Chapter 14

Evolution: A Retreat from Science

dinosaur (*Triceratops*) and giant bird (*Diatryma*), two extinct animals

- The faith of the great scientists
- Rejecting the truth
- The faith of Darwin and his disciples
- Why many scientists opposed Darwin
- Fossil evidence against evolution
- Biological evidence against evolution
- Why evolution cannot be properly called a science

14.1 Science and Faith

Science Is Founded on Faith

All scientific work is ultimately based on certain assumptions that are accepted by faith. These presuppositions are the basis for one's philosophy, or worldview. To the scientists of the past who made the great biological discoveries, the faith was in *Creation* and the fact that the created world is orderly and predictable. To a person who rejects Scripture and its account of Creation, the faith is often in *materialism,* or *naturalism.*

The Faith of the Great Founders of Science

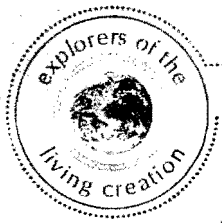
Faith in Creation. Since the 1500s when modern science began, most of the world's greatest scientists based their scientific thinking on faith in the fact that God created the world and all that is within it and that therefore the physical part of the universe operates by orderly laws which science seeks to discover. Sir Isaac Newton, Lord Kelvin, Michael Faraday, James Maxwell, and Louis Pasteur were just a few of the great scientists who believed in divine creation. Others include Joseph Lister, Gregor Mendel, Johann Kepler, Samuel Morse, Carolus Linnaeus, Wernher von Braun, and many more.

The scientist needs the Bible. The scientist uses his powers of reason to find out the truth about the universe; in a sense, he "reads" the physical universe as if it were a book written by the hand of God. However, many vital facts about the origin of the universe, the origin of life, and the ultimate destiny of the cosmos cannot be discovered through science alone. To answer these questions, one needs the Book of books, the Bible, which contains information one cannot get from the study of nature. Thus, the Bible is very important to the scientist because it records vital facts about the history and future of the physical universe that he would not otherwise know. The question God

asked Job is very pertinent, not only for the scientist but also for us:

> *Where wast thou when I laid the foundations of the earth?* —*Job 38:4*

Only God was there! The facts about the manner and order of Creation that God has chosen to reveal to us in the Bible are all that we (including the scientist) can know with certainty about the beginning.



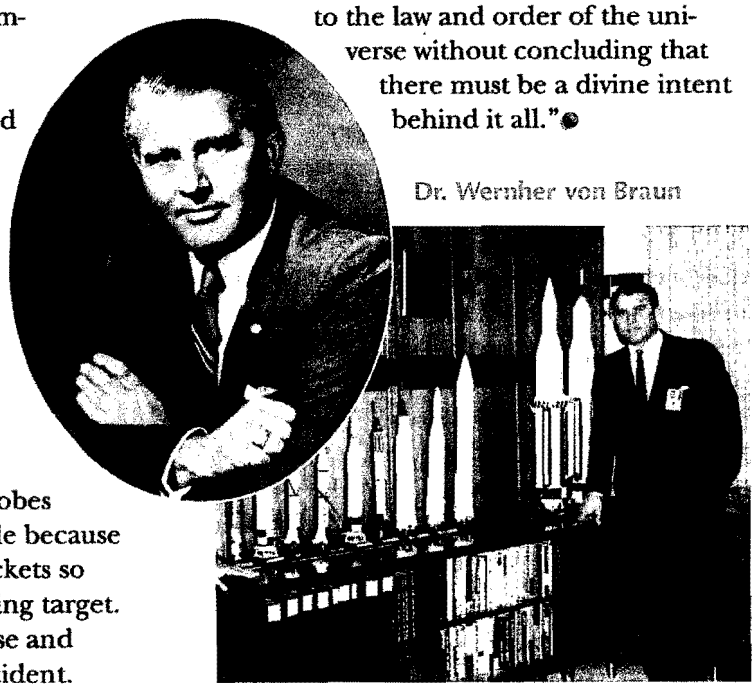
The Faith of an American Scientist

Wernher von Braun (1912–1977), one of America's most eminent scientists, led the rocketry research that put the first men on the moon. His study of the universe led him to say shortly after World War II, "The more we study space, the more convinced I am of God's controlling order in a seemingly endless universe."

When we examine an automobile, we are impressed by its design and construction. We admire the ability of the engineers who designed it and the skill of the workmen who constructed it. When we examine the universe, we should also be extremely impressed by its order and design. We should admire the Designer and Creator. In fact, we should be moved to worship God, the Designer and Creator of the universe.

As we scan the universe, we note that it operates with precision. It is so precise in its movements that scientists can predict accurately the locations of heavenly bodies many years in advance. Our system of telling time and our calendars are based on the movements of the solar system. Space probes to the moon and beyond are possible because scientists know where to aim the rockets so they can rendezvous with their moving target.

Some people look at the universe and conclude it is all the result of an accident. They say the order and evidences of design are just coincidences. But can that be true? No one would claim that an automobile is the result of time or chance or accident, because an automobile clearly shows the work of design engineers. Compared to the universe, an automobile is very simple. The complexity of the universe cries out for a superior Designer. Anyone who examines the marvelous design of the universe and concludes that it evolved has deliberately closed his eyes to the evidence. Dr. von Braun did not close his eyes to the evidence. In fact, he wrote not long before his death that "One cannot be exposed to the law and order of the universe without concluding that there must be a divine intent behind it all."●



Dr. Wernher von Braun

Rejecting the Truth

During the 1700s and the centuries that followed, some scientists and philosophers chose to reject the truth of the Scriptures. In its place, they substituted various false philosophies. Some scientists who turned away from the truth of the Scriptures rejected the Bible completely, while others tried to fit false teachings of ancient Greek philosophers into the Biblical framework.

Biblical truths. The Scriptures teach that the earth was originally created in a perfect state, but man's subsequent fall into sin plunged the world into a state of imperfection and death. As a result, man had to work for his survival "by the sweat of his brow." The curse of sin also affected the animal and plant kingdoms; instead of being in perfect harmony with each other, animals and plants now had to struggle to survive. Species of animals that were not as well suited to survive (especially in the post-Flood environment) gradually died out and became extinct.

The Scriptures also demonstrate that great variety can develop within created kinds, for all of the land animals that we see today are all descended from the limited number of animals aboard the ark of Noah. For example, we know that dozens of species of sparrow are descended from only seven sparrows that survived the Flood aboard the ark. Likewise, many varieties of canine (wolf, domestic dog, dingo, coyote, jackal) have apparently descended from a single pair of canines aboard the ark.

Mixing truth with error. Beginning in the 1700s, many scientists and theologians rejected the consequences of sin upon creation and insisted that the animals and plants presently living upon the earth were as perfect as those that were originally created. They also denied the variety that exists within created kinds, and they insisted that no living things could become extinct because they are divinely preserved. (Although they tried to present these false ideas within the Biblical framework, these ideas do not come from the Bible, but rather from ancient Greek philosophy.) Although these individuals still held to the general concepts of divine creation and the existence of the supernatural, they had substituted man's speculations for the truths of the Scriptures.

Consequences of false ideas. The acceptance of false philosophies by many scientists and theologians laid the foundation for a catastrophe in science. Because they had substituted error for Biblical truth, they could not offer a true Biblical alternative to the materialistic philosophies that would soon sweep the world.

The Faith of Materialists

Misguided attempts to mix Biblical truth with false philosophies had a tragic result: they caused some people to question the truth of the Scriptures, even though it was not the Bible that was in error. Some people even used the perceived contradictions as an excuse to reject the Bible completely and place their faith in the false philosophy of **materialism.** According to this philosophy, the universe consists of nothing but matter and energy, and has no spiritual or supernatural aspects. (Another name for materialism is **naturalism,** the idea that *nature* is all that exists.) The materialist believes that man is merely a product of nature and chance. To the materialist, there is no higher authority than the forces of nature; therefore, *he believes that all things are relative, having no value but that given them by nature or by man himself.* To the materialist, man, as merely a part of nature, is of no more worth than any other part of nature. Stated another way, any part of nature is just as important as man. ***The philosophy of materialism is actually a faith—a faith not in the Creator but in nature and matter itself.*** According to the materialistic faith, the universe and everything in it were created by nature and chance alone.

The Faith of Charles Darwin

One of the scientists who rejected the Scriptures and embraced materialism was a young British naturalist named **Charles Darwin** (1809–1882). Although Darwin was virtually unknown at the time, his naturalistic ideas would eventually have an enormous impact upon science and upon society at large.

When Darwin was still a very young child, he developed a passion for collecting and a keen sense of observation that would later fit him well for the work of a naturalist. At age 16, his father sent him to Edinburgh University in Scotland to study

medicine, but it soon became clear that he would not make a good physician, and so he was sent to Cambridge to prepare for the Anglican ministry.

Darwin graduated from Cambridge in the spring of 1831 with a degree in theological studies, but his true interests lay in science, not in the ministry. Although Darwin was "astonishingly naive in such general matters as methodology" *(Encyclopaedia Britannica)*, his skills of observation made him well equipped as a naturalist. His observations alone probably would have made him famous, especially his discovery that earthworms aerate the soil.

Fig. 14.1
Charles Darwin (c. 1855)

***The voyage of the* Beagle.** Darwin's first great opportunity as a naturalist came in December 1831, when he sailed with a surveying expedition on the H.M.S. *Beagle* around South America and to islands in the Pacific Ocean. The voyage, which lasted five years, offered many opportunities for observation. "The voyage of the *Beagle* has been by far the most important event in my life, and has determined my whole career," he wrote. He spent his time on the voyage observing rain forests, unusual land formations, and other natural wonders that were new to him; collecting strange animals from oceans, shores, and rivers; and taking painstaking notes on all his observations. "As far as I can judge for myself," he said, "I worked to the utmost during the voyage, from the mere pleasure of investigation, and from my strong desire to add a few facts to the great mass of facts in natural science. But I was also ambitious to take a fair place among scientific men."

Darwin took with him a copy of *Principles of Geology* by **Charles Lyell** (1797–1875) and was thus introduced to Lyell's false doctrine of **uniformitarianism,** the idea that the present is the only key to the past, and that all things continue by natural processes at the same rates as they always have done. (The great founders of modern science had believed just the opposite: that the past—God's account of the Creation—is the key to a proper understanding of the present.) Darwin applied the false idea of uniformitarianism to try to explain the origin of the many varieties of plants and animals that he saw on his voyage.

Mistaken beliefs. On his five-year journey aboard the *Beagle,* Darwin noticed that great variety exists within kinds, that many kinds of animals and plants are now extinct, and that many aspects of nature are characterized by suffering and death. Because Darwin misunderstood the Biblical account of Creation, he thought that these scientific facts contradicted the Bible. (Actually, they contradicted only the false teachings of Greek philosophy; the Bible acknowledges variety within kinds and teaches that suffering and death entered the world because of sin.) Sadly, Darwin's misunderstanding of the Scriptures led him to reject the Bible completely and search for a materialistic explanation of life.

A mistaken conclusion. Darwin eventually turned to the teachings of his grandfather, **Erasmus Darwin** (1731–1802), a well-known physician and radical philosopher, who had argued that all living things had evolved (developed gradually) from simpler forms. (This concept was not original with Erasmus Darwin, but dates back to ancient Greek philosophers.) Charles Darwin was also influenced by the French scientist **Jean-Baptiste Lamarck** (1744–1829), who had proposed similar ideas. Charles Darwin embraced these materialistic philosophies and added to them, deciding that "probably all the organic beings which have ever lived on the earth have descended from some one primordial form, into which life was first breathed." This philosophy is usually referred to as **evolution.**

On the Origin of Species. Darwin made many observations during his voyage aboard the *Beagle* that he thought supported his hypothesis of evolution. He took copious notes of his observations, and when he returned to England in 1836, he began to assemble his ideas into coherent form.

In 1859, more than 20 years after returning to England, Darwin finally published his ideas in a book entitled *On the Origin of Species by Means of Natural Selection, or the Preservation of Favored Races in*

the Struggle for Life. (Because its title is quite long, this book is often referred to as ***On the Origin of Species,*** or simply as the ***Origin.***) In this lengthy book, Darwin presented his materialistic speculations about the origin and development of living things.

"One long argument." The *Origin* was not a scientific treatise, but rather a series of thousands of wild speculations strung together—in Darwin's words, "one long argument." Its easygoing, conversational style and its intricately woven arguments were dangerously disarming, and many people who read the *Origin* found Darwin's philosophy quite plausible. Unfortunately, few people bothered to untangle Darwin's arguments in order to compare them with scientific and Biblical truth.

By the end of the 19th century, the *Origin* was regarded by materialists as the greatest intellectual discovery of the century and the greatest thought to enter the mind of man. Others, however, saw it as a product of wishful thinking that could hurl humanity into a whirlwind of relativistic philosophy and humanistic faith.

In a later book, the ***Descent of Man*** (1871), Darwin stated his idea of the evolution of man: "that man is descended from a hairy, tailed quadruped, probably arboreal [living in trees] in its habits, and an inhabitant of the Old World."[1]

Natural selection. Various hypotheses of evolution had existed before Darwin wrote the *Origin,* but Darwin was the first to propose a plausible *means* by which evolution might occur. The cornerstone of Darwin's hypothesis was **natural selection,** the idea that the fittest and strongest of each species (those best suited to their environment) were more likely to survive and reproduce than weaker, poorly adapted animals. This concept is sometimes referred to as *"survival of the fittest."* Of course, this is a self-evident truth—an animal well-suited to its environment is certainly more likely to thrive than an animal poorly suited to its environment. However, Darwin believed that natural selection would act upon the variety that naturally occurs within kinds to gradually produce new kinds.

The failures of Charles Darwin. This reasoning is faulty because variety within kinds has ***definite boundaries***—a fact that Darwin was not aware of. Because natural selection itself produces no new characteristics, natural selection cannot create new kinds of organisms. Rather, it keeps a kind strong and healthy by *suppressing* harmful changes. In other words, ***natural selection acts to preserve existing kinds, not create new kinds.***

The Faith of Darwin's Disciples

Despite his failings, Darwin succeeded where many others before him had fallen short: that is, in arousing public interest. Many of the suppositions of evolution had already been firmly entrenched in the fields of geology and astronomy, but neither subject was very popular with or applicable to the general public in the nineteenth century. For some time, certain levels of British society had been groaning with theological liberalism, which rejected the Genesis account of Creation and sought to find a natural cause for the situations in which people find themselves. Darwin provided that cause, not with any significant new knowledge, for most of what Darwin wrote could be found in the vast literature of natural history, but with an organization of biological observations hand chosen to lead to a predetermined conclusion—a natural cause for man's life.

Why evolution was accepted. Some people that embraced Darwinism did so for philosophical reasons; they wished to remove God from their thinking. Many people had a simpler reason for accepting evolution: they simply believed that it was scientific. Science had brought wonderful changes to the world of the nineteenth century, and some people would believe anything if they thought it had the support of science.

Charles Darwin's philosophy of evolution really had little to do with science, however. In fact, one of Darwin's first supporters was a liberal Anglican clergyman and socialist, Charles Kingsley, who worked hard to integrate the ideas of evolution into Christian practice. Most scientists were initially much more skeptical of

[1]Charles Darwin, *The Descent of Man* (New York: Random House, 1936), 911.

Darwin's argument because they realized that it was based largely upon speculation.

Scientists who rejected Darwin. One of the great writers on scientific thought in that day was *William Whewell* [hū′el], professor of science and college master of Trinity College, a part of Cambridge, and author of *History of Inductive Sciences.* Whewell realized that merely imagining how something might have occurred is not scientific proof that such a thing *did* occur. Because Darwin's work was based entirely on speculation instead of on scientific fact, Whewell would not even allow the book in the college library. Sir John Herschel, the great English astronomer, chemist, mathematician, and physicist (son of Sir William Herschel, the discoverer of the planet Uranus), called Darwin's ideas the "law of higgledy-piggledy." *Philip Gosse,* a noted biologist, was not convinced by Darwin's arguments, and neither were other esteemed scientists such as *Adam Sedgwick,* a noted mathematician and geologist; *Sir Richard Owen,* an anatomist; and *Andrew Murray,* an entomologist. Each of these men firmly declined to accept the hypothesis.

Adam Sedgwick, who was one of Darwin's mentors and an evolutionist of sorts himself, denounced Darwin's hypothesis of evolution by natural selection as "a dish of rank materialism cleverly cooked and served up . . . to make us independent of a Creator." Two of the world's greatest physicists, James Clerk Maxwell and Lord Kelvin, strongly opposed Darwinism and developed mathematical and scientific refutations of evolution. French scientists were generally no more enthusiastic about *The Origin of Species* than were English scientists.

In America, the scientific community, unlike liberal theologians and socialists, largely avoided the philosophy of evolution at first. One of the most influential American naturalists of the day, *Louis Agassiz* [ăg′*a*·sē] of Harvard, remained unmoved by Darwin's arguments. Professor G. F. Wright of Oberlin College described evolution as "one-tenth bad science and nine-tenths bad philosophy." *Matthew F. Maury,* the "Pathfinder of the Sea" and founder of the science of oceanography, also strongly opposed evolution and insisted that the Bible be accepted as true in matters of science. Charles Darwin found one of his few scientist supporters in *Asa Gray,* a noted American botanist. Gray worked hard to try to convince the scientific community that Darwin's ideas were not inconsistent with a belief in God. This effort gave Darwinism a big boost in America, but not at first among authorities in science. Many nonscientists admitted that they chose to believe evolution because it was the only alternative to Creation, not because of the merits of the hypothesis itself.

In review, the acceptance or rejection of evolution was not dependent upon one's scientific knowledge or aptitude, but upon one's readiness to find a materialistic explanation for life—in other words, ***on one's faith.***

The New Faith's Effects

Acceptance of naturalism. As the hypothesis of evolution was debated, many scientists became detoured from their true calling of mastering nature for the benefit of mankind and devoted their energies instead to the task of trying to prove Darwin's ideas. Rather than viewing the Scriptures as the starting point for science, some scientists chose to try to separate science from its Christian heritage.

Effects upon society. The acceptance of Darwin's hypothesis in society caused a dramatic shift away from the traditional Judeo-Christian worldview toward a naturalistic worldview. Instead of being the special creation of God, mankind became regarded as a mere animal, with no more worth than any other part of nature. Right and wrong came to be thought of as relative, defined either by the whims of the individual or by the will of the majority. Some Darwinists twisted the Biblical concepts of labor and reward into a ruthless "kill-or-be-killed" distortion of capitalism, while others promoted various forms of socialism. Karl Marx, the "Father of Communism," was thrilled with Darwin's speculations and wanted to dedicate his own book *Das Kapital* to Darwin (Darwin declined).

Some of Darwin's followers founded the "science" of **eugenics** [ū·jĕn′ĭks], which sought to improve the human species by selectively breeding humans to produce a "master race." Eugenics laws

were passed by many nations, under which thousands of "genetically inferior" individuals were forcibly sterilized to prevent them from having children. Years later, the philosophy of eugenics would culminate in the agenda of the National Socialists (Nazis) in Germany, who used abortion, euthanasia, and mass murder to eliminate millions of people they deemed "genetically inferior" in order to "improve" the German race.

God versus chance. Darwin's *The Origin of Species* was no mere battle over evolution or Creation. French-American scholar Jacques Barzun calls it a "major incident . . . in the dispute between the believers in consciousness and the believers in mechanical action; the believers in purpose and the believers in pure chance. The so-called warfare between science and religion thus comes to be seen as the warfare between two philosophies and perhaps two faiths."[2] The great novelist Alexander Solzhenitsyn, who came face-to-face with the materialistic faith in Communist Russia and rejected it, eloquently expressed the opposite faith in these words:

> Our life consists not in the pursuit of material success but in the quest for worthy spiritual growth. Our entire earthly existence is but a transitional stage in the movement toward something higher, one rung of the ladder. *Material laws alone do not explain our life or give it direction. The laws of physics and physiology will never reveal the indisputable manner in which the Creator constantly, day in and day out, participates in the life of each of us, unfailingly granting us the energy of existence; when this assistance leaves us, we die.* And in the life of our entire planet the Divine Spirit surely moves with no less force: this we must grasp in our dark and terrible hour.[3]

The deadening effect of materialistic thinking is well illustrated by Darwin's own life. He lost interest in the higher things of life, the things about man that can only be explained by his being a creature made in the image of God. He lost his love for poetry, music, and literature, and, of course, he could not pray. He said that his mind had been reduced to "a kind of machine for grinding general laws out of large collections of facts." Darwin's son wrote a biography of his father late in the nineteenth century. In reviewing this book, a writer for the *Atlantic Monthly* made the following comments:

> The blank page in this charming biography is the page of spiritual life. There is nothing written there. The entire absence of an element which enters commonly into all men's lives in some degree is a circumstance as significant as it is astonishing. . . . Darwin lived as if there were no such thing. Darwin's insensibility to the higher life—for so men agree to call it—was partly, if not wholly, induced by his absorption in scientific pursuits in the spirit of materialism.

[2]Jacques Barzun, *Darwin, Marx, Wagner—Critique of a Heritage* (New York: Doubleday, 1958), p. 37.

[3]Alexander Solzhenitsyn, "Men Have Forgotten God," trans. by A. Klimoff, *National Review*, 22 July 1983, 876.

An American Scholar Speaks for Creation

by William Jennings Bryan

The world is now learning—most of the world for the first time—that evolution, as the scientists teach it, is an imaginary process, wholly unproved, that begins with life but does not attempt to explain life, and represents man as the climax of a series of changes coming up from a simple cell through millions of forms of life different from man.

This hypothesis makes every living thing known in animal life a blood relative of every other living thing in animal life, and makes man a blood relative of them all—either an ancestor or a cousin. If this hypothesis were true, we would all be murderers if we swatted a fly or killed a bedbug, for we would be killing our kin, and

we would be cannibals whenever we ate any of the mammals.

But that is not all. If the evolutionary hypothesis is true, man has come up through the animals below him by a cruel law under which the strong kill off the weak. Darwin argues that the race was necessarily impaired by the suspension of this cruel law. He commended by implication the savages who are eliminating the weak, saying that it left the survivors strong.

He even suggested that vaccination had saved the lives of thousands who would otherwise have succumbed because of weak constitutions—the implication being that the race would have been benefited by allowing them to die instead of prolonging their lives and permitting them to propagate. He complained that civilized society and medical men attempt to prolong life every last moment.

No more cruel doctrine was ever promulgated. Those who believe it are robbed of the pity and the mercy that comes of civilization.

To show that Darwin's heartless doctrine has not been abandoned one has only to read a book that came out about three years ago. I will not give the name of the author, for I do not care to advertise his name.

In his preface, he says that he is indebted to some twenty eminent scientists, "professors and doctors," and he singled out for special gratitude a young man recently elected president of a great state university, a man whose career the author predicts will "be one of the world's events of the coming generation." This eminent educator read the manuscript over twice and "made many invaluable suggestions."

On page 34 of this book we are told that "evolution is a bloody business, but civilization tries to make it a pink tea." Then he adds:

"Barbarism is the only process by which man has organically progressed and civilization is the only process by which he has organically declined. Civilization is the most dangerous enterprise on which man ever set out. For when you take man out of the bloody, brutal but beneficent hand of natural selection, you place him at once in the soft, perfumed, daintily gloved but far more dangerous hand of artificial selection." Here we have evolution unmasked.

The evolutionists have not been honest with the public. Even ministers who believe in evolution have assured their congregations that there is no inconsistency between Darwinism and Christianity. Do they know its effect on Darwin, or, knowing its effect, do they dare conceal it from their congregations?

The ministers should tell their congregations that evolution leads logically to agnosticism; they should tell them of the wail of Romanes, sometimes called the successor of Darwin, who said in his book, written to prove that there is no God:

> I am not ashamed to confess that with this virtual negation of God, the universe to me has lost its soul of loveliness, yet when at times I think, as think at times I must, of the appalling contrast between the hallowed glory of that creed that once was mine and the lonely mystery of existence as now I find it—at such times, I shall ever feel it impossible to avoid the sharpest pang of which my nature is susceptible.

The Christian world is not going to give up its belief in God or its belief in the Bible as our only standard of morals or in Christ as our only Savior and wisest guide. The Christian world will not give up these sacred things at the demand of these intolerant champions—not of science but of an unproven guess—the logical tendency of which is to rob man of his moral standards in this world and of hope of immortal life in the world to come.●

Quoted in Leslie H. Allen, Bryan and Darrow at Dayton *(New York: Russell and Russell, 1925), pp. 103–106.*

Section Review 14.1

1. Why was Darwin's *Origin* not really a scientific treatise?
2. What are some of the factors which prevent natural selection from creating new kinds?
3. Give some of the reasons why many well-known 19th-century scientists rejected Darwin's hypothesis of evolution.
4. What factor(s) determined whether Darwin's hypothesis of evolution was accepted or rejected by various individuals?

Application:

5. What is the difference between a *species* and a Biblical *kind?* (See p. 88 if necessary.) Why is it important to make this distinction?
6. What were some of the effects of the naturalistic worldview upon science? Upon society at large?

Identify:

The Descent of Man, eugenics, materialism, naturalism, natural selection, *On the Origin of Species,* uniformitarianism

14.2 Paleontology: Evidence against Evolution

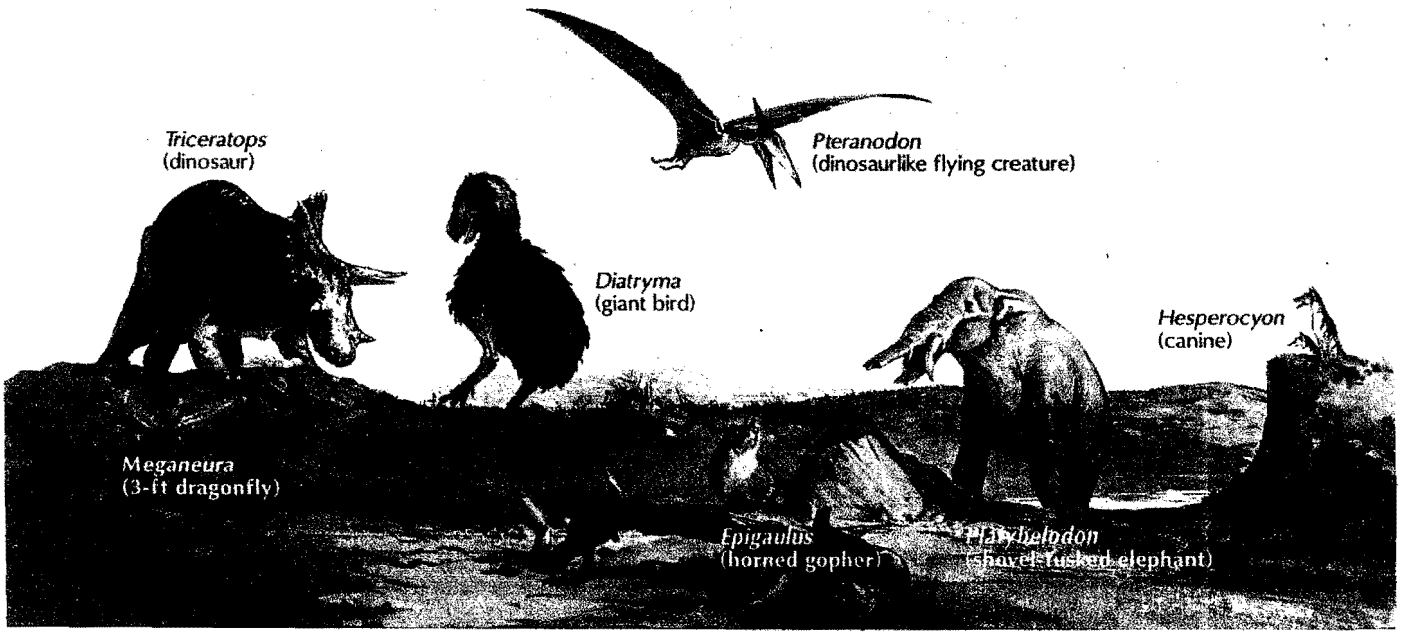
Fossils: Record of the Past

Fossils are the remains or impressions of plants, animals, and humans preserved in sedimentary rock. Countless billions of fossils are found in the earth's crust, most of which were probably buried during the worldwide Flood of Noah. The study of fossils is called **paleontology** [pā′lē·ŏn·tŏl′ō·jē].

Fossil variety. Although many fossils represent plants and animals we see all around us (such as pines, ferns, insects, horses, snakes, etc.), some fossils represent plants and animals that have become extinct. It is possible that some of these organisms had difficulty surviving the post-Flood environment and gradually died out. Some of the interesting animals that are known only from fossils include mammoths, dinosaurs, 40-foot-long crocodiles, 2000-pound turtles, giant birds, and eagle-sized dragonflies.

Fossils: evidence against evolution. The discovery of fossils such as these in the 1700s and 1800s caused

Fig. 14.2 Selected extinct animals



problems for many naturalists, who by this time had begun to weave false ideas from Greek philosophers (such as denial of extinction) into the Biblical account of Creation. However, ***the fossil record, when viewed from a Biblical perspective, is actually one of the most powerful evidences against evolution.*** This is true because if evolution had occurred, it would have left traces of the process in the fossil record. Yet after a century and a half of fossil excavation, evolutionists have failed to discover the proof they seek. When kinds of animals appear in the fossil record, they appear fully formed, showing no traces of having evolved *from* something else or of evolving *into* something else. In addition, the fossil record reveals a record of sudden death and destruction that is consistent with the Biblical teaching concerning a worldwide Flood.

The Fossil Record and Transitional Forms

The necessity of transitional forms. Darwin's hypothesis of evolution proposed that one kind of organism gradually changes into another kind over many generations by means of extremely slight changes in each generation. Geologists of Darwin's day expected the fossil record to prove evolution by providing fossils of *transitional forms,* or "missing links." (**Transitional forms** would be fossils that connect one kind of organism with another kind by a series of tiny steps.) Darwin insisted that transitional forms would connect every kind of organism now living with a primeval single-celled ancestor "by differences not greater than we see between the natural and domestic varieties of the same species at the present day."[4]

If evolution were true—if organisms have gradually changed into other organisms over time—***there would be countless fossils of transitional forms,*** connecting every kind on earth with their common ancestors by tiny steps. However, this is not the case; there are actually ***large gaps*** between different kinds. The fact that these transitional forms have not been found is perhaps the greatest evidence against evolution. Darwin himself recognized this problem:

> [T]he number of intermediate varieties, which have formerly existed, [must] be truly enormous. ***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; and this, perhaps, is the ***most obvious and serious objection*** which can be urged against the theory.[5]

The fossil evidence was sketchy and incomplete when Darwin wrote *The Origin of Species* because relatively few fossils of any sort had been excavated. Darwin appealed to the lack of fossil evidence, hoping that future excavations would uncover the "missing links":

> The geological record is ***extremely imperfect*** . . . these causes, taken conjointly, will to a large extent explain why . . . we do not find interminable varieties, connecting together all extinct and existing forms by the finest graduated steps. . . .
>
> He who rejects this view of the imperfection of the geological record, ***will rightly reject the whole theory.***[6]

In other words, it is absolutely vital to the hypothesis of evolution that not just one or two but great hordes of transitional forms exist. ***If evolution had occurred, there would be millions of fossils showing various stages in the gradual transition of kinds of organisms into different kinds.*** If the fossil record failed to reveal transitional forms, however, then Darwin's whole hypothesis of evolution would be proven false.

Lack of transitional forms. Darwin freely admitted that no transitional forms had been found in his time, but he attributed this lack of evidence to the small number of fossils that had been excavated. Since Darwin wrote those words, however, over 100 *million* fossils, representing a quarter of a million species, have been excavated, cataloged, and placed in museums. Yet the multitude of "missing links" that would be required to bridge the gaps between kinds have not been found.

No true "missing links" have ever been found to bridge the gaps between different kinds of organisms. Thousands of extinct kinds of animals have been revealed, but all are distinct kinds; none can be

[4]Charles Darwin, *The Origin of Species,* 6th ed. (London: J. M. Dent, 1963), 294.

[5]Ibid., 292–293.
[6]Ibid., 342–343.

regarded as truly transitional forms. Rather, the fossil record vividly illustrates the Biblical truth that kinds of living things do not change into other kinds of living things; every creature reproduces "after its kind" (Gen. 1:11–12, 21, 25). The glaring contradiction between Darwin's predictions and the facts of the fossil record make it clear that evolution has *not* occurred.

> The regular absence of transitional forms is an almost universal phenomenon. . . . It is true of almost all orders of all classes of animals, both vertebrate and invertebrate. . . .
> —George Gaylord Simpson, vertebrate paleontologist

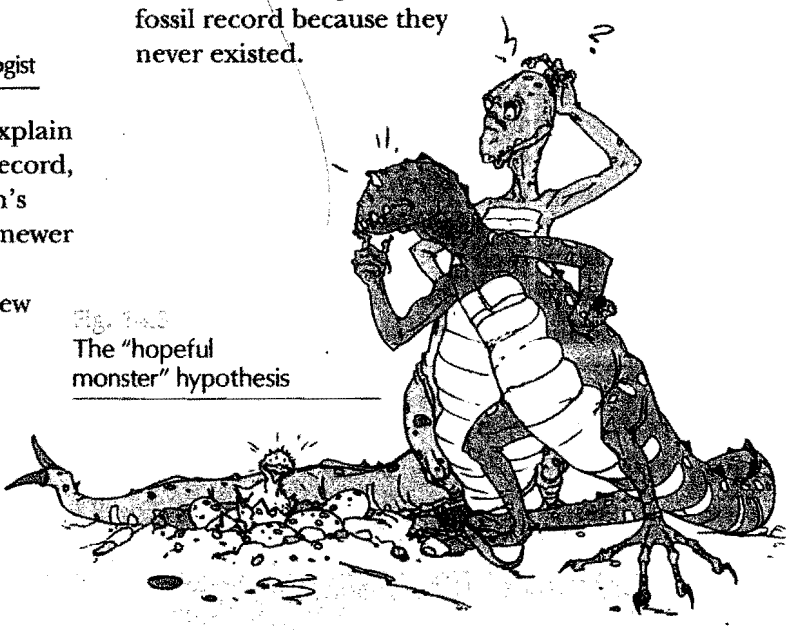
> Despite the bright promise that paleontology provides a means of "seeing" evolution, it has presented **some nasty difficulties** for evolutionists, the most notorious of which is the presence of "gaps" in the fossil record. Evolution requires intermediate forms between species, and paleontology does not provide them. . . .
> —David B. Kitts, zoologist

> The gaps in the fossil record are real, however. The absence of a record of any important branching is quite phenomenal.
> —R. Wesson, *Beyond Natural Selection*

> **But the facts of paleontology conform especially well with other interpretations . . . e.g., divine creation. . . .**
> —D. Dwight Davis, vertebrate morphologist

Punctuated equilibrium. To attempt to explain the lack of transitional forms in the fossil record, some evolutionists have abandoned Darwin's teaching of gradual evolution in favor of a newer idea called the **punctuated equilibrium hypothesis.** Whereas Darwin taught that new organisms came about as the result of the gradual accumulation of minute changes over millions of years, proponents of punctuated equilibrium suggest that evolution occurs in sudden spurts, followed by long periods without noticeable change. According to this idea, new kinds of organisms arise as a result of drastic environmental changes, which bring about rapid genetic changes in small groups of animals and plants. Some advocates of punctutated equilibrium go even further, stating that evolution occurs as a result of drastic genetic restructurings called *macromutations* that suddenly change one kind of creature into another. (This form of punctuated equilibrium is known as the *"hopeful monster" hypothesis.*) Instead of changing one organism into another by thousands of tiny changes, the "hopeful monster" hypothesis calls for sweeping rearrangements of the genetic code to produce a dramatically different, but fully functional, organism in one generation. No example of such a drastic change has ever been observed either in nature or in the laboratory.

Those who favor a punctuated equilibrium version of evolution over the older ideas of gradual evolution point out that the fossil record supports their hypothesis, because the fossil record reveals organisms that have remained essentially unchanged from their first appearance in the fossil record to the present. They also point out that the host of transitional forms required by gradual evolutionary processes cannot be found in the fossil record. Like creationists, supporters of the punctuated equilibrium concept argue that most "missing links" are missing from the fossil record because they never existed.



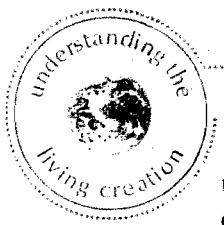
The "hopeful monster" hypothesis

The punctuated equilibrium hypothesis is by no means the "savior" of evolution, however. Despite the claims of its adherents, ***punctuated equilibrium is contradicted by the fossil record.***

The "hopeful monster" hypothesis attempts to reconcile punctuated equilibrium with the fossil record, but is just as out of touch with reality because of the impossibility of macromutations. Darwin himself ridiculed the idea that evolution could occur in giant steps:

> He who believes that some ancient form was ***transformed suddenly*** through an internal force or tendency into, for instance, one furnished with wings . . . will further be compelled to believe that many structures beautifully adapted to all the other parts of the same creature and to the surrounding conditions, have been suddenly produced; and of such complex and wonderful co-adaptations, he will not be able to assign a shadow of an explanation. . . . ***To admit all this is, as it seems to me, to enter into the realms of miracle, and to leave those of Science.***[7]

[7]Charles Darwin, *Origin of Species*, 6th ed., 229.



The Fossil Record versus the Geologic Column

The Bible teaches that the earth and living things did not develop gradually, but were divinely created. Evolutionists, however, commonly present the fossil record as a straightforward evolutionary progression from "primitive" organisms deep in the earth's crust to more "modern" organisms nearer the surface. This simple-to-complex sequence of fossils is known as the **geologic column** or *geologic time chart.* The implication is that if you were to take a vertical slice through the earth's crust, you would see a record of evolution from the simplest invertebrates to the living things we see around us today, supposedly representing some 4.6 billion years of earth's history. The hypothetical column is divided into four major time divisions called *eras,* which are subdivided into *periods* and *epochs* [ĕp′ŏks] (see chart on next page).

An imaginary arrangement. Although it is presented as conclusive evidence for evolution, the geologic column is not really a description of the order of rocks and fossils in the earth's crust. This is true because the geologic column is a ***hypothetical arrangement*** of fossils and rocks from many different locations and habitats around the world, arranged according to evolutionary assumptions; ***there is not a single place on the earth where you can go and see the geologic column.*** (In fact, if all the rock strata in the hypothetical geologic column were present at one location, it would be about 100 miles thick.) The most of the geologic column that you can see anywhere on earth are a few rocks containing "simple" fossils overlain by a few strata containing "complex" fossils, generally representing only two or three periods and often widely separated in "age." In many places, the fossils are in their "proper" order, but in some places the order is actually reversed.

Arrangement by assumption. The succession of fossils indicated by the geologic column ***occurs nowhere in the world.*** The actual fossils in the earth's crust are not arranged in a strict evolutionary progression, but rather are sorted mainly by habitat and mobility. That trilobites (a type of small, extinct marine arthropod) lived before dinosaurs, and

dinosaurs lived before mammals, is an ***assumption*** based upon the hypothesis of evolution; the fossil record merely indicates that trilobites, dinosaurs, and mammals were usually *buried in different places* (perhaps because they lived in different habitats).

Circular reasoning. Using the geologic column as "evidence" to support the evolutionary hypothesis is an example of **circular reasoning**—an argument that is based on the very assumption it attempts to prove. *There is no objective way to look at a sample of sedimentary rock and determine its age.* Rather, certain fossils known as **index fossils** or guide fossils are considered characteristic of a specific period and are used to identify rock layers in the field.

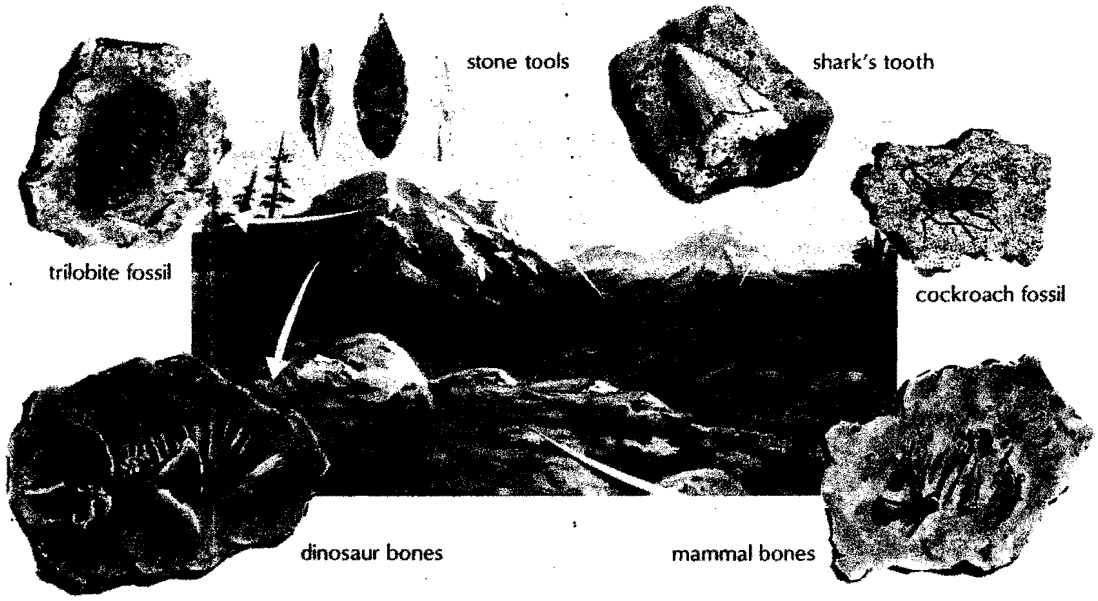
Geologic column (hypothetical history of earth according to evolutionists)

Era	Period	Assumed events	Assumed beginning date (years ago)
Cenozoic	**Quaternary**		
	Recent (Holocene) Epoch	end of last Ice Age; rise of human civilizations	10,000
	Pleistocene Epoch	Ice Age(s); mass extinctions; rise of man	1,600,000
	Tertiary		
	Pliocene Epoch	peak of mammals; modern invertebrates	5,300,000
	Miocene Epoch	rise of grazing mammals	23,700,000
	Oligocene Epoch	primitive apes; whales; first modern mammals	36,600,000
	Eocene Epoch	first horses	57,800,000
	Paleocene Epoch	early mammals become dominant; rise of modern birds	66,400,000
Mesozoic	**Cretaceous**	mass extinctions (including dinosaurs); flowering plants appear	144,000,000
	Jurassic	giant dinosaurs; early birds; first mammals	208,000,000
	Triassic	first dinosaurs; rise of mammal-like reptiles	245,000,000
Paleozoic	**Permian**	modern insects; reptiles spread; evergreens; extinction of trilobites	286,000,000
	Pennsylvanian[1]	giant insects; first reptiles	320,000,000
	Mississippian[1]	amphibians spread; sharks and bony fish; winged insects	360,000,000
	Devonian	first amphibians; freshwater fish; wingless insects	408,000,000
	Silurian	land colonized by arthropods and plants	438,000,000
	Ordovician	trilobites abundant; vertebrates increase	505,000,000
	Cambrian	sudden explosion of life; trilobites dominant; rise of other marine invertebrates; some vertebrates	543,000,000
Proterozoic[2] (Precambrian)	**Vendian**	simple multicellular sea creatures develop	600,000,000
	(unnamed)	algae and plankton develop	800,000,000
	(unnamed)	eukaryotic cells develop	2,500,000,000
Archaean[2, 3] (Precambrian)	(unnamed)	earth becomes inhabitable; spontaneous generation of first cells; rise of bacteria and cyanobacteria (blue-green algae)	3,800,000,000
Hadean[4]	———	formation of earth (uninhabitable)	4,600,000,000

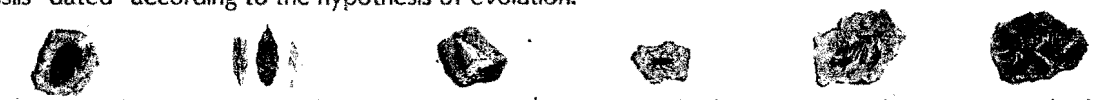
[1]The Pennsylvanian and Mississippian periods are sometimes referred to together as the *Carboniferous Period.*
[2]The Proterozoic and Archean eras are often referred to together as the *Precambrian Era.*
[3]Or *Archaeozoic.*
[4]The Hadean Era is commonly omitted from the geologic time chart.

Construction of the geologic column

1. Fossils discovered at various locations in the earth's crust.



2. Fossils "dated" according to the hypothesis of evolution.



3. Fossils arranged in their *assumed* order to construct the geologic column.

4. Simple-to-complex progression in the geologic column is claimed to be "evidence" for evolution (circular reasoning).

The geologist looks at the rock, determines what types of fossils it contains, and dates the rock according to the *presumed* age of those fossils (based on the estimation of when the organism evolved). If the fossils are those of organisms which are assumed to have evolved recently, the geologist automatically assumes that the rock layers are young. On the other hand, if the fossils represent organisms thought to have evolved many millions of years ago, the rock strata are automatically assumed to be very ancient. For example, a rock layer containing a certain type of trilobite would be classified as Cambrian.

Fossils from around the world are dated in this manner and then arranged in their *assumed* order—a simple-to-complex progression—to compose the geologic column. This simple-to-complex progression is then said to "prove" the hypothesis of evolution. In other words, the major "evidence" for evolution is based upon the assumption of evolution: the evolutionary hypothesis determines the "age" of fossil-bearing rocks, the "age" of the rocks determines the "sequence" of fossils, and the "sequence" of fossils is said to support the hypothesis.

Radiometric dating: more circular reasoning. Evolutionists sometimes use a technique known as **radiometric dating** to lend credence to the ancient dates used in the geologic column. Radiometric dating is based on the fact that atoms of certain elements break down into atoms of other elements (known as their "daughter" elements) at relatively constant rates. The decay of these naturally occuring radioactive elements can (in principle) be used to calculate the age of a rock or fossil. In practice, however, radiometric dating of fossils (like the geologic column itself) is also based upon circular reasoning.

This is true because the decay of an element cannot be used to calculate the age of a rock or fossil *unless both the original and final amounts of radioactive element in the sample are known.* Although the present composition of the sample is easily measured, *there is no way to measure how much of the "parent" and "daughter" elements were originally in the sample.* Nor is there any way to measure how much of the "parent" or "daughter" element entered or escaped the sample during the decay process. Thus, the scientist must estimate these amounts based on several guesses. Because the estimates made by most scientists are usually based on evolutionary assumptions, circular reasoning enters the argument once again: the assumption of evolution is used to estimate the original ratio of "parent" and "daughter" elements, which is used to calculate a date, which "proves" the assumption of evolution. In other words, ***radiometric dates are largely determined by the assumptions of the person doing the dating.*** In fact, if evolutionary assumptions are replaced with creationist assumptions, the dates given by several dating methods often become more or less consistent with the Genesis chronology.

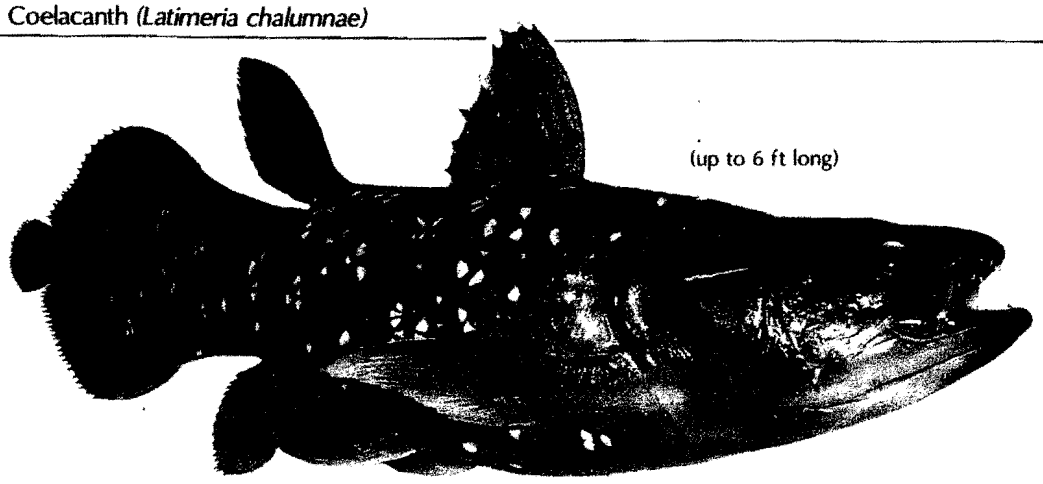
Because of the subjective nature of radiometric dating, if a date is obtained that does not fit the geologic column, it is a simple matter to adjust one's guesses in order to come up with a date that fits the evolutionary time scale. *The hypothesis of evolution determines which dates are "acceptable"; dates outside this range are deemed erroneous and discarded.*●

The "Cambrian Explosion": Evidence against Evolution

One of the serious contradictions between the facts of the fossil record and the hypothesis of evolution is known as the **"Cambrian explosion."** Evolutionists believe that plants and animals evolved from simple, single-celled creatures. If this were true, there should be a gradual progression of extremely simple cell colonies to more "advanced" creatures, with a gradual increase in variety and diversity. ***But the fossil record contains no such progression.*** When geologists study Cambrian rocks, they find in the fossil record a sudden outburst of living things of great variety, showing no evidence of evolution. Practically empty "Precambrian" rocks suddenly give way to "Cambrian" rocks teeming with many representatives of every major animal phylum in existence today, plus other phyla that are now extinct. Evolutionists call this "mystery" the Cambrian explosion because life seems to have "exploded" onto the scene. However, ***this arrangement is just what we would expect if life were divinely created.***

> If there has been evolution of life, the absence of the requisite fossils in the rocks older than the Cambrian is **puzzling.**
>
> —Marshall Kay and Edwin H. Colbert, *Stratigraphy and Life History*

Fig. 14.4 Coelacanth (*Latimeria chalumnae*)



Missing "Missing Links": Evidence against Evolution

The fossil record contains a wonderful variety of living creatures, some of which have become extinct and are no longer alive today. Unfortunately, in an attempt to get around the embarrassing lack of transitional forms in the fossil record, unusual extinct animals are often pressed into service as "transitional forms." Invariably, however, a closer look at these creatures reveals that they are either creative "reconstructions" based on tiny fragments of bone and large quantities of imagination, varieties of known kinds, or new kinds of animals altogether.

Coelacanth. Rocks of the Devonian Period contain fossils of an unusual 6-foot-long fish called the **coelacanth** [sē′*la*·kănth′]. (*Coelacanth* is a general term used to describe any fish of the order Crossopterygii.) In coelacanths, unlike most fish, the fins are attached to the body by thick, fleshy lobes that allow the fins to be more freely rotated. Because of these unusual fins, evolutionists taught for many years that coelacanths were shallow-water fish and the ancestors of the first amphibians. The fish were often depicted crawling onto land from shallow water, using their lobed fins as "feet." Scientists often speculated about their "amphibian-like" anatomy, and how a couple of minor changes could have produced a genuine amphibian. In 1938, however, a *live* coelacanth was caught in the Indian Ocean; it was the first of many live coelecanths that would eventually be found. Evolutionists were surprised to find that coelacanths live very deep in the ocean and only rarely ascend to within 500 feet of the surface—making them highly unlikely to ever "crawl out on land." In addition, their internal organs are completely fishlike, bearing no resemblance to those of amphibians, and the bones of their fins are not connected to the spine, preventing them from being used as "legs." Despite these facts, some evolutionists still teach that amphibians evolved from a type of coelacanth.

Archaeopteryx. The fossil bird ***Archaeopteryx*** [är′kē·ŏp′tĕr·ĭks] is often presented as a link between reptiles and birds. A closer look at *Archaeopteryx*, however, reveals that it was evidently a ***true bird,*** with completely "modern" flight feathers and hollow bones like most birds of today. It did have some very unusual features, such as a small breastbone, teeth, an elongated tail, and claws on its wings, but several birds, including some still alive today, share many of these features. Thus, the mere fact that *Archaeopteryx* possessed some unusual features does not prove that reptiles evolved into birds.

The horse series. In the past, many evolutionists regarded the supposed evolution of the horse as the best example of an evolutionary transition found in the fossil record. However, a closer look at the "horse series" reveals some notable flaws.

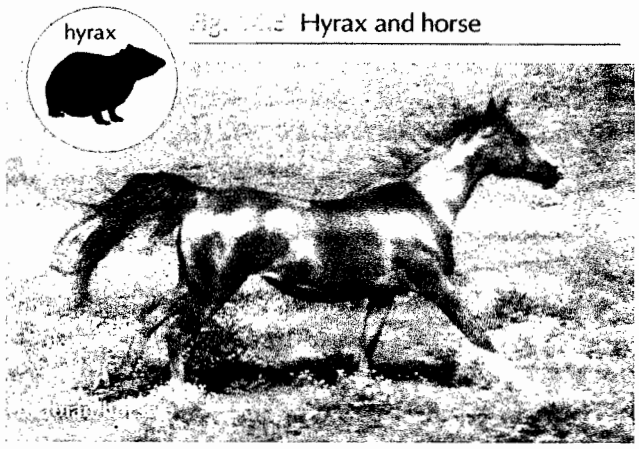


Fig. [illegible] Hyrax and horse

In the late 1800s, fossils of a dog-sized mammal were discovered in North America. This fossil was named *Hyracotherium* [hī·răk′ō·thēr′*i*·*u*m] because of its similarities to the modern African hyrax, or rock rabbit. However, some evolutionists speculated that *Hyracotherium* was the ancestor of the horse, so they renamed the fossils *Eohippus* [ē′ō·hĭp′*u*s: "dawn horse"]. *Hyracotherium/Eohippus* was said to have evolved through a series of stages into the modern-day horse, *Equus* [ē′kw*u*s]. Evolutionists constructed an elaborate "family tree" for the horse, emphasizing an increase in size and a reduction in number of toes over time.

However, this hypothesis was not as simple as it seemed. *Eohippus* had 18 pairs of ribs, but its supposed descendant *Orohippus* had only 15 pairs; a later stage in the "tree," *Pliohippus,* had 19 pairs of ribs, while the modern horse has 18 pairs of ribs. Such jumping back and forth, with ribs disappearing and reappearing like magic, are a strong indication that ***the "horse series" is actually a collection of unrelated mammals that share a similar overall body plan.***

Another problem with the "horse series" is that fossils from all over the world had to be lumped together to produce the "horse series." One of the "links" was found in India, some were found in Europe, and most were found in the United States. Many scientists also dispute the "horse series" because *Eohippus* bears little resemblance to a horse. For these reasons, many evolutionists have now reverted to calling *Eohippus* by its original name, *Hyracotherium.*

Anatomists tell us that they could put together a similar series of skeletons from the bones of extant (presently living) organisms to show an imaginary evolution of almost any creature on earth. It is no wonder that some evolutionists, such as David Raup, curator of the famous Field Museum of Natural History in Chicago, now speak of the horse series as a once classic example of evolution which has now "had to be discarded or modified." It is still faithfully reproduced in biology textbooks, however, and thus today's students are often deceived into thinking that it represents "proof" of evolution.

> [The horse series] has been presented as literal truth in textbook after textbook. Now I think that that is lamentable, particularly because the people who propose these kinds of stories themselves may be aware of the speculative nature of some of the stuff.
>
> —Niles Eldredge,
> American Museum of Natural History

Hominid Fossils: Evidence against Evolution

Darwin and* The Descent of Man.** In the *Origin,* Darwin did not directly address the origin of mankind. He discussed this subject 12 years after the publication of the *Origin,* in a second book entitled ***The Descent of Man (1871). In this work, Darwin pointed out similarities between man and "other animals" and came to the false conclusion that man is simply the most evolved form of animal:

> . . . man is descended from a hairy, tailed quadruped, probably arboreal [living in trees] in its habits, and an inhabitant of the Old World.[8]

This directly contradicts the Biblical teaching that God created man:

> *And the LORD God formed man of the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul.* *Gen. 2:7*

Many evolutionists claim that Darwin never taught that man evolved from monkeys, but that is exactly what the *Descent of Man* claims:

> The Simiadae then branched off into two great stems, the New World and the Old World Monkeys; and from the latter, at a remote period, Man, the wonder and glory of the Universe, proceeded.[9]

[8]Charles Darwin, *The Descent of Man,* 911.
[9]Ibid., 528.

Modern evolutionists have modified Darwin's ideas somewhat, and now claim that man evolved from apes that are now extinct.

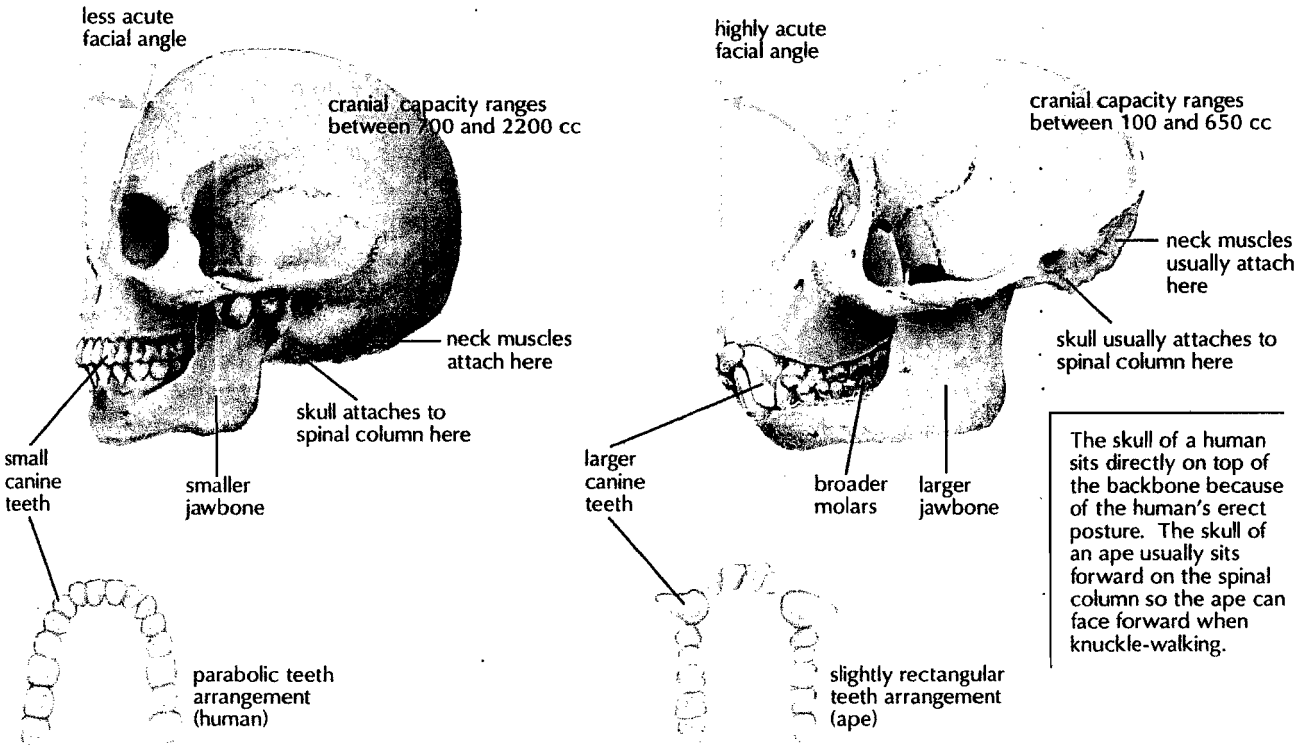
Differences between man and ape. It is true that God made man and apes with many body similarities. For example, both apes and humans have a similar overall body plan, having five-fingered hands with opposable thumbs, suitable for grasping; five-toed feet; and facial muscles that are superficially similar.

However, there are also many ***important differences*** between man and ape. Some differences between the skulls and teeth of a typical human and a typical ape are shown in Fig. 14.6. The arms of an ape are longer in relation to the legs than those of a man. In addition, man's feet are arched, have relatively short toes, and are designed primarily for upright walking. An ape's feet are typically flat, have longer toes, and are more suitable for grasping. The differences between man and ape go far beyond differences in body structure, however. The most important difference between man and apes is that ***man is created in the image of God*** (Gen. 1:27).

An imaginary "family tree." Since Darwin published *The Descent of Man* in 1871, paleontologists have found many fossils from around the world of extinct apes and ancient humans. Like the horse series, man's evolutionary "family tree" is constructed of skeletons taken from many different parts of the world, including East Africa, Java, northern China, and northern Europe. When arranged in a particular order, they appear to show how man gradually became taller, more erect, more intelligent appearing, and more humanlike. The order in which these skeletons are arranged is, however, determined by the beliefs of those who assemble them.

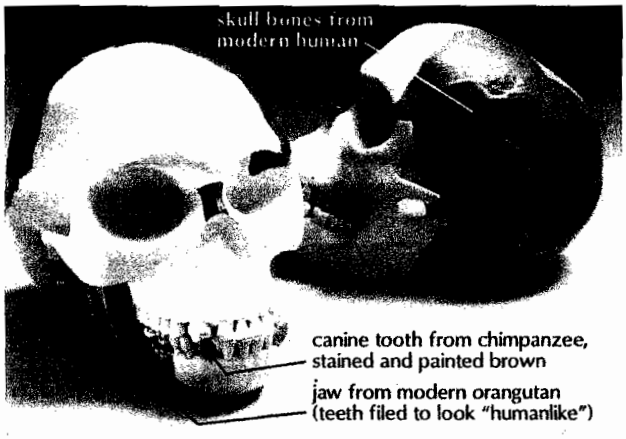
In reality, however, scientists are no closer to proving Darwin's hypothesis of human evolution than they were in Darwin's day. Despite over a century of searching and the discovery of thousands of relevant fossils, only a handful of

Fig. 14.6 Differences between skulls of human and ape



The skull of a human sits directly on top of the backbone because of the human's erect posture. The skull of an ape usually sits forward on the spinal column so the ape can face forward when knuckle-walking.

Fig. 14.7 Piltdown man: a famous hoax



alleged transitional forms have even been proposed by evolutionists over the years (many of them badly fragmented). From a Biblical perspective, all of these "transitional forms" can be considered ***either 100% ape or 100% human.***

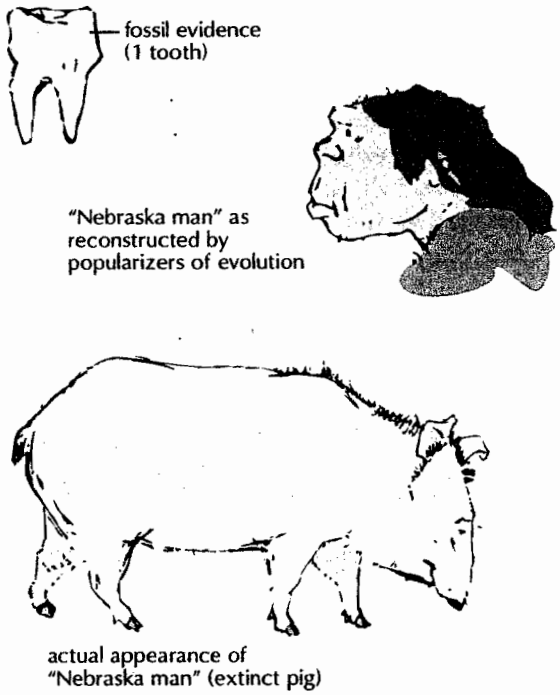
Eoanthropus *(Piltdown Man)*. One of the most famous "early human" fossils of the 20th century was *Eoanthropus* [ē′ô·ăn′thrô·*pus*: "dawn man"], commonly known as **Piltdown Man** because the fossil was discovered in a gravel pit near the village of Piltdown, England. Discovered between 1908 and 1911 by an amateur paleontologist named Charles Dawson, the fossil consisted of a fragmented but clearly humanlike skull, along with an apelike jaw. Further investigations at Piltdown found crude tools carved from rocks and from bones of extinct creatures.

For over 40 years, Piltdown Man was used as "proof" that man had evolved from apes. As a result, some scientists who had spent much of their lives studying *Eoanthropus* were devastated in 1953, when it was revealed that ***"Piltdown Man" was a hoax.*** Apparently, someone had carefully filed the teeth of an orangutan's jaw fragment to make the jaw look humanlike, treated it with chemicals to make it look "ancient," and buried it alongside similarly treated human skull fragments in a place where they would be easily found.

Scientists' blind faith in "Piltdown Man" was so firm that no one had noticed the obvious file marks on the teeth, or the fact that one tooth had been filed so far down that the pulp cavity had been artificially plugged with chewing gum. No one even became suspicious when an "ancient bone tool" carved in the shape of a modern English cricket bat was dug up at the site (cricket is a British game similar to baseball). The fact that Piltdown Man was accepted as a legitimate "human ancestor" for nearly four decades demonstrates that paleontology is often based on assumptions and faith instead of scientific fact.

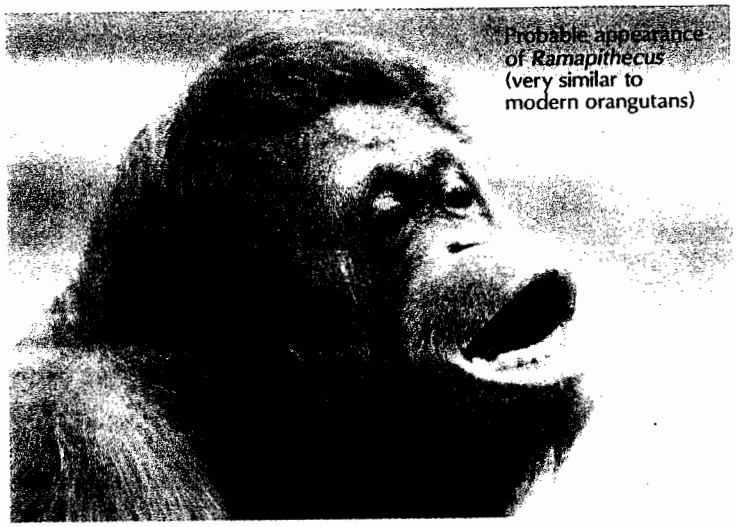
Hesperopithecus *(Nebraska man)*. In many cases, the reconstructions of man's "subhuman" ancestors which appear in books and magazines are often based on surprisingly little evidence. One example is the famous "early human" known as *Hesperopithecus* [hĕs·pĕr′ō·pĭth′ē·k*us*], or **Nebraska Man.** This missing link was ***"reconstructed" from a single tooth*** found in Nebraska in 1922. Popularizers of evolution produced imaginative illustrations that portrayed Nebraska Man as a brutish creature, half ape and half man, who lived in caves and walked with a shuffling, stooped posture. "Nebraska Man" was accepted as a legitimate "ape-man" for a few years, until it was revealed that the tooth did not come from a man at all, but from an ***extinct pig.***

Fig. 14.8 "Nebraska man": a famous mistake



Imaginary "reconstruction" of *Ramapithecus* by evolutionists—attempts to make the animal look humanlike.

Fig. 14.9 *Ramapithecus:* a discredited "missing link"



Interestingly, humorous mistakes such as these still occur. Some fossils apparently mistaken for "early human" remains in more recent years include a dolphin's rib, an extinct horse's toe, and an alligator's leg bone.

Ramapithecus ***("Rama's ape").*** Another "missing link" between apes and humans that has been discarded is ***Ramapithecus*** [rä′mä·pĭth′ē·kus: "Rama's ape"]. *Ramapithecus* was a medium-sized ape originally "reconstructed" from a few teeth, a heavy jawbone, and fragments of facial bones. *Ramapithecus* was quickly assumed to be an ancestor of man because it possessed certain "humanlike" features, such as smaller front teeth than other apes and a humanlike jaw. (It was later determined that the fossil skull fragments had been assembled incorrectly to give them a humanlike shape.) Many evolutionists further speculated that *Ramapithecus* walked upright, even though no fossil hip or leg bones were found. However, the discovery of a complete *Ramapithecus* skull in 1979 revealed that the creature was not humanlike at all, but very similar to modern orangutans.

Australopithecus ***("Southern Ape").*** Evolutionists now teach that the first "links" in the chain of supposed human descent were the *Australopithecines* [ôs·trā′lō·pĭth′ə·sēnz: "southern apes"]. The first australopithecine fossil to be discovered was the "Taung child" [tông], a small ape skull discovered in 1924 by a South African anatomy professor named Raymond Dart. Dart named the animal ***Australopithecus africanus.*** The Taung skull was that of a juvenile ape, but fossils of adults were later found. Evolutionists regarded *A. africanus* as a human ancestor until the early 1970s, when it was dismissed as merely an ***extinct ape.*** However, some evolutionists still teach that *A. africanus* was an early ancestor of humans.

Another variety of *Australopithecus* that was once regarded as a "human ancestor" is ***Australopithecus boisei.*** This fossil was discovered by Dr. Louis Leakey and his wife Mary in 1959 in the Olduvai [ōl′də·vī′] Gorge in Kenya. The Leakeys found a skull broken into 400 different pieces, but were convinced even before they completely unearthed the fossil that it represented a human ancestor. The Leakeys originally dubbed the fragments *Zinjanthropus* [zĭn·jăn′thrō·pus: "East Africa man"], and the fossils were declared "almost human" by many evolutionists. However, it soon became clear that *Zinjanthropus* was not humanlike at all, but was fully ape. As a result, the fossil was quickly reclassified as *A. boisei* and is now considered to have been merely an ***extinct ape.***

The most famous australopithecine is probably ***Australopithecus afarensis*** [ôs·trā′lō·pĭth′ē·kus ăf′är·ĕn′sĭs], originally based on a chimpanzee-sized fossil nicknamed "Lucy." *A. afarensis* females such as "Lucy" were about $3\frac{1}{2}$ to 4 feet tall, while the males may have been as much as 5 feet tall; all had ape-sized brains. The long, curved toes of *A. afarensis* were presumably suitable for grasping,

like those of most other apes, and the skulls were chimpanzeelike. Thus, the animals can undoubtedly be considered ***extinct apes;*** calling them "human ancestors" is nothing more than speculation.

Some evolutionists teach that *A. afarensis* evolved from another extinct ape dubbed *A. anamensis,* fossils of which were first found in 1995. Several other varieties of australopithecines have been found, including *A. robustus* and *A. aethiopithecus,* but these are uniformly acknowledged to have been extinct apes.

Homo habilis *(Handy Man).* Evolutionists teach that an australopithecine ape evolved into ***Homo habilis*** [hō′mō hâ•bĭl′*is*: "handy man"], a "missing link" announced in 1964. *Homo habilis* appears to have been a small, chimpanzeelike creature with a small brain. Although these shattered fossils were originally classified in the genus *Homo* ("man"), many scientists argue that *Homo habilis* was actually a type of australopithecine and should be classified as such. This conclusion is supported by the fact that more complete skeletons (such as O.H. 62) have shown that some of these animals were only ***3½ feet tall*** as adults (even smaller than *A. afarensis*) and not humanlike at all.

Further problems with *H. habilis* were revealed when much larger skulls and leg bones (KNM-ER 1470, 1481, and 1590) were found in Kenya in 1972. Skull 1470 was incomplete and so badly shattered that its reconstruction is very subjective, but some creationists believe it could have been a human skull. (Other creationists believe that it is merely the skull of an ordinary australopithecine ape.) There is no such doubt about the leg bones (KNM-ER-1481) that were found some distance away, however; they are in relatively good condition and unmistakeably human.

Many creationists believe that the smaller fossils such as O.H. 62 should be considered apes, while the larger fossils (such as KNM-ER 1481) should be considered fully human. In this view, ***"Homo habilis" is actually a mixture of human fossils and ape fossils,*** and should not be considered as a "transitional form" between apes and humans. A number of evolutionists agree with this position.

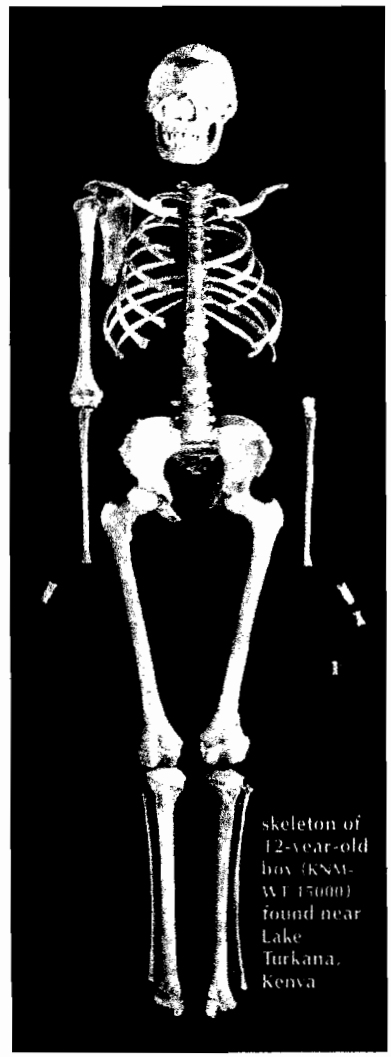
Homo erectus *(Upright Man).* In 1893, a Dutch scientist named Eugene Dubois [dė•bwä′: 1858–1940] discovered a fossilized skull fragment and leg bone on the Indonesian island of Java. The skullcap had some unusual characteristics, such as heavy brow ridges, but the femur was identical to that of a modern human. Although the skullcap and femur were nearly 50 feet apart, Dubois assumed they belonged to the same individual and claimed they represented an "ape-man"—a transitional form between apes and humans. (Dubois may have exaggerated the "apelike" characteristics of the skullcap in order to call it an "ape-man.") Dubois dubbed the fossil *Pithecanthropus erectus* [pĭth′*e*•kăn′thrō•p*us*: "upright ape-man"], but it was popularly referred to as **Java man.** Although Dubois claimed the bones of Java man were 500,000 years old, some scientists have speculated that the rock in which these bones were found could not be more than 500 years old because of the frequent floods and volcanic eruptions which occur in that part of Java. (Dubois also discovered, reportedly in the same strata, a "normal" human skull [later dubbed Wadjak man], although he kept this fossil more or less a secret for 30 years. Obviously, if Java man was buried in the same rock layer with a "modern" man, he could not be man's ancestor.)

Three decades later, similar fossils were unearthed in China near the city of Peking (now called Beijing). These fossils were dubbed *Sinanthropus pekinensis* [sīn•ăn′thrō•p*us* pĕ′kĭn•ĕn′sĭs: "Chinese man from Peking"], commonly known as **Peking man.** It was not long before scientists realized that "Java man" and "Peking man" were very similar, and that the "apelike" characteristics of Java man may have been exaggerated. Thus, both Java man and Peking man were reclassified as ***Homo erectus*** [hō′mō ē•rĕk′t*us*: "upright man"]. However, because of Dubois's haphazard methods, and because the Peking man fossils were lost during World War II, both of these fossils are somewhat controversial. (Some creationists consider these fossils to represent some sort of giant, extinct gibbon—a type of ape—while others believe they were fully human.)

Other fossils classified as *Homo erectus* include more than a hundred fossils found in Africa and Asia that are undoubtedly ***fully human,*** although they do possess some unusual skeletal features.

They are characterized by thick skull bones; heavy ridges above the eyes; a low, sloping forehead and relatively acute facial angle (for humans); large teeth; and a receding chin. The brain size of these fossils, 700 cc (in an infant) to 1200 cc, is well within the range of "modern" humans. The rest of the skeleton was practically identical to that of "modern" humans, and fossil evidence indicates that they were just as tall; a careful analysis of one *H. erectus* boy's skeleton (KNM-WT 15000) indicated that he would have been about 6'1" tall had he reached adulthood. The fossil evidence indicates that these individuals were intelligent; used tools, paint, and fire; and may have buried or cremated their dead. Thus, it is likely that these fossils represent an extinct race of humans (or possibly humans with vitamin deficiencies that caused unusual skeletal features). For these reasons, *H. erectus* should probably be classified as a variety of *Homo sapiens* (true man).

Homo erectus fossil



In addition, Dr. Marvin Lubenow (Institute for Creation Research) points out in his book *Bones of Contention* that according to the fossil record, *H. erectus* was contemporary with both *"H. habilis"* and *H. sapiens* throughout most of the hominid fossil record. Thus, *H. erectus* should not be considered an evolutionary link between the australopithecine apes and "modern" humans.

Homo neanderthalensis *(Neanderthal Man)*. In 1856, a limestone cave perched on a cliff in Germany's Neander Valley yielded the first skeletal remains of what would become known as **Neanderthal** [nā·än′dēr·täl′] **man** (originally classified as *Homo neanderthalensis*). These fossils were said to possess "apelike" features such as heavy brows and sloping foreheads. (The skeletons were also assembled in an artificially stooped posture to make them seem "subhuman.") As other fossilized remains of Neanderthal skeletons began to turn up across much of western Europe, imaginative paleontologists in Europe and America reconstructed an entire race of brutish "cave men" with a slouched over, gorillalike posture. Models of Neanderthal families, naked, brutish, and savage, began to fill museum exhibits as further "evidence" of a "missing link" in man's supposed evolution from an apelike animal ancestry.

Although evolutionists characterized the Neanderthals as apelike brutes for more than a century, closer examination of Neanderthal skeletal remains eventually burst this evolutionary bubble. Scientists now know that Neanderthal man was not a shuffling brute, but rather a true human who stood upright with the posture, gait, and intellect of a person living today. Neanderthal skeletons and tools suggest that Neanderthals were physically superior to humans today, with larger, more powerful muscles and stronger bones. In addition, the brain of the average Neanderthal was nearly 11% larger than that of modern man. Neanderthal man was also a moral and spiritual being as man, made in the image of God, has always been: he buried his dead and cared for the old and crippled among the living. Evolutionists now admit that the Neanderthals were ***fully human;*** they are now classified as *Homo sapiens neanderthalensis,* designating them as a variety of true humans.

One final problem with classifying Neanderthals as an evolutionary ancestor of modern man is the fact that ***Neanderthal man and modern man lived as contemporaries.*** Bones of Neanderthal and bones of "modern" man, along with some simple tools, were found in two caves only yards apart on the slopes of Mt. Carmel in Palestine. The tools found in both caves apparently date from about the same period. This suggests that the Neanderthals were either members of an extinct race which lived alongside "modern" man, or (possibly) modern humans afflicted with certain deforming and crippling diseases. The Bible confirms these scientific discoveries; man has always been man, and Neanderthal man is no exception.

Cro-Magnon man. The last "link" in the supposed evolution of man is **Cro-Magnon** [krō-măg′nən] **man,** who was discovered in 1868 in southwest France. (Cro-Magnon [krō′mă′nyôn′] is the local French name for the cave in which the first remains were found.) At the time, the Cro-Magnon "cave men" were described as subhuman. However, evolutionists now admit that the Cro-Magnons were ***identical to modern humans*** although, like the Neanderthals, they often had larger brains than the average person today. Far from being "subhuman," they were merely a tribe of people that often dwelled in caves and hunted bison. Today, Cro-Magnon man is classified as *Homo sapiens sapiens,* the same as humans today.

Confusion and turmoil. Although a majority of evolutionists speculate that *A. afarensis* evolved into *H. habilis,* which evolved into *H. erectus,* which evolved into *H. sapiens,* there is actually much confusion and turmoil within evolutionary ranks concerning the supposed evolution of man. Evolutionists sometimes refer to ancient humans by names other than *H. erectus* or *H. sapiens.* Fossils such as "Heidelberg man" and "Rhodesian man," fully human fossils with unusual skeletal features, are called "archaic *Homo sapiens*" by some paleontologists and *Homo heidelbergensis* by others. Some evolutionists call some of the *H. erectus* skeletons *H. ergaster,* while others use the term *H. ergaster* to refer to apelike *H. habilis* fossils. Still others call some of the

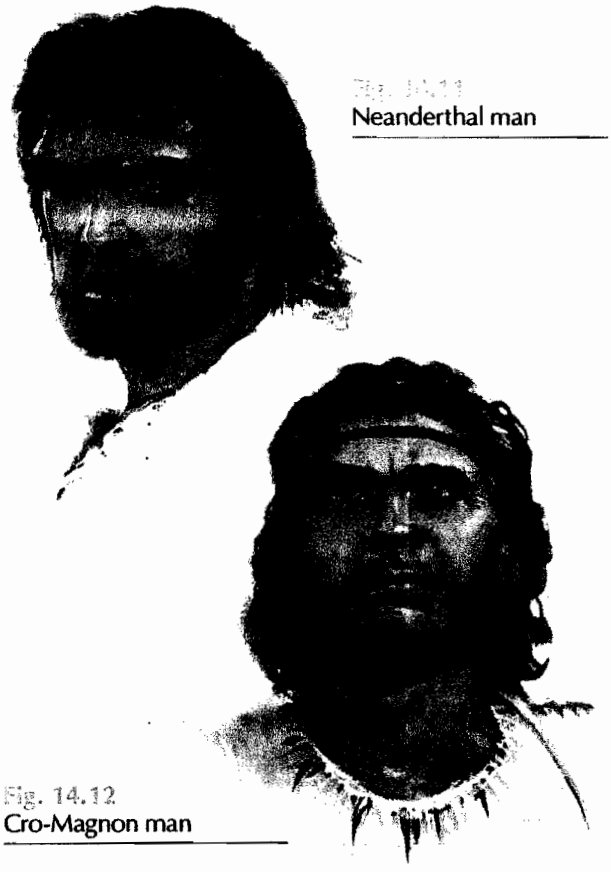


Fig. 14.11
Neanderthal man

Fig. 14.12
Cro-Magnon man

H. habilis fossils *H. rudolfensis* or *H. microcranous!* However, from a creationist perspective, ***all of the fossil humans can be regarded as*** **Homo sapiens,** while the apelike fossils included in *H. habilis* can be regarded as australopithecines or other extinct apes.

Man has always been man. The confusion among evolutionists over man's ancestry has existed for well over a century. Yet there is seemingly as much controversy among evolutionists over the course and procedure followed by the evolution of man as there is controversy between creationists and evolutionists. In contrast, God's account of how man was created is clear, concise, and complete. There is nothing in His record that would lead us to believe that man arose from the animals by evolutionary processes. On the contrary, we are told that God Himself shaped and fashioned man from the "dust of the ground" and then "breathed into his nostrils" to give him life (Gen. 2:7).

Section Review 14.2

1. Why does a lack of transitional forms pose problems for the evolutionary hypothesis?
2. How can it be said that the geologic column is based upon circular reasoning? Why can radiometric dating also be said to involve circular reasoning?
3. What details suggest that the well-known "horse series" is not a series at all?

Application

4. What are some of the differences between man and ape? Which is the most important?
5. From a Biblical perspective, why might we say that fossils such as KNM-WT 15000 should be classified as a variety of *Homo sapiens* instead of *Homo erectus?*

"Cambrian explosion," fossils, geologic column, "hopeful monster" hypothesis, paleontology, punctuated equilibrium hypothesis, radiometric dating, transitional forms

14.3 Biology: Evidence against Evolution

The lack of transitional forms in the fossil record provides strong evidence that evolution has not occurred. However, modern biological knowledge provides additional evidence against evolution and reveals many fascinating examples of God's design in the living creation.

Darwin himself realized that blind chance would have immense difficulty creating precisely designed structures such as the human eye:

> To suppose that the eye . . . could have been formed by natural selection, seems, I freely confess, ***absurd in the highest possible degree.***[10]

Although Darwin's faith in the philosophy of naturalism led him to believe that it must have happened somehow, he seems to have recognized some of the difficulties involved. Indeed, the more we learn about living things, the more insurmountable these difficulties become. The study of biology provides persuasive evidence that transitional forms not only did not, but *could not,* have existed.

> It's bad enough accounting for the origin of such things [as eyes] once, but the thought of producing them several times according to the modern synthetic theory **makes my head swim.**
>
> —Frank B. Salisbury, "Natural Selection and the Complexity of the Gene," *Nature* (1969)

Impossibility of Transitional Forms

Full function at every step. In the *Origin of Species,* Darwin makes clear that evolution requires that all structures had to develop one small step at a time, while ***remaining fully functional at every step.*** For example, evolutionists believe that the four-chambered heart of birds and mammals evolved from the one-chambered heart of invertebrates. Obviously, the heart could not cease to function at any time during this transition, for the animal would quickly die without a functioning heart. It is also clear that even nonessential organs like eyes, ears, and limbs must also remain fully functional at every step in order for an animal to compete successfully for survival.

Because Darwin realized that gradual change requires that the organism be fully functional and capable of survival at every step, he knew that the discovery of any structure that could not have developed gradually would destroy the hypothesis of evolution:

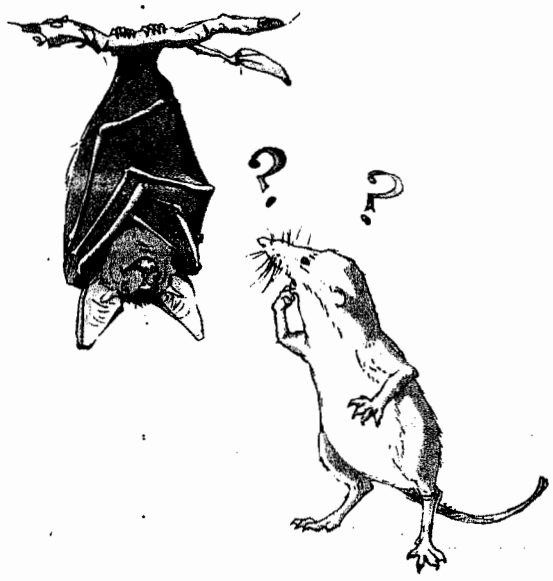
> If it could be demonstrated that any complex organ existed, which could not possibly have been formed by numerous, successive, slight modifications, ***my theory would absolutely break down.***[11]

Bat wings: evidence against evolution. Actually, zoology and botany reveal many features of animals and plants that could not have developed by numerous slight modifications. A good example of an organ that could not have developed gradually is the wing of a bat. Evolutionists teach that bats evolved from

[10]Charles Darwin, *Origin of Species,* 6th ed., 167.

[11]Ibid., 170.

Bat and shrew



small, four-legged, rodentlike mammals similar to modern shrews. However, a bat's wings are composed of extraordinarily long finger bones connected by a thin web of skin. In order for a shrew's forepaws to gradually become wings, the forepaws would become useless for grasping or running long before they would enable the creature to fly. Thus, instead of being an "improved" creature favored by natural selection, the long-fingered transitional creature would be a deformed monstrosity unable to walk, run, hold food to its mouth, *or* fly. It is obvious that such a deformed creature would not have survived and reproduced for long enough to become a bat! This fact is also consistent with the fossil record; paleontology reveals *no transitional forms* between small insectivores and bats. The "earliest" known fossil bat is the "Eocene" bat *Icaronycteris,* which was 100% bat.

Amphibian egg to reptile egg. Another example in which transitional forms could not have survived is the transition between the jelly-and-embryo egg of an amphibian and the complex amniotic egg of a reptile. Although evolutionists teach that amphibians evolved into reptiles, there is no way to gradually change an amphibian egg into a reptile egg that would allow the developing embryo to survive the gestation period. This poses an insurmountable barrier to evolution: if a creature cannot produce offspring, it cannot evolve. Fig. 14.14 illustrates several differences between amphibian and reptile eggs, many of which would have to be overcome *simultaneously* before an amphibian could evolve into a reptile. Not only would the structure of the egg have to be changed, but the structure of the animal's entire reproductive system would have to be altered. From these facts, it is abundantly clear that the reptile egg could not have evolved by a series of successive, slight modifications from an amphibian egg.

The bird respiratory system. The respiratory system of birds is completely different from that of any other vertebrate. Although evolutionists teach that birds evolved from reptiles, there are fundamental differences between the reptile and bird respiratory systems that would have prevented transitional forms from surviving (Fig. 14.15). In addition to the miraculous changes in the lungs that would be required to change a reptile into a bird, air sacs would have

Fig. 14.14 Amphibian eggs and reptile eggs

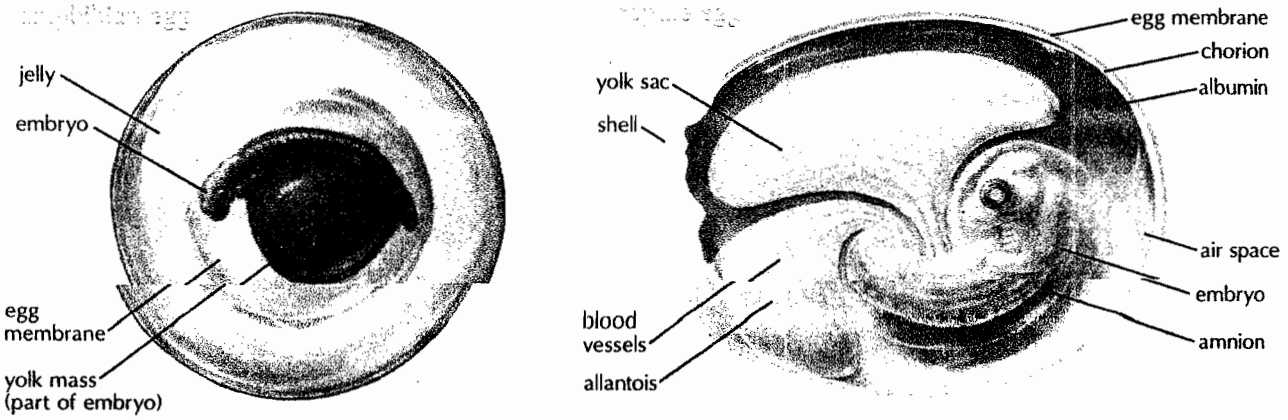
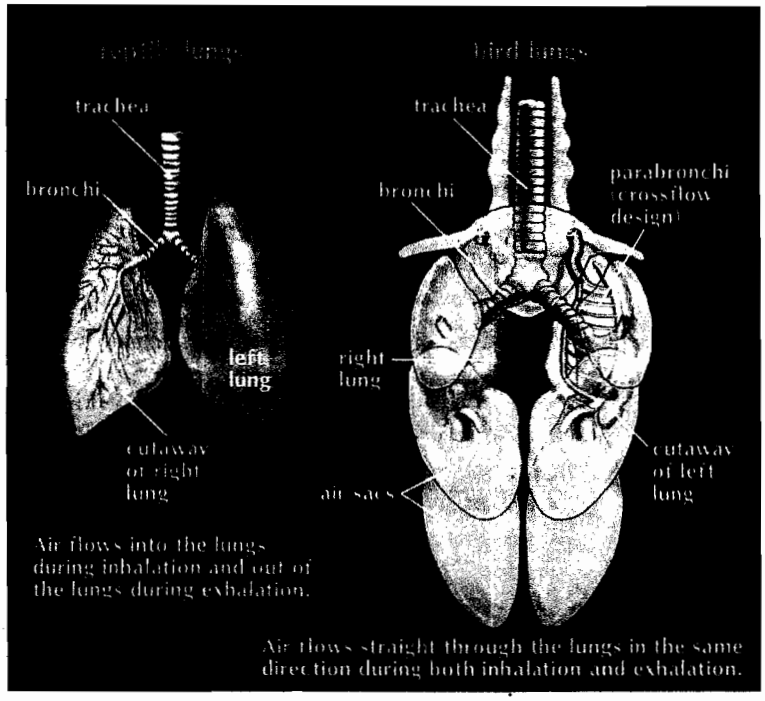


Fig. 14.15 Reptile and bird respiratory systems



to be created in the body cavity, the muscles of the chest and abdomen would have to be redesigned, and the manner in which the lungs were attached to the chest wall would have to be changed. In fact, even the manner in which the lungs were prepared in the egg to take their first breath would have to be completely redesigned. Most of these changes would have had to take place *simultaneously* in order for the creature to survive. From these facts, it is clear that the bird respiratory system could *not* have been produced by a series of "numerous, successive, slight modifications."

Natural selection prevents transitional forms. From these and other examples, we see that there are many cases in which transitional forms would be impossible. Indeed, we can state as a general principle that natural selection prevents transitional forms: even if one kind of animal *were* to somehow begin to change into another kind of animal, it would have to pass through some stages in which it would be unfit to survive, causing it to be quickly eliminated by natural selection.

Punctuated equilibrium and transitional forms. Despite the claims of some of its adherents, the hypothesis of punctuated equilibrium cannot overcome these "impossible transitions" any better than orthodox Darwinism. This is true because the standard hypothesis of punctuated equilibrium still requires changes to have taken place in small steps, although the steps are said to have occurred more rapidly (in a few thousand years instead of millions). The "hopeful monster" hypothesis attempts to get around this problem by proposing that each difficult transition was accomplished in a single, miraculous leap, but such genetic leaps are impossible according to the laws of science.

Comparative Anatomy: Evidence of Common Design

Around 1800, the science of **comparative anatomy,** which is the study of similarities and differences in the body structure of organisms, was founded by **Georges Cuvier** [kü′vyā′: 1762–1832]. Cuvier, a French scientist and advocate of special creation, showed that ***the bodies of man and animals have certain basic similarities in their overall designs.*** Creationists, like Cuvier, believe that it is only logical that God would use the same basic plans for many different animals and plants when He created them. God designed these creatures to live under similar conditions, perform similar life functions, breathe the same air, and feed upon similar foods. Therefore, it is only logical that skeletons should have a general similarity, that nerves should be designed alike, and that muscles should be essentially the same. Of course, God could have created each organism with its own unique design, but that would not have accomplished anything more significant than what He accomplished by repeatedly using and modifying the same basic pattern. Where and when an organism needed a unique feature or a special design change, God altered His basic design to meet that special requirement. Man uses this same technique when designing his own creations. For example, the vast majority of passenger vehicles on the road have four wheels, with an

internal combustion engine in the front and a passenger compartment located near the center of the vehicle. Just as engineers modify this same basic design for hauling cargo or carrying passengers, God modified His basic design when necessary.

Evolutionists, on the other hand, interpret the similarities of comparative anatomy as a "proof" for evolution. Since the organs are similar, they say, they must have evolved from each other. This is obviously a case of wishful thinking and not a verifiable scientific assumption. ***The great scientists of the past, such as Isaac Newton, have always seen similarity of design as evidence of a single Creator.***

Comparative anatomy actually provides some very damaging evidence against the evolutionary hypothesis. For example, the eye of an octopus is outwardly much more similar to the eye of man than are the eyes of many species which supposedly are much closer to man on the evolutionary "tree." If homology (similarity) "proves" a common ancestry, what does it say about man and the octopus, which are not even remotely related to one another according to evolution?

Molecular Biology: Evidence against Evolution

Much of the newest evidence against Darwinism comes from the field of **molecular biology,** the science which seeks to discover how the mechanisms of living cells work. In the 1950s and 1960s, evolutionists expected that as scientists learned more about living cells, they would discover how cellular mechanisms could have evolved from nonliving matter. However, the explosion of knowledge about cells in recent years has only caused more problems for the hypothesis of evolution.

A naive view of living things. In Darwin's time, living cells were regarded as simple bags of an amorphous gel or slime called "protoplasm," which was thought to be a slush of amino acids, protein, fat, and carbohydrates. Scientists speculated that the processes of life consisted of simple chemical reactions in the protoplasm, driven by a mysterious but simple "vital force" (analogous to electricity), that allowed the protoplasm to grow and reproduce.

This naive view of the cell allowed Darwin's followers to speculate that a living cell could easily have evolved from some sort of primordial ooze. They reasoned that because living cells were little more than simple goo or slime (so they thought), it would not be all that difficult for a piece of warm mud in some primordial pond to acquire "vital force" and begin to reproduce. Darwin himself commented on this possibility:

> But if (and oh! what a big if!) we could conceive in some warm little pond, with all sorts of ammonia and phosphoric salts, light, heat, electricity, etc. present, that a protein compound was chemically formed ready to undergo still more complex changes . . .[12]

Design and complexity. This simplistic view was fairly common even into the 1960s, but ***later discoveries shattered this view forever.*** Today, we understand the structure of living cells much more clearly than Darwin ever could have dreamed. But instead of finding simple "goo" at the heart of cells, molecular biologists have stumbled on a miniature world of fantastic technology—a world of microscopic pumps, motors, sensors, turbogenerators, information storage and retrieval systems, and other complex mechanisms. It is now very obvious that these intricately designed mechanisms could not have been constructed by chance in "some warm little pond," but were formed by the purposeful design of a wise Creator. As a result, while paleontologists, organic chemists, and philosophers of evolution have continued to spin imaginative stories about how the first cell might have come to be, molecular biologists have largely fallen silent on the subject.

Design demands a Designer. The 18th-century British theologian **William Paley** (1743–1805) remarked that if we were to spot a rock lying on the ground in a deserted place, we might assume that the rock had come to be there by the processes of nature. However, if we were to find a pocket watch lying on the ground, we would naturally conclude that the watch did *not* result from a chance collection of minerals, but rather from the hand of a watchmaker. Despite the fact that the watch might be made out of the same minerals as the rock, it

[12]Charles Darwin, *The Life and Letters of Charles Darwin,* vol. 2, ed. by Francis Darwin (New York: D. Appleton & Co., 1887), 202–203.

exhibits clear evidence of ***purposeful design*** by an intelligent watchmaker. Paley argued that the intricate mechanisms of living things, such as muscles and eyes, were similar to the watch in that they exhibit evidence of design by their Creator.

Paley's argument was dismissed by evolutionists, who reasoned that living things are much different from the watch because watches are known to be composed of precision machinery, whereas living things are essentially (as was supposed) blobs of protoplasm. However, modern discoveries in molecular biology have shown that Paley was right and his opponents were wrong; the tiny molecular machines of living things make man's most complex creations look primitive. Living systems, which show all evidence of careful design, precision engineering, and deliberate purpose, ***did not occur by chance.***

Evidence from Genetics

Unlimited variety: a false view. Additional evidence against Darwin's hypothesis of evolution comes from the science of **genetics,** the scientific study of heredity. In Darwin's time, very little was known about heredity and genetics. Biologists knew that traits were passed from parents to offspring, but no one knew how traits were passed down, or if new traits could arise.

It was in this climate of ignorance that Darwin developed his views of biological change. Ignorant of the true nature of heredity, Darwin assumed that the characteristics of a given plant or animal change randomly from generation to generation, and that there is *no limit to this variability.* (By this logic, a cat could be gradually changed into a dog by careful selective breeding, given enough generations.) Based on these speculations, Darwin assumed that there was no fundamental genetic barrier that would prevent a sea sponge from gradually changing into a fish, or a fish into an amphibian, or an amphibian into a reptile, or a reptile into a bird or a mammal.

Limited variety. At the same time that Darwin published the *Origin,* an obscure Austrian monk named **Gregor Mendel** [měn′dəl: 1822–1884] was uncovering the true nature of genetics and heredity. Unlike Darwin, who based his ideas on imagination and speculation, Mendel carried out exhaustive experiments on plants to discover how hereditary traits are passed down from generation to generation. Mendel and later geneticists showed that most random variation occurs by rearrangement of genes that are already present. In other words, ***variety within kinds generally results from preexisting genetic variety*** (genes that were present from the beginning), and that ***there are fixed limits to biological change.***

Although Mendel's work was ignored until after Darwin's death, later scientists realized that the laws of heredity contradicted Darwin's concept of gradual, unlimited change. By about 1900 it was clear to most scientists that Darwin's natural selection process alone could not be the mechanism for evolution, and in 1901 *Hugo de Vries* [də vrēs′] published his mutation theory. De Vries was convinced that *mutations* (random errors in an organism's genetic code) and natural selection working together provided the mechanism which brought about evolution.

De Vries claimed that mutations in reproductive cells could be a mechanism for evolution, imagining that occasionally they somehow result in an organism better suited to its environment than a nonmutant organism. Over millions or billions of years, he claimed, such mistakes gave rise to brains, hearts, lungs, kidneys, nerves, eyes, ears, feet, hands, and the other finely ordered structures of living things. Most modern evolutionists place their faith in this belief—that every feature of every form of life on earth is the result of billions of genetic mistakes.

Fig. 14.16 Gregor Mendel

Mutations: harmful, not helpful. This line of reasoning has serious flaws, however. As a result of the principle of entropy, finely ordered structures tend to become *disordered* by random processes such as mistakes, not the other way around. You can illustrate this fact for yourself by taking a well-written essay and randomly scrambling letters to see if it improves the writing style. So it is with the genetic code; ***mutations cause genetic information to be lost, not gained.*** If this textbook were to undergo 100,000 random typographical errors, the result would be an unreadable mess, not a new and updated edition. Likewise, mutations in body cells do not result in new, useful organs; they result in cellular death, impaired cell function, or runaway cell growth (cancer). Mutations in reproductive cells do not result in new, more capable organisms; they result in *less* capable organisms.

The chance of a random scrambling of a gene improving an organism has been compared to the chance of improving a fine watch by dropping it from the top of a tall building to the pavement below. Mutations can alter organisms by damaging systems, but they cannot produce new and better systems. The direction of mutations is always downward, not upward.

> The chance that higher life forms might have emerged in this way [by mutations and natural selection] is comparable with the chance that a tornado sweeping through a junkyard might assemble a Boeing 747 from the materials therein.
> —Sir Fred Hoyle, astronomer

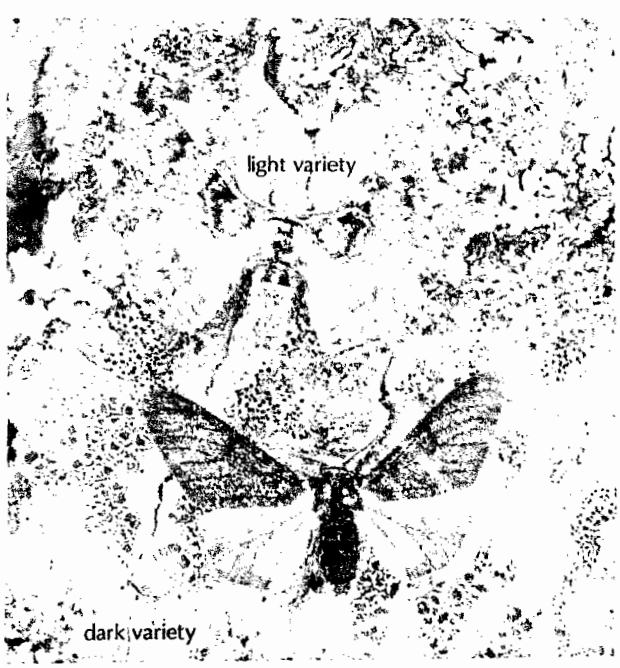
Natural Selection and Genetic Variety

Natural selection in action. Although it does not produce new characteristics, natural selection does help reveal latent (hidden) genetic variety within a kind. For example, Darwin observed that finches on the Galápagos Islands had bills that were quite different from those of European species and were much better suited to eating the seeds and fruit found on the islands. Darwin believed that random genetic changes had produced new bill shapes; natural selection then made these birds more likely to survive than finches with the "standard" bill. The changes actually occurred, however, because the finches had possessed the genes for those bill shapes *from the very beginning.* **Inbreeding** (breeding within a small, isolated group) revealed these latent characteristics, and natural selection caused them to become predominant among the finches on the islands.

It is important to remember that although God created genes for great variety within each kind, one kind does not change into another kind (Fig. 14.18). Rather, God ordained that living things should always reproduce "after their kind." Finches may develop larger bills, or change color, or grow longer tail feathers, but they still belong to the same kind; they never become ducks, ostriches, or eagles.

The peppered moth. A commonly cited example of natural selection in action is that of the **peppered moth** *(Biston betularia),* found in England. It is known as the peppered moth because of its mottled light and dark markings. The moths range in color from black to light gray with a few dark spots. In the 1850s, many trees in Britain were covered with a type of mottled gray lichen. The light-colored moths blended in well with this background but the darker moths stood out clearly. As a result, birds spotted and ate the dark moths more quickly. The result was that

Fig. 14.17 Peppered moths on lichen-covered bark



98% of the peppered moth population consisted of the light-colored variety.

Over the next hundred years air pollution killed most of the lichen and darkened the tree bark. Then it was the light-colored moths which stood out and were eaten first. Studies in the 1950s showed that 98% of the peppered moth population was of the dark variety.

Those animals which are better able to survive because of color or some other characteristic, unquestionably stand less chance of becoming extinct. ***But survival of the fittest (natural selection) is not evolution.*** It does not explain how new life forms or how one kind of organism can change into another kind or how an organism can develop new organs. There always were light and dark peppered moths; ***only their ratio in the general population shifted.*** No new kind of moth, not even a new color, developed. Furthermore, the light and dark peppered moths can mate and produce fertile offspring. This means they are of the same kind—another indication that a new kind did not evolve. If the peppered moths prove anything at all, it is only that evolutionists have become desperate to find proof for their hypothesis!

Pesticide resistance in insects. The increasing percentages of houseflies, cockroaches, and other insects which are found to be resistant to certain insecticides is often cited as an evidence of evolution in action. Laboratory tests have shown, however, that what is actually happening is merely the extermination of those insects which lacked resistance and the proliferation of those insects which already possessed a natural hereditary resistance to the insecticide.

When a random collection of houseflies is placed in a jar and exposed to DDT (a once-common insecticide), approximately 90% of them die. When the adult offspring of the surviving 10% are subjected to the same test, the survival rate is somewhat higher, and within three generations, a majority of the survivors show a resistance to DDT. The lesson to be learned is that only those flies which already possessed this inherited resistance survived and passed their resistance on to certain of their offspring. ***No new kinds are formed.***

Antibiotic resistance in bacteria. A similar phenomenon occurs when bacteria are exposed to antibiotics such as penicillin. Some bacteria have a gene for an enzyme called *beta-lactamase,* which breaks down penicillin and similar antibiotics into harmless substances. When bacteria are exposed to an antibiotic such as penicillin, the bacteria lacking this enzyme are killed much sooner than those that produce the enzyme. As might be expected, those bacteria that produce the most enzyme survive the longest and produce the most offspring. If this process is allowed to continue, the only bacteria that are eventually left are those that produce beta-lactamase in large quantities. The bacteria are then said to be *resistant* to the antibiotic because they can withstand large doses without being destroyed.

The important thing to note about this process is that ***no new kinds of bacteria are formed.*** The penicillin-resistant bacteria are still the same kind as the nonresistant bacteria; the only difference is in how much of a particular enzyme they produce. This process demonstrates the vital importance of stopping infections quickly, before resistant bacteria can proliferate, but it does not demonstrate evolution of one kind into another.

Bacterial proliferation: evidence against evolution. In fact, the proliferation of bacteria actually provides evidence that kinds do not change into other kinds. Under favorable conditions, many bacteria can reproduce every 20 minutes or so. In just three years of reproduction at this rate, a colony of bacteria would go through more generations than humans could in one million years. Yet, when today's bacteria are compared with dormant bacteria from ancient tombs, fossilized amber, or archaeological remains, their genetic codes show little change—in spite of the fact that some of these bacteria may be separated from each other by thousands of years and millions of generations. By comparison, evolutionists teach that the earliest australopithecine apes evolved into modern humans in less than 500,000 generations. The fact that bacterial DNA tends to mutate much faster than the DNA of other creatures makes this observation even more damaging to the evolutionary hypothesis.

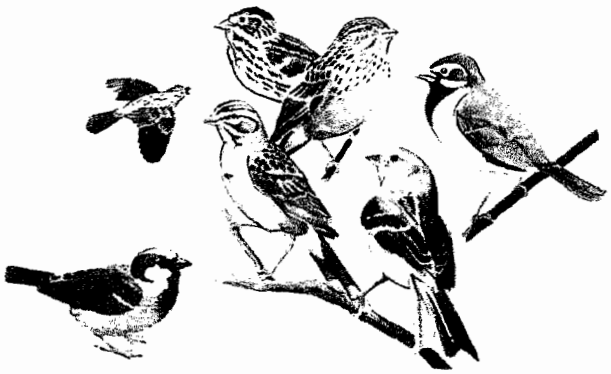
God's Plan for Variety in Nature

Truth

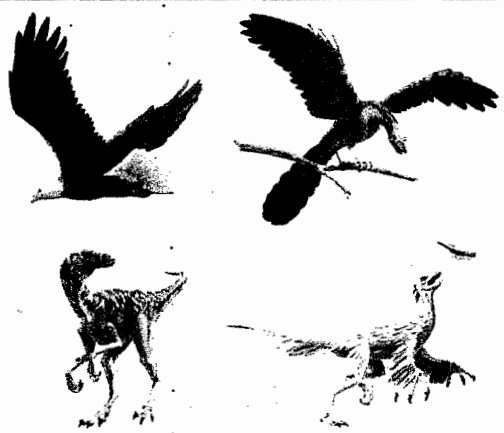
Many varieties of canines have developed from a single pair of canines that left the Ark.

Error

Dogs, seals, raccoons, bears, cats, and hyenas supposedly evolved from a single weasel-like animal.

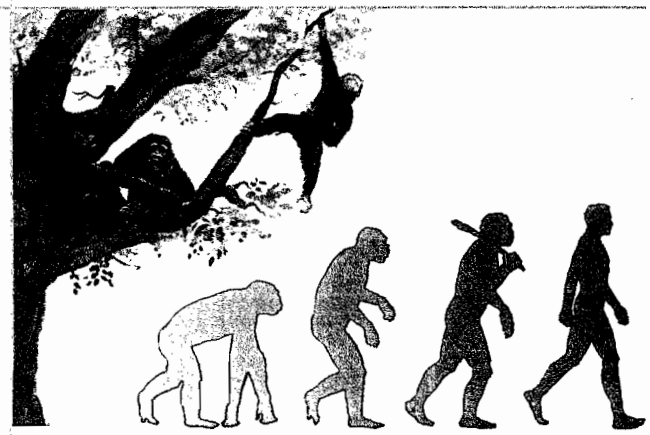


Many varieties of sparrows have developed from seven sparrows that left the Ark.



All birds supposedly evolved from a dinosaur ancestor, according to evolutionists.

Much variety within the human race has developed from the eight people who left the Ark.



Man, according to the hypothesis of evolution, evolved from an apelike creature to his present stature.

Embryonic Recapitulation: A False Hypothesis

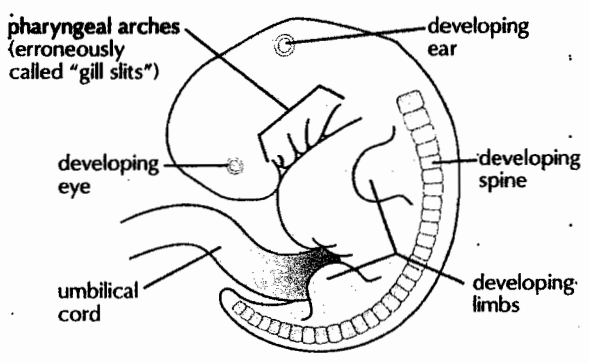
Evolutionists once presented the hypothesis of **embryonic recapitulation** as "proof" of evolution. This hypothesis states that an unborn baby, while developing in its mother's womb, goes through various stages of development that resemble different animals, providing a "replay" of man's evolution from a simple invertebrate to his present form. Although eminent evolutionists admit that ***"the theory of recapitulation . . . should be defunct today,"*** it still is presented in recent editions of many high school and college biology texts as a strong evidence for evolution.

The hypothesis of embryonic recapitulation was developed by a German evolutionist named **Ernst Haeckel** [hĕk′el]. It is now known that Haeckel, in order to support his views, ***deliberately falsified the pictures he published of certain embryos.*** Haeckel first published his "findings" in 1868. Within 6 years the truth was discovered, but 100 years later this hypothesis is still being taught in many schools.

The function of certain parts of the embryo is also sometimes misrepresented by evolutionists. Many biology texts say that the human embryo has gill slits. For instance, one recent high school life science text states bluntly that "the embryo of a mammal resembles the embryo of a fish at first. It has gill slits. . . ."

A mammal embryo never develops gill slits, and neither does a human embryo. The so-called gill slits are in reality merely pouches in the embryo's skin. These pouches later develop into such organs as the middle ear canals, the thymus gland, and the parathyroid gland. They have no ability whatsoever to extract oxygen from water at any stage in the embryo's development and they do not even develop into respiratory-related structures. Surely, if these were true gill slits, they would function as gill slits or at least become respiratory structures.

Fig. 14.19 Pharyngeal arches of human embryo



Section Review 14.3

1. How does comparative anatomy furnish evidence of a single Creator?
2. How was Darwin's view of living cells oversimplified?
3. What discoveries by Gregor Mendel and later geneticists contradicted Darwin's ideas of gradual, unlimited change?
4. Why do mutations tend to be harmful instead of helpful?
5. How do natural selection and inbreeding help to reveal latent variety within animal and plant kinds?
6. Why is the hypothesis of embryonic recapitulation faulty?

Application:

7. Explain how the peppered moth, pesticide-resistant insects, and antibiotic-resistant bacteria demonstrate natural selection in action. Why do these examples not demonstrate evolution?

Identify:

comparative anatomy, embryonic recapitulation, genetics, inbreeding, molecular biology

Observe:

- To illustrate some of the difficulties of the evolutionary hypothesis, take one of Shakespeare's sonnets (sonnet 18, for example) and try to change it into sonnet 29 by changing one letter at a time (analogous to mutations). If the sonnet ceases to make perfect sense or deviates from the proper sonnet form in rhyme or meter, it has "died," and you must go back to the previous step. (Remember that in nature, natural selection weeds out organisms with harmful mutations.) Then try changing letters randomly instead of by intelligent direction and see if you make less or more progress than before.

14.4 Evolution Is Not Science

The concept of biological evolution is *faith in the idea that all presently existing kinds of plants and animals developed by natural causes from earlier forms, which originated by chance from nonliving matter in the distant past.* One evolutionist, G. A. Kerkut, says that this idea involves seven basic assumptions:

1. Nonliving things gave rise to living material; that is, spontaneous generation occurred.
2. Spontaneous generation occurred only once. The other assumptions all follow from the second one.
3. Viruses, bacteria, plants, and animals are all interrelated.
4. The Protozoa [one-celled animals] gave rise to the Metazoa [multicellular animals].
5. The various invertebrate phyla are interrelated.
6. The invertebrates gave rise to the vertebrates.
7. Within the vertebrates the fish gave rise to the amphibia, the amphibia to the reptiles, and the reptiles to the birds and mammals. . . .[13]

Kerkut calls these seven assumptions the "General Theory of Evolution," and he points out that all evolutionists accept them as true and valid. He then makes a very interesting and revealing admission about this philosophy of evolution and its assumptions.

> The first point that I should like to make is that *these seven assumptions by their nature are not capable of experimental verification.* They *assume* that a certain series of events has occurred in the past.[14] (Italics added.)

Professor Kerkut, although an evolutionist himself, candidly tells us that ***the philosophy of evolution is based upon assumptions*** (or a faith) ***that cannot be scientifically verified.*** He then admits that ***whatever evidence can be assembled for evolution is both limited and circumstantial in nature.***[15]

[13]G. A. Kerkut, *Implications of Evolution* (Oxford: Pergamon Press, 1960), 6.
[14]Ibid., p. 7.
[15]Ibid.

Evolution versus Science

What makes science? The great scientific work of men like Johann Kepler, Galileo, Sir Isaac Newton, and Albert Einstein is of inestimable value to science. Three things characterized their approach to solving scientific problems and answering puzzling questions about the physical universe: theoretical speculation, accurate observation, and precise experimentation.

Theoretical speculation involves thinking seriously and rigorously about the phenomena of the physical universe and forming general principles to explain them. ***Observation*** involves looking very closely at the physical universe for the purpose of gathering scientific knowledge about it. ***Experimentation*** is a special kind of observation that involves testing theoretical speculations in a controlled and systematic way. Experimentation seeks to determine the truth or falsity of theoretical speculations.

In modern science, these three characteristics (theoretical speculation, observation, and experimentation) are closely linked to each other, and they are often difficult to separate. Regardless of the order in which they occur, these three scientific activities are closely interrelated, and one always leads to the others.

Those great scientists whose major contributions have been in the realm of theoretical speculation appreciated the role of experimentation and observation. Sir Isaac Newton and Galileo were great thinkers, but they were also great observers and experimenters. Both specifically designed experiments to verify their respective theories, and much of what they speculated about can be traced to some observation that intrigued them! These men and scientists like them did not want to lose touch with reality in their thinking, because they knew that their hypotheses would have to be tested by observation and experimentation. Since the real world reflects the rationality of its Creator, they expected that good reasoning would produce theories that correspond to the real world, and, in that sense, scientists are able to "think God's thoughts after Him." ***Scientists expect rigorous testing in the real world to confirm their theories;*** if rigorous

testing fails to confirm the theory, then the theory must be discarded or modified.

Theorists also expect to make occasional mistakes in their theoretical speculations. Experimental testing reveals these mistakes and helps eliminate erroneous ideas in the scientific world. ***The testing process ensures that over the long run scientific theories which contain errors will be eliminated.*** This in turn ensures that *most* scientific theories will be in touch with reality, which means they can be used by mankind to master nature. Experimentation either confirms or disproves scientific theories.

> . . . but I still think that to the unprejudiced, the fossil record of plants is in favor of special creation. —E. J. H. Corner, botanist

> I have come to the conclusion that Darwinism is not a testable scientific theory.
> —Karl Popper, philosopher of science

Is evolution a good science? The hypothesis that life developed by spontaneous generation and evolved to its present form and variety is not testable by experimentation. Thus, ***it must always remain in the realm of philosophy, for no one can go back to the time of the beginning.*** Only God was present at the Creation, and no man was there to observe what took place.

All science begins with some sort of observation. The scientist must observe carefully and accurately if he is to gain useful scientific knowledge. Scientific observation may be of two types: *direct observation* and *indirect observation.* The latter type employs a variety of scientific instruments, whereas the former involves only the scientist and his own sensory abilities. All good scientific observations, whether direct or indirect, share the following characteristics:

1. An observation, to be scientific, must be *repeatable.* ***Any event that is not subject to confirming observation (the origin of life, for example), is beyond the realm of science.***
2. An observation, to be scientific, must be as free from *bias* (prejudice) as possible. In other words, the scientist must learn to faithfully report what he *actually* observes, no more and no less. (Scientists universally agree that this is a very difficult task.)

Evolution does not measure up to the tests required of scientific observations.

1. Evolution, according to evolutionists themselves, is not repeatable. Furthermore, if change of one kind of creature into another is occurring today, it is occurring at such a slow pace that it cannot possibly be observed. Observations reveal variety within kinds, but cannot reveal evolution.
2. Evolution begins with a bias (the *a priori* assumption of philosophical naturalism), and the theory is kept alive by reliance upon this assumption.

One of the scientist's goals is to determine the cause and effect relationships that exist in the physical world. Cause and effect relationships are best determined by experimentation, and no one has yet devised experiments which show a cause and effect relationship for evolution. Many scientists have attempted to conduct controlled experiments in order to "prove" that life arose by chance or that one kind of creature can change into another kind, but they have all failed. A brief summary of some of these experiments and their results follows.

1. *Synthesis of amino acids.* Various experimenters, beginning with Stanley Miller, have produced certain amino acids with specialized apparatus and conditions which were supposed to correspond to the imagined conditions on the primitive earth. However, amino acids are not living things in any sense at all. Furthermore, Miller's apparatus included a trap to separate them as soon as they were formed; otherwise, they would have quickly been broken down by the same "atmospheric" conditions that produced them.
2. *Synthesis of sugars, nucleotides, and other simple molecules.* Several researchers have devised elaborate chemical "simulations" that use electricity or ultraviolet light to

produce simple sugars and nucleotides from other chemicals. However, just as with amino acids, these simple molecules are no closer to being living things than a tiny blob of aluminum is to being a Boeing 747, or a blob of wood pulp is to being the *Encyclopædia Brittanica.* The difference is not in the basic constituents, but in the *design* (information content) of the structure.

3. *Linking of amino acids.* Sidney Fox and others have been able, by very special heating techniques and certain conditions which could never have existed on the hypothetical primeval earth, to bond the amino acids together to form what he called "proteinoids." These are not in any sense the incredibly complex molecular machines found in living cells, however. They were mere "blobs," with no order and no utility, and would quickly have been destroyed if they had ever been actually produced on the primeval earth.
4. *Synthesizing cells.* In 1970, J. P. Danielli was reported actually to have synthesized a living cell. (Actually, he supposedly started with living cells, then disassembled them, then refabricated a cell from parts of the dismantled cells.) However, it has since been shown that Danielli did *not* succeed at reassembling a living cell from its component parts. Indeed, given today's knowledge of cell complexity, many scientists are now doubtful that a completely disassembled cell could even *be* assembled into a workable cell by human instruments, even if we knew how everything in the cell actually worked.

A common fault with these experiments is that even if they *were* successful (which they have not been), they do not address whether or not life actually arose by chance and evolved into its present form. The origin of living things is a historical event, not a day-to-day process of nature. Experiments demonstrating the *possibility* that a historical event occurred in a certain way cannot prove whether or not the historical event *actually occurred* that way. (For example, it can be scientifically demonstrated that certain kinds of bacteria can survive the vacuum of space for long periods of time while in a dormant state, but this does *not* mean that life arrived on earth from outer space!) Nevertheless, ***experiments have failed to show that spontaneous generation and biological evolution are even* possible.**

Creation, Evolution, and Their Correspondence to Reality

When we examine the facts of science and the things which scientists can observe, there is no question but that the idea of creation is more reasonable and rational than the idea of evolution. If we acknowledge the Creator and His role in Creation, we have no need for the idea of evolution. Even when evolution and creation are evaluated as if they were equally valid scientific ideas, the evolutionary theory falls far short of matching reality and the known facts. (See the table "Creation, Evolution, and Their Correspondence to Reality.") That is exactly what we expect when man's thinking is compared with God's. Man always "misses the mark" when he shuts God out of his thinking, and man has a distorted picture of all of nature when he refuses to accept God's explanation for the beginning.

		A scientist who accepts the Bible would predict	A scientist who rejects the Bible might predict	Modern science has uncovered these facts
Concerning the Universe and the Earth	1.	The universe is orderly, law abiding, and rational.	The universe is disordered, without rhyme or reason.	Order is the hallmark of the universe. Evolutionists cannot explain its lawfulness but neither can they deny it.
	2.	The universe and its matter had a definite beginning.	Either matter is eternal, or the universe sprang into being by solely natural processes.	The universe is "running down"; if it is "running down" there must have been a time when it was "wound up." We have no way of knowing, through science, whether matter is eternal or not.
	3.	The earth is relatively young.	The earth is extremely old.	The earth's magnetic field, the absence of meteoritic dust accumulations on the earth, the scarcity of helium in the earth's atmosphere, the lack of certain chemical concentrations in the oceans, etc., suggest that the earth is relatively young.
	4.	Various catastrophies have affected the earth. (Catastrophism)	There has been a uniform continuation of past processes into the present. (Uniformitarianism)	Evolution must violate uniformitarian doctrine to have occurred. Some evidence of change in the earth's crust seems best explained by catastrophic conditions.
Concerning Living Things	5.	Living things are distinct from nonliving things.	At some point the differences between living and nonliving things are obliterated.	The distinction between living things and nonliving things is clear. The definitions for what constitutes a living thing will have to be rewritten before differences can be obliterated.
	6.	Living things came into being suddenly.	Living things arose through gradual process of spontaneous generation (abiogenesis).	The fossil record indicates sudden appearances of living things on the earth. Spontaneous generation experiments fail, and they confirm the law of biogenesis.
	7.	There is much common design in organisms (because of a common Designer), with modification in the basic design where needed; however, organisms are always of distinct types (kinds) and thus can be easily classified.	There is similarity in body structure resulting from the evolution of one into another, but a continuum of diverging organisms makes classification impossible.	There is much similarity in basic structure and modification for a particular function. Continuum of intermediate forms is not found. Classification is very possible and is based upon basic body structure involving both differences and similarities in the structures of organisms.
	8.	Living things have a limited ability for variation.	The possibilities for variation are unlimited.	The distinct groups of living things observed today are the same ones we find in the fossil record. Breeding experiments (especially in certain plants) have nearly exhausted the possible variations.
	9.	Man is a special creation, unique from other organisms.	Man is nothing more than a highly evolved animal.	Man's unique characteristics cannot be denied, and evolution cannot account for them.
Concerning the Fossil Record	10.	Distinct types of organisms will be found in the fossil record with no transitional forms.	Many transitional forms connecting one type of organism with others would be expected, forming a smooth continuum with no major gaps	There are many gaps in the fossil record, transitional forms are absent, and many evolutionists advocate forgetting about the "missing links."
	11.	Fossils should be arranged mainly by mobility and habitat.	Fossils should be arranged in a simple-to-complex sequence.	There is no straightforward, simple-to-complex gradation in the fossil record; habitat arrangement has been verified.
	12.	Fossils appear abruptly with varying levels of complexity.	Living things should appear as a "trickle" in the fossil record with only "simple" forms in older rock strata.	There is no uniform gradation of fossils from simple to complex in the fossil record.

We can see that evolution is a retreat from science because it is not observable and it cannot be proven by experiment. ***Evolution is not science. It is merely a philosophy based on faith in nature rather than faith in God.***

> [Creation] will present a parallel to the theory of evolution itself, a theory universally **accepted not because it can be proved by logically coherent evidence** *to be true, but because the only alternative, special creation, is clearly incredible.*
>
> —D. M. S. Watson, "Adaption," *Nature* (1929)

> Evolution is **unproved and unprovable.** We believe it because the *only alternative is special creation, and that is unthinkable.*
>
> —Sir Arthur Keith, anthropologist

Evolution Is a Threat to Modern Science

The decline of scientific integrity. The kind of thinking that leads one to accept evolution as an established fact goes against the kind of thinking that is important to science. Historically, modern science was characterized by its emphasis on *provable facts.* Although imaginative hypotheses were put forward (such as Newton's hypothesis of an inverse-square force exerted by objects upon other objects, or Maxwell's hypotheses concerning electromagnetism), hypotheses were regarded with skepticism until fact after fact had supported the hypothesis and disproved others. In *On the Origin of Species,* however, Darwin pioneered a new technique of "science": presenting vague, improvised speculations one after another, supported only by imagination and conjecture, as "proof" of a hypothesis. If facts are used, they are used vaguely and selectively so that the hypothesis is supported and never contradicted.

Such "jumping to conclusions" is characteristic of the writings of many evolutionists today, whose works abound in such statements as "it might have been—it is conceivable—apparently—not difficult to conceive—it is probable—perhaps—maybe." W. R. Thompson stated in his introduction to a 1963 reprint of *The Origin of Species* that the widespread adoption of the methodology of Darwinism has harmed science in general:

> ***The success of Darwinism was accompanied by a decline in scientific integrity.*** This is already evident in the reckless statements of Haeckel and in the shifty, devious and histrionic argumentation of T. H. Huxley. . . .
>
> To establish the continuity required by the theory [of evolution], historical arguments are invoked even though historical evidence is lacking. Thus are engendered those fragile towers of hypotheses based on hypotheses, where ***fact and fiction intermingle in an inextricable confusion.***[16]

In a recent article on the "Cambrian explosion," *Time* magazine noted that in order to reconcile this sudden appearance of complex forms with the hypothesis of evolution, scientists must "delicately slide across data-thin ice, suggesting scenarios that are ***based on intuition rather than solid evidence***"[17] (emphasis added). Unfortunately, hypotheses supported only by "intuition" are accepted as fact by many people and are taught as fact in many science textbooks. True science, however, regards "intuition" with great suspicion and always subjects ideas and speculations to experimental test.

A return to superstition. The widespread acceptance of this "new scientific method," in which imagination, speculation, and "consensus" take the place of rigorous experimental proof, threatens to pull science back toward the days of superstition. For example, mainstream scientists and science journals now regularly discuss the **Gaia** [gā′*a*] **hypothesis,** a quasi-religious idea that states that the earth and all the living things that inhabit it constitute a

[16] W. R. Thompson, introduction to *The Origin of Species,* by Charles Darwin (London: J. M. Dent, 1963), xxi, xxiv.

[17] J. Madeleine Nash, "When Life Exploded," *Time,* 4 December 1995, 73.

single living thing. Some proponents of the hypothesis (named after Gaia, the Greek goddess of the earth) even imply that the earth purposely directs the processes of evolution for "her" own benefit. The fact that this philosophy is accepted in many circles as a sound scientific theory demonstrates the direction in which science is sliding.

The politicization of science. Although many fields of science are still characterized by an emphasis on proven facts, the widespread acceptance of the Darwinian method of science (speculation and argumentation) has allowed some branches of science to become motivated by politics or ideology instead of by absolute truth. For example, Dr. Stephen Schneider, a former climate researcher at the National Center for Atmospheric Research and the recipient of several scientific awards, stated that in order for scientists to influence environmental policy,

> [we] have to offer up scary scenarios, make simplified, dramatic statements, and make little mention of any doubts we might have.... Each of us [scientists] has to decide what the right balance is between being [politically] effective and being honest.[18]

As this attitude toward science spreads, it threatens to undermine the very existence of science as a search for truth and order in the universe.

Conclusion. Earlier in this chapter we read about the seven assumptions that form the "General Theory of Evolution" as listed in *Implications of Evolution* by G. A. Kerkut. At the end of his book, Kerkut lists those assumptions again and summarizes the scientific evidences which pertain to them. It is interesting to read what he says:

1. The first assumption was that nonliving things gave rise to living material. *This is still just an assumption.* . . . There is, however, little evidence in favour of biogenesis [spontaneous generation] and as yet we have no indication that it can be performed. . . .
2. The second assumption was that [a]biogenesis occurred only once. *This* again *is a matter for belief rather than proof.* . . .
3. The third assumption was that Viruses, Bacteria, Protozoa, and the higher animals were all interrelated. . . . *We have as yet no definite evidence about the way in which the Viruses, Bacteria or Protozoa are interrelated.*
4. The fourth assumption was that the Protozoa gave rise to the Metazoa. *This is an interesting assumption* and various schemes have been proposed to show just how the change could have taken place. . . . *Here again nothing definite is known.* . . .
5. The fifth assumption was that the various invertebrate phyla are interrelated. . . . *The evidence. . . . is tenuous and circumstantial;* not the type of evidence that would allow one to form a verdict of definite relationships.
6. The sixth assumption, that the invertebrates gave rise to vertebrates, has not been discussed in this book. There are several good reviews on this subject. . . . *Here again it is a matter of belief which way the evidence happens to point.* As Berrill states, *"in a sense this account is science fiction."*
7. We are on somewhat stronger ground with the seventh assumption that the fish, amphibia, reptiles, birds, and mammals are interrelated. There is the fossil evidence to help us here, though many of the key transitions are not well documented and we have as yet to obtain a satisfactory objective method of dating the fossils. . . . *The evidence that we have at present is insufficient to allow us to decide the answer to these problems.* . . . In effect, much of *the evolution of the major groups of animals has to be taken on trust. There is a certain amount of circumstantial evidence but much of it can be argued either way.* . . .[19] (Emphasis added.)

Neither evolution nor creation can be either confirmed or falsified scientifically.

—N. Heribert-Nilsson, botanist

Acceptance by faith. The weight of evidence is clearly not in favor of evolution; therefore, an evolutionist cannot honestly claim that the

[18]Stephen Schneider, quoted in Jonathan Schell, "Our Fragile Earth," *Discover,* October 1989, 47.

[19]Kerkut, *Implications of Evolution,* pp. 150–154.

hypothesis of evolution has been scientifically "proved." A person can accept evolution and believe that it is true if he chooses, but his decision must be based upon something other than the facts of science—***it must be based on faith.*** A belief in special creation is no less "scientific" than a belief in evolution, for both are based on faith. It is clear, however, that ***the facts of modern science agree marvelously with the Biblical account of Creation.***

> The more one studies paleontology, the more certain one becomes that **evolution is based on faith alone....**
>
> —Louis T. More, physicist

Direction in Science. Science, to be of any practical use, is not a backward activity, but is an attempt to understand how the world operates in the present and how to use that understanding to benefit man now and in the future. Science deals with the here and now—the real world in which we live. The direction of science is to be forward, making progress in man's subduing of the earth as commanded by God in Genesis 1:28. Evolution threatens to destroy science both by fostering a "new scientific method" based on ideology and speculation, and by insisting that science spend its energies trying to prove evolution. As scientific "truth" becomes more dependent on superstition, politics, and ideology, man's ability to fulfill the mandate of Genesis 1:28 can only decline—leaving the cures for cancer and other diseases undiscovered, laws of the universe unknown, and inventions uninvented. Some people believe that many fields of science, as they are known today, are on a course of gradual decline. Only a revival of spirit among the great minds of the scientific community can turn it around. If this does not come about, the fabric of man's knowledge about the world in which he lives may unravel, leaving mankind in an inescapable tangle of ignorance of God's living creation.

Section Review 14.4

1. Contrast the predictions of the creation and evolution hypotheses with their correspondence to reality.
2. How have some suggested that the success of Darwinism contributed to a decline in scientific integrity?

Application:

3. Explain why ultimately, acceptance of either creation or evolution is based on faith and on one's presuppositions.

Critical Thinking:

4. Why is the evolutionary hypothesis not experimentally verifiable?

Identify:

Gaia hypothesis

Chapter Review

Define

1. Cambrian explosion
2. comparative anatomy
3. embryonic recapitulation
4. eugenics
5. evolution
6. fossil
7. Gaia hypothesis
8. geologic column
9. "hopeful monster" hypothesis