up* (University of Chicago Press, 2009), 4.
- ¹⁷⁸ Various sources will show minor differences in these comparisons. They are for example only.
- ¹⁷⁹ Silvertown, 2009.
- ¹⁸⁰ PBS NOVA, “Darwins’ Predictions,” PBS: <http://www.pbs.org/wgbh/nova/id/pred-nf.html> (December 11, 2013).
- ¹⁸¹ This comes from comparing the total base pairs to the “golden path length” in the Ensemble database (http://useast.ensembl.org/Homo_sapiens/Info/StatsTable?db=core) (January 1, 2014). These numbers should be the same. As long as they are different, there is uncertainty in the number of base pairs in the genome.
- ¹⁸² Jeffery P. Demuth, Tijn De Bie, Jason E. Stajich, Nello Cristianini, & Matthew W. Hahn, “The Evolution of Mammalian Gene Families,” *PLOS ONE*, 10 (2006).

- ¹⁸³ Richard Buggs, “Chimpanzee?” RD.NL: http://www.refdag.nl/chimpanzee_1_282611 (December 11, 2013).
- ¹⁸⁴ Jeffrey P. Tomkins, “Comprehensive Analysis of Chimpanzee and Human Chromosomes Reveals Average DNA Similarity of 70%,” *Answers Research Journal* 6 (2013): 63–69.
- ¹⁸⁵ Mary-Claire King & A. C. Wilson, “Evolution at Two Levels in Humans and Chimpanzees,” *Science* 188 (1975): 107–116.
- ¹⁸⁶ R.J Rummel, “Statistics of Democide: Genocide and Mass Murder Since 1900,” *School of Law, University of Virginia* (1997); and Transaction Publishers, Rutgers University (2013).
- ¹⁸⁷ J. Bergman & J. Tomkins, “Is the Human Genome Nearly Identical to Chimpanzee? A Reassessment of the Literature.” *Journal of Creation* 26 (2012): 54–60.
- ¹⁸⁸ Bergman & Tomkins, 2012.
- ¹⁸⁹ J. Tomkins, “How Genomes are Sequenced and why it Matters: Implications for Studies in Comparative Genomics of Humans and Chimpanzees,” *Answers Research Journal* 4 (2011): 81–88.
- ¹⁹⁰ I. Ebersberger, D. Metzler, C. Schwarz, & S. Pääbo, “Genomewide Comparison of DNA Sequences between Humans and Chimpanzees,” *American Journal of Human Genetics* 70 (2002): 1490–1497.
- ¹⁹¹ Chimpanzee Sequencing and Analysis Consortium, “Initial Sequence of the Chimpanzee Genome and Comparison with the Human Genome,” *Nature* 437 (2005): 69–87.
- ¹⁹² J. Tomkins, “Genome-Wide DNA Alignment Similarity (Identity) for 40,000 Chimpanzee DNA Sequences Queried against the Human Genome is 86–89%,” *Answers Research Journal* 4 (2011): 233–241.
- ¹⁹³ J. Prado-Martinez, et al. “Great Ape Genetic Diversity and Population History,” *Nature* 499 (2013), 471–475.

- ¹⁹⁴ J. Tomkins, & J. Bergman. “Genomic Monkey Business— Estimates of Nearly Identical Human-Chimp DNA Similarity Re-evaluated using Omitted Data,” *Journal of Creation* 26 (2012), 94–100; J. Tomkins, “Comprehensive Analysis of Chimpanzee and Human Chromosomes Reveals Average DNA Similarity of 70%,” *Answers Research Journal* 6 (2013): 63–69.
- ¹⁹⁵ Tomkins & Bergman, 2013.
- ¹⁹⁶ Tomkins, 2011.
- ¹⁹⁷ Tomkins, 2013.
- ¹⁹⁸ Tomkins, 2011.
- ¹⁹⁹ E. Wijaya, M.C. Frith, P. Horton & K. Asai, “Finding Protein-coding Genes through Human Polymorphisms,” *PloS one* 8 (2013).
- ²⁰⁰ M. J. Hangauer, I.W. Vaughn & M. T. McManus, “Pervasive Transcription of the Human Genome Produces Thousands of Previously Unidentified Long Intergenic Noncoding RNAs,” *PLoS genetics* 9 (2013).
- ²⁰¹ S. Djebali, et al. “Landscape of Transcription in Human Cells,” *Nature* 489 (2012): 101–108.
- ²⁰² M. D. Paraskevopoulou, et al. “DIANA-LncBase: Experimentally Verified and Computationally Predicted MicroRNA Targets on Long Non-coding RNAs,” *Nucleic Acids Research* 41 (2013): 239–245.
- ²⁰³ G. Liu, J.S. Mattick, & R. J. Taft, “A Meta-analysis of the Genomic and Transcriptomic Composition of Complex Life,” *Cell Cycle* 12 (2013), 2061–2072.
- ²⁰⁴ J. J Yunis & O. Prakash, “The Origin of Man: A Chromosomal Pictorial Legacy,” *Science* 215 (1982): 1525–1530.
- ²⁰⁵ J. W. Ijdo, A. Baldini, D.C. Ward, S. T. Reeders & R. A. Wells, “Origin of Human Chromosome 2: An Ancestral Telomere-telomere Fusion,” *Proceedings of the National Academy of Sciences of the United States of America* 88 (1991): 9051–9055.

- ²⁰⁶ J. Bergman & J. Tomkins, “The Chromosome 2 Fusion Model of Human Evolution—Part 1: Re-evaluating the Evidence,” *Journal of Creation* 25 (2011): 110–114.
- ²⁰⁷ J. Tomkins, “Alleged Human Chromosome 2 ‘Fusion Site’ Encodes an Active DNA Binding Domain Inside a Complex and Highly Expressed Gene—Negating Fusion,” *Answers Research Journal* 6 (2013): 367–375.
- ²⁰⁸ Y. Fan, E. Linardopoulou, C. Friedman, E. Williams & B.J. Trask, “Genomic Structure and Evolution of the Ancestral Chromosome Fusion Site in 2q13-2q14.1 and Paralogous Regions on other Human Chromosomes,” *Genome Research* 12 (2002): 1651–1662; Y. Fan, T. Newman, E. Linardopoulou, & B.J. Trask, “Gene Content and Function of the Ancestral Chromosome Fusion Site in Human Chromosome 2q13-2q14.1 and Paralogous Regions,” *Genome Research* 12 (2002): 1663–1672.
- ²⁰⁹ Y.Z. Wen, L. L. Zheng, L.H. Qu, F. J. Ayala & Z.R. Lun, Z. R, “Pseudogenes are not Pseudo Any More,” *RNA Biology* 9 (2012): 27–32.
- ²¹⁰ J. Tomkins, “The Human Beta-Globin Pseudogene Is Non-Variable and Functional,” *Answers Research Journal* 6 (2013): 293–301.
- ²¹¹ M. Y. Lachapelle, & G. Drouin, “Inactivation Dates of the Human and Guinea Pig Vitamin C Genes,” *Genetica* 139 (2011): 199–207.
- ²¹² J. Sanford, *Genetic Entropy and the Mystery of the Genome*, 3rd ed. (FMS Publications, 2010).
- ²¹³ J. Tomkins & J. Bergman, “Incomplete Lineage Sorting and Other ‘Rogue’ Data Fell the Tree of Life,” *Journal of Creation* 27 (2013): 63–71.
- ²¹⁴ P. Senter, “Vestigial Skeletal Structures in Dinosaurs,” *Journal of Zoology*, 280 (1) (January 2010): 60–71.
- ²¹⁵ Thomas Heinze, *Creation vs. Evolution Handbook* (Grand Rapids, MI: Baker, 1973).

- ²¹⁶ Isaac Asimov, *1959 Words of Science* (New York: Signet Reference Books, 1959), 30.
- ²¹⁷ J. Bergman, "Are Wisdom Teeth (third molars) Vestiges of Human Evolution?" *CEN Tech Journal*. 12 (3) (1998): 297–304.
- ²¹⁸ Charles Darwin, *The Descent of Man and Selection in Relation to Sex* (London: John Murray, 1871), 21.
- ²¹⁹ Charles Darwin, *The Origin of Species* (New York: Modern Library, 1859), 346–350.
- ²²⁰ S. R. Scadding, "Do Vestigial Organs Provide Evidence for Evolution?" *Evolutionary Theory* 5 (1981): 173–176.
- ²²¹ Robert Wiedersheim, *The Structure of Man: An Index to his Past History* (London: Macmillan, 1895, Translated by H. and M. Bernard).
- ²²² David Starr Jordan & Vernon Lyman Kellogg, *Evolution and Animal Life* (New York: Appleton, 1908), 175.
- ²²³ Wiedersheim, 1895, p. 3.
- ²²⁴ Darwin, 1871, p. 29.
- ²²⁵ Cora A. Reno, *Evolution on Trial* (Chicago: Moody Press, 1970), 81.
- ²²⁶ Diane Newman, *The Urinary Incontinence Sourcebook* (Los Angeles, CA.: Lowell House, 1997), 13.
- ²²⁷ Warren Walker, *Functional Anatomy of the Vertebrates: An Evolutionary Perspective* (Philadelphia, PA: Saunders, 1987), 253.
- ²²⁸ Catherine Parker Anthony, *Textbook of Anatomy and Physiology*, 6th ed. (St. Louis, MO: Mosby, 1963), 411.
- ²²⁹ Anthony Smith, *The Body* (New York: Viking Penguin, 1986), 134.
- ²³⁰ Henry Gray, *Gray's Anatomy* (Philadelphia: Lea Febiger, 1966), 130.
- ²³¹ Dorothy Allford, *Instant Creation—Not Evolution* (New York: Stein and Day, 1978), 42; Saul Weischnitzer, *Outline of Human Anatomy* (Baltimore, MD: University Park Press, 1978), 285.

- ²³² J. D. Ratcliff, *Your Body and How it Works* (New York: Delacorte Press, 1975), 137.
- ²³³ Lawrence Galton, “All those Tonsil Operations: Useless? Dangerous?” *Parade* (May 2, 1976): 26.
- ²³⁴ Martin L. Gross, *The Doctors* (New York: Random House, 1966).
- ²³⁵ Jacob Stanley, Clarice Francone, & Walter Lossow, *Structure and Function in Man*, 5th ed. (Philadelphia: Saunders, 1982).
- ²³⁶ Alvin Eden, “When Should Tonsils and Adenoids be Removed?” *Family Weekly* (September 25, 1977): 24.
- ²³⁷ Syzmanowski as quoted in Dolores Katz, “Tonsillectomy: Boom or Boondoggle?” *The Detroit Free Press* (April 13, 1966).
- ²³⁸ Katz, 1972, p. 1-C.
- ²³⁹ N. J. Vianna, Petter Greenwald & U. N. Davies, “Tonsillectomy” In: *Medical World News* (September 10, 1973).
- ²⁴⁰ Katz, 1972.
- ²⁴¹ Darwin, 1871, pp. 27–28.
- ²⁴² Peter Raven & George Johnson, *Understanding Biology* (St. Louis: Times Mirror Mosby, 1988), 322.
- ²⁴³ Rebecca E. Fisher, “The Primate Appendix: A Reassessment,” *The Anatomical Record*, 261 (2000): 228–236.
- ²⁴⁴ R. Randal Bollinger, Andrew S. Barbas, Errol L. Bush, Shu S. Lin and William Parker, “Biofilms in the Large Bowel Suggest an Apparent Function of the Human Vermiform Appendix,” *Journal of Theoretical Biology*, 249 (4) (2007): 826–831; Thomas Morrison (ed.). *Human Physiology* (New York: Holt, Rinehart, and Winston, 1967).
- ²⁴⁵ Loren Martin, “What is the Function of the Human Appendix?” *Scientific American Online* (1999).

- ²⁴⁶ Thomas Judge & Gary R. Lichtenstein, "Is the Appendix a Vestigial Organ? Its Role in Ulcerative Colitis," *Gastroenterology*, 121 (3) (2001): 730–732.
- ²⁴⁷ Rod R. Seeley, Trent D. Stephens, & Philip Tate, *Anatomy and Physiology* (Boston: McGraw-Hill, 2003).
- ²⁴⁸ Ernst Haeckel, *The Evolution of Man: A Popular Exposition of the Principal Points of Human Ontogeny and Phylogeny* (New York: D. Appleton, 1879), 438.
- ²⁴⁹ Wiedersheim, 1895, p. 163.
- ²⁵⁰ O. Levy, G. Dai, C. Riedel, C.S. Ginter, E.M. Paul, A. N. Lebowitz & N. Carrasco, "Characterization of the thyroid Na⁺/I⁻ symporter with an anti-COOH terminus antibody," *Proceedings from the National Academy of Science*, 94 (1997): 5568–5573.
- ²⁵¹ Albert Maisel, "The useless glands that guard our health." *Reader's Digest* (November, 1966): 229–235.
- ²⁵² John Clayton, "Vestigial Organs Continue to Diminish," *Focus on Truth*, 6 (6) (1983): 6–7.
- ²⁵³ Seeley, Stephens, & Tate, *Anatomy and Physiology* (McGraw-Hill Education, 2003), 778.
- ²⁵⁴ Maisel, 1966, p. 229.
- ²⁵⁵ Arthur Guyton, *Textbook of Medical Physiology* (Philadelphia: W. B. Saunders, 1966): 139.
- ²⁵⁶ Helen G. Durkin & Byron H. Waksman. "Thymus and Tolerance. Is Regulation the Major Function of the Thymus?" *Immunological Reviews*, 182 (2001): 33–57.
- ²⁵⁷ Durkin & Waksman, 2001, p. 49.
- ²⁵⁸ Benedict Seddon & Don Mason, "The Third Function of the Thymus," *Immunology Today*, 21 (2) (2000): 95–99.
- ²⁵⁹ Maisel, 1966.
- ²⁶⁰ Joel R. L. Ehrenkranz, "A Gland for all Seasons," *Natural History*, 92 (6) (1983): 18.
- ²⁶¹ Stanley Yolles, "The Pineal Gland," *Today's Health*, 44 (3) (1966): 76–79.

- ²⁶² David Blask, "Potential Role of the Pineal Gland in the Human Menstrual Cycle," Chapter 9 in *Changing Perspectives on Menopause*, Edited by A. M. Voda (Austin: University of Texas Press, 1982), 124.
- ²⁶³ A. C. Greiner & S. C. Chan, "Melatonin Content of the Human Pineal Gland," *Science*, 199 (1978): 83–84.
- ²⁶⁴ Esther Greisheimer & Mary Wideman, *Physiology and Anatomy*, 9th ed. (Philadelphia: Lippincott, 1972).
- ²⁶⁵ Rosa M. Sainz, Juan C. Mayo, R.J. Reiter, D.X. Tan, and C. Rodriguez, "Apoptosis in Primary Lymphoid Organs with Aging," *Microscopy Research and Technique*, 62 (2003): 524–539.
- ²⁶⁶ Sharon Begley & William Cook, "The SAD Days of Winter," *Newsweek*, 155 (2) (January 14, 1985): 64.
- ²⁶⁷ Sainz, et al., 2003.
- ²⁶⁸ G.J. Maestroni, A. Conti, & P. Lisson, "Colony-stimulating activity and hematopoietic rescue from cancer chemotherapy compounds are induced by melatonin via endogenous interleukin," *Cancer Research*, 54 (1994): 4740-4743.
- ²⁶⁹ B.D. Jankovic, K. Isakovic, S. Petrovic, "Effect of Pinealectomy on Immune Reactions in the Rat," *Immunology*, 18 (1) (1970): 1–6.
- ²⁷⁰ Lennert Wetterberg, Edward Geller, & Arthur Yuwiler, "Harderian Gland: An Extraretinal Photoreceptor Influencing the Pineal Gland in Neonatal Rats?" *Science*, 167 (1970): 884–885.
- ²⁷¹ Ehrenkranz, 1983, p. 18.
- ²⁷² Philip Stibbe, "A Comparative Study of the Nictitating Membrane of Birds and Mammals," *Journal of Anatomy*, 163 (1928): 159–176.
- ²⁷³ Darwin, 1871, p. 23.
- ²⁷⁴ Henry Drummond, *The Ascent of Man* (New York: James Potts and Co., 1903).

- ²⁷⁵ Richard Snell & Michael Lemp, *Clinical Anatomy of the Eye* (Boston: Blackwell Scientific Pub, 1997), 93.
- ²⁷⁶ Eugene Wolff (Revised by Robert Warwick), *Anatomy of the Eye and Orbit* 7th ed. (Philadelphia: W B. Saunders, 1976), 221.
- ²⁷⁷ John King, Personal communication, Dr. King is a professor of ophthalmology at The Ohio State School of Medicine and an authority on the eye (October 18, 1979).
- ²⁷⁸ E. P. Stibbe, "A Comparative Study of the Nictitating Membrane of Birds and Mammals," *Journal of Anatomy* 62 (1928): 159–176.
- ²⁷⁹ Wiedersheim, 1895.
- ²⁸⁰ D. Peck, "A Proposed Mechanoreceptor Role for the Small Redundant Muscles which Act in Parallel with Large Prime movers" in P. Hinick, T. Soukup, R. Vejsada, & J. Zelena's (eds.) *Mechanoreceptors: Development, Structure and Function* (New York: Plenum Press, 1988), 377–382.
- ²⁸¹ David N. Menton, "The Plantaris and the Question of Vestigial Muscles in Man," *CEN Technical Journal*, 14 (2) (2000): 50–53.
- ²⁸² Herbert DeVries, *Physiology of Exercise for Physical Education and Athletics* (Dubuque, IA: William C. Brown, 1980), 16–18.