

CHAPTER SIX

Examining The Evidence Critically

In the last chapter we saw how important the creation/evolution controversy is. But just because we want creation to be right doesn't mean it is. We need to look at the evidence so that we can use logic to test which belief is more likely correct.

Visual
#6-1

Remember that there are some aspects of creation and evolution we cannot test: who made everything, what the reason was, what it all means, what were the names of the first humans, and so on. Nor can we directly test whether the universe was complex or disorganized when it came into existence. However, we can use the ideas of initial complexity vs. disorganization to make specific predictions in many areas such as astronomy, chemistry, biology, the fossil record, etc. We can then apply the scientific method to those predictions to see which model fits better with the evidence we find in nature. (This is the part of the creation/evolution controversy often called "creation science.") As we do, we must be aware that evidence and the way we interpret that evidence are two different things entirely. The accuracy of the interpretation depends upon the accuracy of the interpreter.

Visual
#6-2

Many people think that scientists are somehow superhuman. It's not true. They have hopes, dreams, fears, prejudices, and beliefs just like everybody else. Because of these prejudices some of them deny that there could possibly be any evidence for creation. We should ask them, "What evidence are you prepared to accept?" If they don't know what they're looking for, how will they recognize it when they see it?

Visual
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IX. PRESUPPOSITIONS AND BIASES.

Visual
#6-4

Everyone has certain biases. To illustrate this you will need visual #6-4, entitled "So You Think You're Not Biased?" cued up but not displayed yet. Before you show it, notice that the words "for" and "the" are doubled. Tell the class that you are going to show them that they are biased. Set up their expectations by asking if anybody ever took a typing class. Since the sentence "Now is the time for all good men to come to the aid of their country" is familiar to everybody who ever learned to type, that's what the students will expect to see.

Tell them you are going to give them one second to read what the transparency says. Flash the transparency on the projector for only one second. It says,

Now is the time for
for all good men
to come to the
the aid of their country.

After the one second is up, remove the transparency from the screen by clicking "page up." Ask how many think it said, "Now is the time for all good men to come to the aid of their country." Most will raise their hands. Tell them they are biased and that you will show them again. Show them the transparency for about two seconds then click "page up" again. Ask them if they still think it says, "Now is the time for all good men to come to the aid of their country." Most will probably raise their hands again. Tell them that they are really biased. Display the transparency and read the words aloud, emphasizing the doubled "for" and "the." Because of their presuppositions and biases – they expected to see a familiar sentence – they did not even notice several words that were right in front of them.

The problem of bias is especially important in the creation/evolution controversy because it is such an emotional issue. Even scientists can overlook the obvious because of their presuppositions. There is no guarantee that they are any more objective than anybody else.

Visual
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Creationists and evolutionists use exactly the same evidence, whether it consists of fossils, gene sequences, or the signals coming in through a radio telescope. The difference is what we do with that evidence. We each interpret it according to our presuppositions.

A. SCIENTISTS BIASED IN FAVOR OF CREATION.

Recommended reading: Henry Morris, *Men of Science, Men of God*, available from I.C.R.

Any scientist who hints at belief in some sort of God or cosmic intelligence is likely to be labeled a creationist, even if he/she rejects Genesis. The following scientists, though, were Biblical creationists who believed that an omnipotent God created the universe the way the Bible says He did, and have interpreted the evidence accordingly. Some of them are among the all-time giants of science. A few of the more noteworthy:

1. **Isaac Newton**, the father of classical physics. Besides physics, he also wrote a great deal of material in defense of the Bible.
2. **Gregor Mendel**, the father of genetics.
3. **William Thomson (Lord Kelvin)**, physicist and mathematician for whom the Kelvin absolute temperature scale is named. Among his many achievements was the discovery of the Second Law of Thermodynamics. (We'll study this in Chapters 6 and 7.)
4. **Louis Pasteur**, physicist, geologist, chemist, and biologist who founded the science of bacteriology and the germ theory of disease.
5. **James Clerk Maxwell**, developer of the electromagnetic theory of light expressed in "Maxwell's Equations." His work led to the discovery of radio waves.
6. **Michael Faraday**, pioneer in electromagnetism who invented the electric motor and generator and laid the groundwork for Maxwell's electromagnetic theory and Einstein's theory of relativity.
7. **Werner von Braun**, German rocket scientist who defected to the U.S. and became the head of NASA. Under his directorship the U.S. space program experienced an unbroken string of successes.

B. SCIENTISTS BIASED IN FAVOR OF EVOLUTION.

Recommended resources: Robert T. Clark & James D. Bales, *Why Scientists Accept Evolution*, Baker Book House Co., 5555 West Jewell, Denver, CO 80226, 1966; Ian T. Taylor, *In the Minds of Men: Darwin and the New World Order*, TFE Publishing, P.O. Box 5015, Stn. F, Toronto M4Y2T1 Canada, 1987. Some feel that this is the best book ever written on the subject of creation and evolution.

A few of the most influential proponents of evolution:

1. **Charles Darwin**, the first person to publish the theory of evolution in a systematic form, grew up in a Unitarian family and even entered divinity school. As a young adult he rejected the Christian faith and the God of the Bible. Since he no longer believed in the Creator, he could no longer allow creation as a possibility.

There is no solid evidence to support the common belief that Darwin renounced his theory before dying. The story may have been started by Darwin's widow Emma after his death (Taylor, 1987, 136-137). Deeply religious all her life, she was greatly distressed by her husband's work.

2. **Thomas Henry Huxley**, self-described as "Darwin's bulldog," admitted that he had no problem believing that creation was possible (Huxley, 1903, 241). However, he had an intense personal dislike of clergy and used evolution as a means to attack them. Darwin himself was rather timid, but Huxley more than made up for it. If not for him, Darwin's theory would not have spread nearly so rapidly.
3. **Ernst Haeckel**, the perpetrator of the "embryonic recapitulation" fraud we saw in Chapter Four, was an ardent monist, that is, he believed as Hindus do, that the universe itself was an impersonal god. He wrote over 40 books trying to turn people away from the God of the Bible. If there was no God, Haeckel certainly could not accept the possibility of creation.
4. **Isaac Asimov**, noted author, physicist, and anti-creationist fund-raiser for the ACLU, was an atheist until his death. (He knows better now!) He refused to believe in the ex-

istence of God, so no matter how much evidence there might be for creation, he had to deny that it could possibly be correct.

5. Until his death, **Carl Sagan** of “Cosmos” television series fame was also an atheist and thus refused to admit that God could have created everything. He did believe there is intelligent life elsewhere in the universe, though. You don’t have to give an account for your life to a UFO. (His successor **Neil DeGrasse Tyson** has continued in Sagan’s atheistic ways.)
6. The late **Stephen Jay Gould** of Harvard University and the National Science Foundation once said that he “learned his Marxism at his daddy’s knee.” Marxism depends upon evolution, so Gould could not allow the possibility that creation could be correct. These men refused to admit that there could possibly be any evidence for creation. There was no way they could be objective as they evaluated the scientific evidence. Every one of them was biased, as are living evolutionists. But aren’t creationists biased too? Of course we are. However, one of the most important differences between creationists and evolutionists is that creationists admit our bias but evolutionists try to hide theirs.

C. LOGIC IN THE ORIGINS CONTROVERSY.

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Recall from Chapter One that we may mean different things when we say we “know” something: (1) personal experience, (2) reliance on an authority who claims to have personal experience, (3) logic, (4) feeling or intuition, (5) wishful thinking, or (6) lying. We saw that almost any statement about the prehistoric past is based neither on personal experience nor the authority of someone else who claimed to have personal experience, but instead on logic -- that is, it just makes sense to the speaker.

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But why do we think things make sense? Why do certain things seem logical and others illogical? Our system of logic goes back thousands of years to the time Alexander the Great conquered Europe, Africa, and west Asia (ca. 325 B.C.) and spread Greek culture everywhere he went. Alexander’s teacher was the famous philosopher Aristotle, considered the father of the system of logic (Aristotelian logic) we still use today.

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Aristotle and the other Greeks were not very interested in testing ideas to see if they were true. Instead, they trusted almost completely in logic, believing it could lead to absolute truth. Though they were right about some things, they were wrong about many others.

From Alexander’s time until the 1600s, “science” in the universities of Europe, Africa, and west Asia was largely based on some of Aristotle’s faulty logical deductions. A few examples:

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- He taught that the earth was the center of the solar system because it made sense to him. Copernicus (ca. 1500) was the first to actually test the idea, by means of mathematical models. He discovered that the observed motion of the planets only made sense if the sun, not the earth, was the center of the solar system. When Galileo (ca. 1600) went public with the idea, the Catholic Church condemned him not because he contradicted the Word of God, but the word of Aristotle.
- He taught that heavier objects fall faster. Incredibly, no one bothered to test the idea for almost 2,000 years. Finally, Galileo tested this belief by dropping cannonballs from a tower. Aristotle was wrong again.
- Aristotle said that motion was due to objects seeking their natural place. Therefore, once something reaches that place, there should be an innate tendency for it to stop. However, Newton – following Galileo’s work – showed (ca. 1700) that objects possess inertia, a resistance to change in motion. Aristotle had overlooked friction. Without it, motion could theoretically continue forever.
- A Greek philosopher named Democritus reasoned that if you kept cutting any material (such as gold) the particles would eventually be so small that they would lose the properties of the material. They would then be uncuttable. Since the Greek syllable for “cut”

is “tom,” he called these hypothetical uncuttable particles “a-toms.” However, Aristotle said that there would be empty space between the particles, which would be unimaginable to him. Therefore, there could not be any such thing as atoms. Once again, Aristotle was wrong.

1. DEDUCTIVE VS. INDUCTIVE LOGIC.

Visual #6-10

The fatal flaws in Aristotle’s logic occurred because he limited himself to only one form of logic, known as *deduction*, while overlooking the other form, *induction*.

There is a crucial difference between these two types of logic. Inductive logic works by our looking at specific examples of a particular type of phenomenon, then trying to determine general principles, that is, the most reasonable pattern or explanation. Inductive logic does not claim to be able to establish absolute truth, only the most reasonable conclusion based on the data. This sort of logic is the key to interpreting data when following the scientific method.

Visual #6-11

Deductive logic, on the other hand, starts with general principles accepted as absolute truth, then applies them to specific cases so as to force us to conclusions that must be true. The starting principles of deduction (a priori assumptions) may come from inductive logic, or they may be a hunch (e.g., Howe’s invention of the sewing machine and Kekule’s discovery of the structure of benzene referred to in Chapter One), or they may be something we accept simply because an authority told us to.

Visual #6-12

Let’s look at an example that illustrates both types of logic. You are probably confident that you have a brain. But how do you know?

- It is very unlikely that you have *sense experience*, because almost no one is ever awake during surgery to see or feel his or her own brain.
- If you had brain surgery or a test such as an MRI or CAT scan, you still didn’t see your brain yourself. You must trust the *authority* of the surgeon or technician who told you that there was a brain inside your head or that the image you were seeing on a screen was really your brain and not a computer simulation.
- The rest of us have to rely on deductive *logic*. Our thought process goes something like, “All humans have a brain. I am a human. Therefore, I have a brain.”

But how do we “know” that the starting point of our deductive logic, that all humans have brains, is correct? Through inductive logic. There have probably been at least tens of thousands of people who have had either autopsies or brain surgery or brain scans. If even one of them did not have a brain, it would have been headline news. Since we have never heard of a single such case, we reach the reasonable conclusion that all humans have brains.

News reports occasionally tell of people with only partial brains who are still able to function. Imagine the headlines if a living person were ever discovered with no brain at all. If a single such person were found, none of the rest of us could be sure we had a brain either. We could no longer trust our deductive logic because it would be starting with a false assumption.

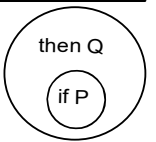
2. CORRECT STRUCTURE OF DEDUCTIVE LOGIC.

Most examples of deductive logic can be put in the form of a conditional statement or syllogism -- that is, “if something, then something else.” The most common structure of a syllogism would look something like this:

If statement P is true, then statement Q is also. (This is called the major premise.)
P is true. (The minor premise)
Therefore, Q is true. (The conclusion)

Visual #6-13

We could express the flow of logic in a diagram as shown at right, where the inner circle represents the “if” part and the outer one represents the “then” part. Anything inside the inner circle is automatically inside the



outer circle, but not vice versa.

We could also have a chain of syllogisms (*transitive logic*). This starts with a series of major premises, each based on the previous, such as:

If a person lives in New Orleans then he lives in Louisiana.

If a person lives in Louisiana then he lives in the United States.

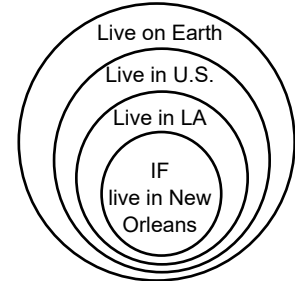
If a person lives in the United States then he lives on earth.

Then, we would have the minor premise, e.g.,

John lives in New Orleans.

Therefore, we reach the conclusion that

John lives on earth.



We could represent a chain of syllogisms by nested circles as shown, with the “if” part in a smaller circle and the “then” part in a larger one. Again, anything inside one of the smaller circles is automatically inside the larger circles, but not vice versa.

3. **POTENTIAL PROBLEMS WITH DEDUCTIVE LOGIC.**

a. **Incorrect Structure.**

Reversing the “if” and “then” parts of a major premise results in a *converse*. The converse of “if an animal is a dog then it has a tail” would be “if an animal has a tail then it is a dog.” We can immediately recognize that this is not necessarily true.

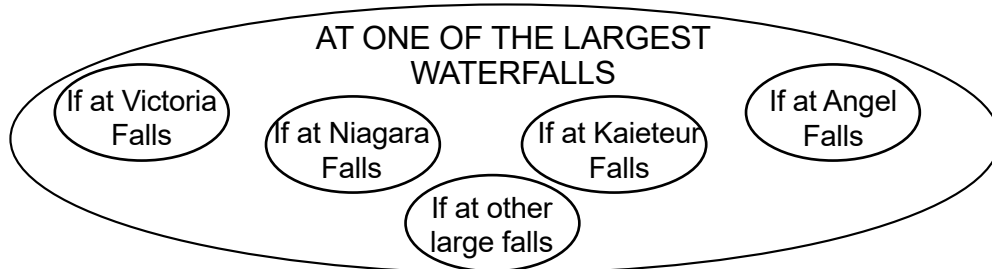
Let’s look at an example where a statement and its converse are both true. We could say correctly, “If I am at Mount Everest, then I am at the highest mountain in the world.” Since there is only one highest mountain, it is equally correct to reverse the “if” and “then” parts to say, “If I am at the highest mountain in the world, then I am at Mount Everest.” (Such a statement in which there is a one-to-one match is called a *biconditional*.)

One of the most common flaws in evolutionary logic occurs when someone tries to apply a converse in a case in which there is *not* an exact one-to-one match between the “if” and “then” parts of the statement. For instance, it is correct to say, “If I am at Victoria Falls, then I am at one of the largest waterfalls in the world.” However, there are many large waterfalls. If we change the above statement to say, “If I am at one of the largest waterfalls in the world, then I am at Victoria Falls,” it is no longer reliable. We could just as easily be at any of the other large waterfalls.

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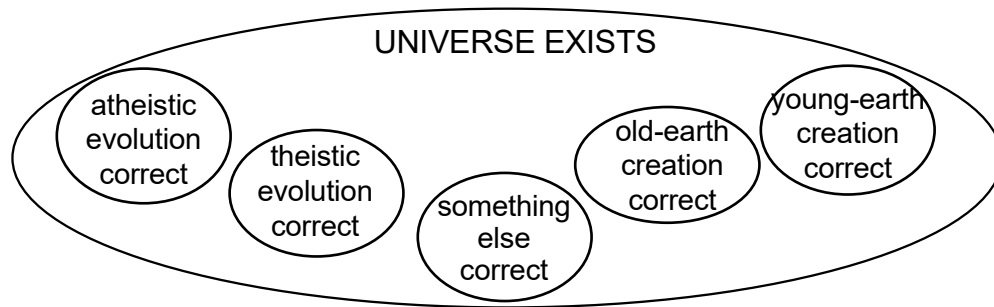


The reason we cannot trust the converse in this case is that the opposite is not true. Except in the case of a biconditional, not everything inside the outer circle is inside any given inner circle.

This type of error is common among evolutionists. They believe – correctly – that if some sort of evolutionary story is true, then it would explain the universe. However, some either deliberately or ignorantly reverse the statement so that they draw the conclusion, “If the universe exists, then the story of evolution must be true.” This is false for the same reason that the statement about high waterfalls was. While evolution is one possible explanation, there are others as well. We could diagram the logic flow as shown below:

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#6-18



Once again, the error occurs because anything inside one of the inner circles is automatically inside the outer circle, but not vice versa. The fact that the universe exists tells us nothing about which explanation is true. The statement “If our story of evolution is correct then the universe would exist” is true, because evolution is indeed one of the possible explanations for how things came to exist. However, it is invalid to turn the statement around to say, “If the universe exists, then our story of evolution is correct,” because there are other possible explanations such as creation.

b. False Premises.

The other main problem with evolution comes not from invalid logic but from a correct logical structure which gives a false conclusion because it depends on one or more false premises. Let’s look at some examples of correct logical structure which nevertheless may yield false conclusions.

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- You are confident you have a brain because you start with the major premise that “All humans have a brain.” You then add the minor premise “I am a human” to reach the conclusion “Therefore, I have a brain.” What would it take to falsify this conclusion? If any one living human were ever discovered without a brain, you would then have to question whether you yourself had a brain.
- Suppose we say, “All dogs bark,” which we could paraphrase to say, “If an animal is a dog, then it barks.” [Major premise.] We then say, “Fido is a dog.” [Minor premise.] Therefore, we conclude, “Fido barks.” The logic is perfectly fine. But is it true? Not if Fido happens to belong to the Basenji breed of Africa. Basenjis do not bark. Or perhaps Fido could have laryngitis, or just doesn’t ever feel like barking.
- Another example: Suppose your friend calls and says he is bringing his pet elephant to your house. You begin preparing a large place for it to stay. Though you may not consciously be aware of it, the thought process is, “If an animal is an elephant, then it is large. My friend’s animal is an elephant. Therefore, it is large.” Imagine your surprise when your friend shows up with a newborn pygmy elephant. Oops! It’s not large after all.

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The incorrect conclusions in these two examples did not happen because the structure of the logic was faulty. We could easily represent it as circles similar to those shown previously. Rather, we reached a wrong conclusion because the major premises were false.

No matter how well constructed a syllogism is, it cannot be trusted if any one of its premises is false. In order for logic to guarantee correct results, then, at least two things must occur: structure must be correct, and all premises must be true.

Note: it is possible to accidentally reach a correct conclusion in spite of a false premise. Recall the old cliché “Polly wants a cracker.” You would draw an incorrect conclusion if you base the following on it: “If something wants a cracker then it is named Polly; that person wants a cracker; therefore her name is Polly.” The flow of logic is wrong. There is a slim chance that her name might be Polly, but if it is, you

happened to get the name right by accident instead of by logic. It is far more likely that a false premise will lead to a false conclusion.

What does this have to do with evolution? Plenty. We're about to see that even when evolutionary logic is structured properly, it is still unreliable because it is based on false premises.

D. POSTULATES (AXIOMS OR PREMISES) OF EACH MODEL.

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#6-21

Anyone who has ever studied geometry is familiar with its *postulates*, statements which are accepted as self-evident without proof. Once we accept Euclid's twenty-three postulates the rest of his system of geometry follows logically. One of the 23 is not universally accepted, though. His "Parallel Line Postulate" stated that through a point not on a given line there could be only one line parallel to that first line. However, the mathematicians Riemann and Lobachevski concluded that this postulate was *not* self-evident to them. Both believed that space is curved in some way, which means there is no such thing as a straight line in the sense that we understand "straight." Depending on which way space is curved, there would either be an infinite number of parallel lines through the point, or no parallel lines at all. As a result, they came up with two contradictory non-Euclidean versions of geometry. No one can absolutely prove if Euclidean, Lobachevskian, or Riemannian geometry is right, because all three are based on unprovable postulates.

Geometry is only one of many areas of human thought based on statements accepted as self-evident. (As Thomas Jefferson wrote, "We hold these truths to be self-evident...") In areas other than geometry we usually speak of *axioms* or *presuppositions* rather than postulates. Though evolutionists try to hide the fact, evolution is based on axioms just as much as creation is. Once we accept either the creationist or evolutionist axioms, the rest of each belief system follows logically. Whatever evidence becomes available is interpreted within the framework provided by the axioms. Since the axioms are used as the major premises upon which all subsequent logic is based, if any one of them is unreliable then the whole logical structure is also unreliable.

Following are some of the axioms of the two major evolution models and the three major creation models. Everything else in both the evolutionist and creationist belief systems depends upon them. It is important that your students realize that neither set of axioms can be proven. They must be taken simply by faith.

1. ULTIMATE SOURCE OF THE UNIVERSE.

a. EVOLUTION - natural processes only.

Everything must be explainable by purely natural processes.

i. *Atheistic evolution*: there is no God.

ii. *Theistic evolution*: there is a God, but He does not intervene in nature.

Theistic evolutionists must leave God out of the picture because if they admit He did even one miracle to bring the universe and earth into their present condition, they have no grounds to say He couldn't have created the way the Bible says. Darwin himself admitted that if any organ existed which could not be explained by the gradual accumulation of small changes, that is, if God was required at any point, then evolution was useless as a scientific theory. To this day, the fundamental assumption of evolution is that everything must be explained by purely natural processes.

But what if something can't be explained by natural processes? Sure it can. We just make up a story! And since we are so intelligent, therefore our story must be true and schools have to teach it as scientific fact. One example: numerous three-toed dinosaur and five-toed human footprints are found together at Dinosaur State Park on the Paluxy River in Texas. (More details in Chapter 14.) Rather than admit that humans and dinosaurs lived at the same time (which would destroy the evolution-

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ary time scale), one evolutionist has proposed that the obviously human prints were actually made by an unknown type of dinosaur with five toes. Of course, we might equally well make up a story that says the three-toed prints were actually made by humans with really big, deformed feet!

Evolutionist Richard Lewontin believes evolution and science are one and the same. However, he is refreshingly honest in admitting that many evolutionary stories are on a parallel with Rudyard Kipling's famous book of "Just-So Stories." (Think back to your high school literature class and Kipling's stories of how the Elephant's Child got its long nose, How the Whale got its Hump, and so on.)

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"We take the side of science in spite of the patent absurdity of some of its constructs, in spite of the failure to fulfill many of its extravagant promises of health and life, in spite of the tolerance of the scientific community for unsubstantiated just-so stories, because we have a prior commitment, a commitment to materialism. It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world, but, on the contrary, that we are forced by our a priori adherence to material causes to create an apparatus of investigation and a set of concepts that produce material explanations, no matter how counterintuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is an absolute, for we cannot allow a Divine Foot in the door." (*New York Review*, January 1997)

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Not all evolutionists are atheists, of course. Many claim to believe in both God and evolution. However, their idea of God is that he started the universe billions of years ago, then go out of the way and let everything run by evolution.

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This is not the God of the Bible! Evolution says that animals were killing each other for billions of years before man evolved. The death of the less fit cleared the way for the fittest to survive. Thus, death was the driving force that led to the appearance of man. The Bible, on the other hand, says that man was the direct cause of physical death throughout the earth. You can't have it both ways.

b. CREATION - possibility of supernatural intervention.

While most things should ultimately be explainable by natural processes, it is possible that some things may not. We must allow for the possibility that a supernatural God may have intervened in nature.

2. POSSIBLE MECHANISMS FOR THE ORIGIN OF THE UNIVERSE.

a. EVOLUTION - the only possible explanation.

Evolution is the only possible explanation for the origin of everything.

This doctrine is called materialism or naturalism. It is at the root of attempts throughout the United States to prevent students from learning that many scientists and other highly educated people reject random chance evolution in favor of intelligent design. The reasoning in opposing intelligent design is that since it is outside the realm of scientific proof, it cannot possibly be true. Therefore we should teach its opposite -- naturalistic evolution.

How ridiculous is this? Suppose someone challenges you to scientifically prove that you love your mother. You can't do it. No matter what you do or say, someone might accuse you of faking it. Therefore, since you can't scientifically prove that you love your mother, we will teach the opposite: that you hate her! Likewise, since we can't scientifically prove the *presence* of intelligent design, we will teach the *absence* of intelligent design to unsuspecting students.

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Naturalism presupposes that scientific truth is the only kind of truth. It completely rejects the possibility of divine revelation. In a way, this is like a scientist who decides to learn what's in the ocean by chartering a ship, making a net 100 feet in diameter with two inch holes, then repeatedly lowering the net into the deep on

a one mile long rope. He catalogs everything he brings up, then concludes that everything in the ocean is between two inches and a hundred feet across and has fins and scales. In other words, if his net can't catch it, it doesn't exist. Preposterous as the idea sounds, it is precisely the naturalistic position: since our scientific techniques cannot detect God or the supernatural, they do not exist. How arrogant!

Those who claim to be Christians and yet insist on naturalistic evolution should think long and hard about the fact that they reject the authority of the Word of God, Who was present at the beginning, in favor of a different authority, the word of men, who were not there and can only guess what happened.

b. CREATION - several possible explanations.

Since we allow the possibility that God created everything, we recognize that He is powerful enough to use any method He chooses. He could have used evolution if He wanted, he could have created in six microseconds if He wanted, or He could also have created in six days just the way the Bible says He did.

3. AGE OF THE UNIVERSE.

a. EVOLUTION - Extreme Age.

Since we have already decided that evolution must be true, we should see it going on in the world around us. The fact that evolution has never been observed in recorded human history is not an insurmountable problem – it must simply be an extremely slow process. Since it would require billions of years, we cannot allow any possibility except that the universe and earth must be billions of years old.

b. CREATION - No Specific Age Required.

The creationist idea of initial complexity does not automatically require any specific age for the universe. Since God is free to use any process He wants, at any rate He wants, there are different beliefs about how long ago the universe came into existence.

i. Recent Creation: Because the Bible says that man was created on the sixth day of the creation week and that animals did not die until after Adam sinned, the universe and earth cannot be much older than the human race - perhaps less than 10,000 years old.

ii. Gap Theory & "Progressive Creation": The universe and earth must be billions of years old because the majority of scientists say so.

4. SOURCE OF THE GEOLOGIC RECORD.

a. EVOLUTION - Uniformitarianism.

Since evolution is supposed to have taken at least 3.5 billion years and since a worldwide flood would cut billions of years off the time available to form the geologic record, both theistic and atheistic evolutionists must insist that there has never been a worldwide Flood as recorded in Genesis. Evolutionary geology instead introduces an axiom known as *uniformitarianism*, which says that the earth's geological features developed by slow, gradual, uniform processes operating over billions of years, that is, "the present is the key to the past."

The apostle Peter warned us of just such a belief when he wrote (2 Peter 3:3-7) that in the last days men would deny that a worldwide flood ever happened. His prophecy has been fulfilled. It is heresy in evolutionary circles to even admit the possibility that there could have been a worldwide flood.

b. CREATION - Catastrophism.

The Genesis Flood could account for a great deal of the geologic record in a very short time. However, not everyone who calls himself a creationist accepts the Biblical account as a straightforward historical narrative.

i. Recent Creation: There was one worldwide flood.

ii. Gap Theory: This is an attempt to make the Bible fit with the word of scientists

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who say that the earth is billions of years old. The compromise is achieved by saying that there was a gap of millions or billions of years between Gen. 1:1 and 1:2, during which a pre-Adamic civilization flourished for eons until Lucifer completely destroyed the earth in a flood. Afterward, God started over in Genesis 1:2. After about sixteen centuries God brought His own flood and destroyed the earth (though not as thoroughly as Lucifer had) in Noah's day.

This effort to compromise between the Bible and the claims of evolutionists is unsatisfactory to either side. Evolutionists say that there have been **zero** worldwide floods, but the Bible plainly shows that there has been **one**. Rather than being somewhere in the middle, the Gap Theory requires that there have been **two** worldwide floods. What kind of compromise is that?

iii. *Progressive Creation*: Because evolutionists must be right about the age of the earth, there can never have been a worldwide flood. Remember that this is just a deceptive name for theistic evolution. It would be surprising if it *didn't* follow the evolutionary time scale.

5. **SOURCE OF SIMILARITIES BETWEEN LIVING THINGS.**

a. **EVOLUTION - Common Ancestry.**

Since everything must be explainable by natural processes (Axiom One above), design is never allowed. Similarities between different types of living things have to be due either to common ancestry or random chance.

b. **CREATION - Common Design.**

God designed a number of systems that are used with variations in many different types of living things. Similarities between types that belong to different kinds are due to common design, not common ancestry.

6. **SOURCE OF ULTIMATE AUTHORITY ABOUT NATURE.**

a. **EVOLUTION - Scientists.**

While some theistic evolutionists think that the Bible contains inspiring stories and perhaps even some revelation from God, they also think that it is mainly the work of fallible humans. Rather than the Bible, the word of scientists is the final authority in everything. Which scientists? The ones that agree with you -- at least, this week.

b. **CREATION - God or scientists?**

i. *Recent Creation*: Since God is all-powerful, He is able to accurately tell us the things He wants us to know. The Bible is right in every detail and the evidence of science must be interpreted accordingly. The Bible is not a science textbook, but it is correct in the scientific statements it does contain. (It's much better than a textbook, because it doesn't need to be revised every few years!)

The accuracy of the Bible has been verified over and over for centuries. Every scientifically testable statement in the Bible has been found to be correct. Some of these statements dealt with subjects of which scientists were unaware for thousands of years. How could the Biblical authors have known the truth without divine inspiration?

A word of caution: let's not add our own ideas to what the Bible says. For instance, some say that it never rained on the earth until the Genesis Flood. The Bible only says that it never rained until after Adam sinned. If there was rain between those times it means the commentators are wrong, not the Bible.

ii. *The Gap Theory* (Rapid creation in the distant past).

Gap Theorists believe that the Bible is the final authority on everything except how old the earth is and when death entered the world. In these areas, the majority view of scientists is the final authority.

Atheists scoff at the Gap Theory as much as they do at recent creation. Evolutionists deny that there has ever been a worldwide flood, let alone two of them.

Visual
#6-34

Visual
#6-35

Visual
#6-36

Visual
#6-37

- iii. “Progressive Creation” or the Day-Age Theory. This is an attempt to make the Bible fit with the word of scientists by defining the “days” of Genesis as creative periods lasting perhaps millions or billions of years. Though followers of this model call themselves creationists, this is nothing but a Punctuated Equilibria version of theistic evolution. Rather than using a process of gradual evolution, God is supposed to have created new kinds of animals and plants by modifying existing ones millions of times throughout earth’s history.

Progressive Creationists believe that the Bible is the final authority only in that it says that God is responsible for bringing all the various kinds of living creatures into existence, but they believe scientists are the final authority on how it happened, how old everything is, and when death entered the world.

Most of those who formulated the modern theory of evolution were atheists. They *had* to rule out creation as a possibility. Others simply jumped on the proverbial bandwagon. Theistic evolution was originally set forth by theologians, not scientists, as a compromise between the Bible and the writings of atheists who claimed to have proof of evolution. It was unnecessary because the atheists were lying. Their belief is based on axioms, not proof.

Many who profess to be Christians have the attitude that evolution is true, and that creationists are somehow obligated to prove the Bible. They don’t realize that both creation and evolution are axiomatic systems, and as such, unprovable. All either side can do is appeal to circumstantial evidence to persuade the listener that our axioms, rather than those of the other side, are really the self-evident ones. Few of these professing Christian skeptics have ever done any scientific study themselves. They rely on men who were not there and can only guess what happened, simply because they think that all scientists believe in evolution. While most do, a growing number of scientists in the U.S. reject it (over 20% according to a November 1987 poll in *Industrial Chemist* magazine). But even if everybody in the world believed in evolution, truth has never been determined by majority vote.

“Where is the wise man? Where is the scholar? Where is the philosopher of this age? Has not God made foolish the wisdom of the world?” (1 Cor. 1:20)

This is a good opportunity for you to challenge your students: Are you placing your trust in the wisdom of men who weren’t there and don’t know everything, or in the Word of the One who was there and knows what happened? It may be hard to believe that you’ve been deceived for all these years. But are you open-minded enough to admit that it’s possible, and that maybe evolution is not proven scientific fact after all?

X. EXAMINING THE EVIDENCE CRITICALLY.

If you are seriously interested in creation you should obtain a copy of Ian Taylor’s *In the Minds of Men*. If it is not available locally, you can order it online. This book is one of the single most comprehensive sources of information on the history of the creation/evolution controversy, especially the following examples of fraud and deception. It also includes many photographs and illustrations which will be useful in your class.

A. POTENTIAL PROBLEMS WITH EVIDENCE.

Some are unsure if the Bible is God’s eyewitness account of how everything began, but they’re open to the possibility. We can help by showing them how the scientific evidence fits in with creation. Remember that we can’t scientifically “prove” either creation or evolution because we can’t observe, repeat, or test what happened in the beginning. However, either process should have left certain types of circumstantial evidence in nature. Before

we accept anybody's word that this evidence supports one side or the other, we should be aware of some potential problems.

1. **EVIDENCE MAY BE INCOMPLETE.**

Visual
#6-38

Suppose you're watching a murder mystery on TV. Five minutes before the end, you're sure who did it. Four minutes before, you're really sure. Three minutes before, you learn new evidence that makes you realize you were wrong. It was the butler, not the chauffeur! You drew an incorrect conclusion because you didn't have enough evidence. Scientists sometimes make the same mistake.

Prime Example: Nebraska Man. (Taylor, 1987, 231-233)

Visual
#6-39

In 1922 scientists used a single tooth found in Nebraska as the basis for describing an entire genus of ape-human intermediates known as *Hesperopithecus*. The London Daily News even printed a double-page artist's conception of Mr. and Mrs. *Hesperopithecus* in their natural habitat. A few years later an identical tooth turned up still embedded in the jaw it belonged to. The tooth and jaw were not from an ape-man but from an extinct pig! Why the mistake? Because the scientists drew their conclusion based on incomplete evidence.

Since humans don't know everything, we don't even know how much we don't know. There may be only a little evidence missing, or there may be a great deal. Perhaps there is one crucial piece still missing. The only way we can be sure of drawing correct conclusions about the past is to start with the word of someone who was there and saw what happened – God. Any statement that contradicts His Word will eventually turn out to be false. The scientists were not there and are making up stories based on presuppositions and incomplete evidence.

2. **EVIDENCE MAY BE WITHHELD.**

a. **Java Man.**

Visual
#6-40

In 1891 Dr. Eugene Dubois, a pupil of Ernst Haeckel (the perpetrator of the “embryonic recapitulation” fraud in section 3a below), reported discovering fossils of a creature he called *Pithecanthropus alalus* (“speechless ape-man”) by the banks of the Solo River in Java, East Indies. Many believed his claim that it was a transition between apes and man. However, for 30 years he **concealed** the fact that he had also found indisputably human fossils nearby. These human fossils, of course, meant that *Pithecanthropus* was not man's ancestor but his neighbor. Nevertheless, until his death Dubois continued to maintain that Java Man was an ape-human intermediate similar to a large gibbon.

Dubois had gone to the East Indies specifically because Haeckel believed ape-human transitions were likely to be found there. He initially thought the first skull-cap and teeth belonged to a chimpanzee, but

“he wrote at once to Haeckel asking if any of this could be considered the remains of early man. Haeckel was in no doubt. He telegraphed back immediately: ‘From the inventor of *Pithecanthropus* to his happy discoverer.’” (Hitching, 1982, 206)

Dubois found what he wanted to find and tried to hide the rest. Science had little to do with it.

b. **Oxygen and the Origin of Life.**

Many biology textbooks tell students that life began by random chemical action in a “primordial soup.” Since free oxygen interferes with the chemical reactions needed to form the components of a cell (see Chapter 9), the textbooks say that there was no free oxygen in the early atmosphere. Instead, all the oxygen was supposedly trapped in rocks or chemically bound to other substances (e.g., the oxygen in water is bound to hydrogen as H₂O). The authors deliberately withhold the fact that every layer of sediment all the way down to “basement rock” contains traces

of free oxygen (Abelson, 1966, 1365; Dimroth & Kimberley, 1976, 1161; Hoashi et al., 2009 - more in Chapter 9). Geology shows that the conditions described in biology textbooks have never existed in nature. The atmosphere has contained free oxygen since the earliest rocks formed, but students have no way to know it. They can easily be deceived into drawing incorrect conclusions.

3. **EVIDENCE MAY BE DELIBERATELY FALSIFIED.**

a. **Embryonic Recapitulation.**

Ernst Haeckel was a medical doctor and zoology professor at Jena University in Germany in the second half of the 19th century. He wrote over 40 books trying to turn people away from God. He was willing to lie to accomplish this purpose.

Though Darwin was the first to write down the theory of evolution in a systematic form, the idea had been around for thousands of years. In the decades before *The Origin of Species*, some biologists believed that embryos of different creatures at different stages of development should illustrate their evolutionary history. When Haeckel read Darwin's book, he combined Darwin's ideas with this belief and in 1866 reported that his dissection of various types of embryos confirmed their evolutionary history - that is, that "Ontogeny recapitulates phylogeny." He wrote and gave lectures on the subject all over Europe for over 40 years.

It was a lie! Haeckel was *convicted of fraud* by a Jena University court of his peers in the early 1900s (Meldau, 1974, 217). However, most people have never heard about his disgrace. The United States Supreme Court still believed Haeckel's falsified evidence over sixty years later when it issued its 1973 *Roe v. Wade* decision legalizing abortion on demand. The justification? The embryo is not fully human until birth. The Court drew a wrong conclusion based on false evidence. Since 1973, this lie has cost the lives of about a million and a half babies each year in the U.S. alone. (Over 60 million as of this writing.)

b. **Pitdown Man.**

"Pitdown Man" was supposed to be a transition between ape and man. The fossil evidence consisted of an apelike jaw and a human-type skullcap found in a gravel pit in Pitdown, England during the period from 1908 to 1912. From the beginning some who saw the bones said Pitdown Man was a fake, but they were silenced by the majority who were eager for evolutionary transitions. For 40 years the collection of bones was presented in textbooks as belonging to a missing link called *Eoanthropus dawsoni* ("Dawson's Dawn Man"). In 1953 it was reexamined by a team of scientists who conclusively found it to be a hoax. The skull was a human skull stained to look old; the jaw was an ape jaw with obvious gouges where it had been filed to fit the skull.

Why did people believe in Pitdown Man for so long? Because scientists are human too, with presuppositions and biases like the rest of us. They wanted to find an ape-man. When one appeared, they let themselves be duped.

B. HOW TO EVALUATE EVIDENCE.

Throughout our lives we have to decide if people are telling us the truth. Since we know that evidence may be incomplete, withheld, or falsified, we shouldn't blindly accept every scientific sounding thing we hear. Whenever anyone makes a statement about anything we can't see for ourselves, we should ask questions.

1. **MEMORY AID.**

If you are dealing with younger students, you can give them an easy memory aid. (It works for adults too!) Have them trace an outline of one of their hands, then write each of the following words or phrases on one of the fingers: WHO, WHAT, WHAT NOT, HOW, and GOD. Here's what it means.

Visual
#6-42

- a. **WHO** says they saw it? (Were you there?) Who, if anyone, claims to have observed whatever you're talking about? Is the alleged witness reliable?
- b. **WHAT** did they actually see? Is it enough to justify their conclusion? How much is evidence and how much is interpretation - an educated guess?
- c. **WHAT** are they NOT telling us? What assumptions are involved? How reasonable are they? Is somebody deliberately withholding evidence? Is there some sort of hidden bias?
- d. **HOW** can we test it? If there is no way to test it, we can't apply the scientific method. It's not part of science.
- e. What does **GOD** have to say about it? How does this compare with the Word of God? He was there and knows for sure what happened. The scientists were not and are only guessing.

These questions apply just as well to theistic as to atheistic evolution. If evolution occurred at all, it would have left exactly the same traces whether the driving force was random chance or divine influence.

2. **APPLICATION.**

Even young children can understand that a policeman holds up his hand to stop a car if he is suspicious about it. Likewise, if they are suspicious about a statement they can hold up their hand to investigate it. For example, do you remember hearing about a "Mars rock"? In 1996 the media were abuzz about a meteorite found in Antarctica in the early 1980s, which NASA suddenly claimed came from Mars and showed that life might have existed there billions of years ago. Let's hold up our hand and check out this claim.

- a. **WHO** saw life on Mars, or even saw the rock come from there? Nobody. This is not an eyewitness account.
- b. **WHAT** did they actually see? A meteorite that contains a mix of gases similar to those the Viking lander found on Mars, and a number of chemicals called aromatic hydrocarbons that can be produced by living things.

Is this enough to justify their conclusion? No, especially when we consider the next question:

- c. **WHAT** are they **NOT** telling us?
 - First, the rock is supposed to be billions of years old - yet it contains traces of the modern Martian atmosphere instead of the mix of gases that would have been present billions of years ago.
 - Second, life is only one of hundreds of processes that can produce aromatic hydrocarbons.
 - Third, they are assuming that life can spontaneously spring into existence anywhere the conditions are right. We will see in Chapter 9 that this is highly unlikely.
 - Fourth, NASA was due to lose millions of dollars from its budget. NASA scientists desperately looked around until they noticed this meteorite that had lain on a shelf for 13 years. They proclaimed that it showed the possibility of life on Mars and the funding was quickly restored. Could there be a little bias here?
- d. **HOW** could we test it? There is no way. The statement that the rock shows the possibility of life on Mars is storytelling, not science.
- e. What does **GOD** have to say about it? While the Bible does not absolutely rule out the possibility of physical (as opposed to spiritual) life in space, it strongly implies that it exists only on earth. See Chapter 9. The hand technique shows us that statements about this rock showing life on Mars are not part of science and should not be given much weight. Likewise, we can use the method to evaluate any other suspicious claim.

Visual
#6-43

3. THE MoLOR MODEL.

Prof. Bob Ford of Frederick Community College in Maryland uses a different approach to achieve the same results. (Note: this use of his technique in no way implies that he believes in creation.) Most people take for granted that scientific sounding statements in popular media such as newspapers, magazines, TV, and the Internet are trustworthy. But how can we tell for sure? In a 1998 article in the American Biology Teacher (Ford, 1998), Ford gives us an excellent tool to evaluate such statements.

Ford starts with a 1991 model by Taylor and Cerbin (as cited in Ford, 1998) called the Line of Reasoning or LOR model, then modifies it to the MoLOR model. The original model suggested that a claim be conditionally accepted if it is supported by scientific evidence and rejected if it is not. In order to be acceptable, scientific evidence would have to be (1) empirically based – that is, observable, repeatable, and testable – (2) attributed to an identified source, and (3) not self-contradictory. However, because scientific evidence may exist but not be identified in an article, Ford’s MoLOR model allows a third option, tentative acceptance, and adds the caveat that allegedly scientific evidence should be examined for bias.

MoLOR requires active involvement of the students. They must seek out articles, read them critically, analyze them, and write a critique according to certain criteria, as follows:

- a. **Select** a scientifically oriented article from a popular source.
- b. **Identify** the primary claim of the article.
- c. **List** everything presented as evidence concerning the primary claim, whether or not it supports it.
- d. **Evaluate each piece of alleged evidence** to see if it is (a) empirical, that is, based on observation using the senses or some sort of measuring device, (b) from a scientific source, and (c) free of bias. For example, is a tobacco company’s study claiming that smoking does not cause cancer really free of bias?

In order for students to properly perform this evaluation, it is crucial that they understand the difference between evidence and inference. The former is raw data, while the latter is interpretation based on that data. Inferences are often presented as if they were evidence. By following the MoLOR model, students can become proficient in telling the difference.

- e. **Evaluate the claim.**
 - i. Accept it tentatively if the evidence is sufficient, consistent, and logical;
 - ii. Accept it conditionally if the evidence is minimal or not attributed to a specific source but the inferences are reasonable and the arguments are logical and consistent;
 - iii. Reject it if the evidence is lacking, contradictory, biased, or illogical.
- f. **Prepare a written critique** explaining why you accepted or rejected each piece of evidence and why you accepted or rejected the primary claims of the article.

Ford uses a graphic depiction of the MoLOR model similar to the following.

Visual
#6-44

Claim:						
Evidence	Empirical?	Source		Bias-Free?	Acceptable?	Support?
		List	Accept?			

As an example of how the technique works, we can use it to analyze the claims about the “Mars Rock” from a different perspective. Using the steps of MoLOR, we can see some glaring flaws in these claims.

- i.* Rather than focus on a single article, let’s group together all the newspaper and television reports about the meteorite that came out around the same time.
- ii.* The main claim is that this rock shows evidence of life on Mars.
- iii.* The evidence consists of the gases and aromatic hydrocarbons found in the rock. These are empirical data; they were reported by professional scientists; and there is no bias involved in a simple statement of the fact that they exist.
- iv.* The problem is not with the evidence but with the inferences drawn from it.
 - First, the belief that the rock came from Mars is an inference based on wishful thinking and the fact that the gases in it are similar to those the Viking lander found on Mars. The rock is supposed to have come to earth millions of years ago, but is supposed to be billions of years old. Then why should it contain traces of the modern Martian atmosphere instead of the mix of gases that would have been present billions of years ago? This is self-contradictory.
 - Second, there is no actual evidence to show how long ago the meteorite landed in Antarctica. NASA is just making up a story.
 - Third, the conclusion that it shows traces of life is inference, not evidence. Aromatic hydrocarbons can come from hundreds of sources besides living things.
 - Fourth, there is a great deal of bias involved. Besides the motivation of NASA scientists to get their funding back, almost every report took it for granted that life can spontaneously evolve from nonliving chemicals. This is philosophy, not science.
- v.* Based on the fact that the claims of the stories are almost entirely inferences based on bias, the claims must be rejected as unreliable.
- vi.* If we were to follow the MoLOR model all the way, we would now write a detailed report of our findings.

The MoLOR technique shows us that stories about the Mars rock are just that: stories. They should be rejected as science.

Suggested assignment: Have your students select an article in a newspaper or magazine that makes some claim about evolution, then use the MoLOR technique to critique it.

Remember, the creation/evolution controversy is at its heart a question of belief vs. belief, with each side claiming that science supports its belief. We can’t prove either creation or evolution, but we can find out which is more reasonable if we remain aware of the potential problems with evidence and use techniques such as these to help us distinguish science from storytelling.

XI. COMMON MISCONCEPTIONS.

Before we start looking at the evidence to see whether it fits better with creation or evolution, we should deal with some common misconceptions. Some of these have been known to be false for over a hundred years, yet the public hasn’t caught on. Sadly, some uninformed science teachers still present them as evidence for evolution. Correcting these mistakes doesn’t prove creation, but it shows that the case for evolution is far weaker than most people realize.

A. “SPECIES” VS. “KIND.”

A species is a reproductively isolated biological unit - a group of animals or plants whose members can reproduce only with each other. However, a species is not necessarily the same as a “kind” in Genesis. On the biological classification system of kingdom-phylum-

class-order-family-genus-species, a kind may correspond instead to a genus, or possibly a family. Thus, multiple species may have developed within kinds through loss of genetic information, rendering different groups belonging to the same kind no longer able to breed with each other.

Visual
#6-45

Evolutionists often caricature creationists by saying they believe each species of living creature was created exactly as it is today. Some believed this in past centuries, but few do today. The creation model has been modified as more facts have come to light.

1. THE ORIGINAL CREATION MODEL - Immutability of Species.

Before the fossil discoveries of the last century, many creationists believed that every species had remained exactly the same as when it was created. If we were to use this model to draw a graph of living things through time it would consist of a great many parallel lines of the same length. By comparison, a graph of Darwinian evolution would look like a tree with many branches rising from a single trunk.

2. THE LINNAEAN LAWN - Extinction But No Variation.

As fossils of more and more extinct species came to light, it became apparent that many “kinds” had disappeared. The creation model was revised to say that species do not change but may become extinct. This idea would lead us to represent the history of living things by a number of parallel lines that begin at the same place, representing the time of creation, but end at many different lengths like the blades of grass on a lawn – a model known as the “Linnaean Lawn” after the naturalist Linnaeus.

3. THE MODERN CREATION MODEL - The Creationist Forest.

Most creationists admit that species change with time. However, the changes are within clearly defined limits. Rather than an evolutionary tree in which all living things developed from one ancestor, the modern creation model can be represented by a forest of trees. Each tree represents a kind (sometimes called a *baramin* – created kind – or *bauplan* – building plan) whose members have diversified but still belong to the same kind. For instance, the dog kind would be represented by its own tree. The branches represent all the varieties and breeds of dogs, but none of the branches connect to any other tree such as the cat kind. There are no “dats” or “cogs.”

Visual
#6-46

The classification of species, genus, and so on is a man-made system that does not exactly match the Biblical concept of kinds. Most creationists believe that many kinds of organisms appeared at the Creation then diversified into multiple species within the limits of the original kinds. Though the original ancestors were interfertile at the beginning, the descendants may not be any more because of a loss of genetic information. Even for modern organisms, the ability to interbreed is *supposed* to be the criterion for defining separate species.

This is not always done correctly. Sometimes a group of animals or plants are able to breed with each other, yet are considered as separate species because of anatomical features. For example, Darwin classified the finches on the Galapagos Islands into thirteen species because of differences in beak shape. Since they are able to interbreed, it is incorrect to divide them into different species. Nevertheless, the error persists in popular literature.

There may even be a few cases where interfertile organisms have been mistakenly classified as members of different genera. Creationists would say that they are members of the same kind.

The difference between kinds and species is easy to see in experiments performed on the fruit fly genus *Drosophila*, whose short life span makes it an excellent subject for observation. These insects have been separated and selectively bred for hundreds of generations into groups which are no longer able to breed with each other. The inability to interbreed causes the new groups to be defined as different species.

This is not evolution. No new genetic information has been added; in fact, some has

been lost. Each group no longer has the genes needed to produce all the other groups derived from the original ancestors. Besides, all of the groups are still fruit flies. The newly bred species have visible differences from each other, but the kind as a whole has not gained any new features or genetic information.

B. GENE EXPRESSION.

Students without a background in biology might be unfamiliar with the concept of gene expression. In Darwin's day, nobody knew what produced the characteristics that led to one group of living things being identifiable as fish, another group as bacteria, another as broccoli, another as humans, and so on. Since then scientists have discovered that every physical feature of every living thing is determined by the presence of genes in its DNA.

Visual
#6-47

Some genes always produce obvious results. For instance, unless something goes wrong with its DNA, a dog is born with four legs. Other genes may exist in several different forms, or alleles. For example, a combination of several alleles determines the color of your eyes and hair. In just about every case where two or more alleles exist, one of them is dominant, that is, it is the only one that produces visible results. (In biological terms, it is *expressed*.) The recessive alleles do not necessarily disappear; even though they are not expressed, they can be passed on to future generations.

To the best of our knowledge, the combination of alleles passed on from each set of parents to their offspring is random. Thus, it is possible that some descendants may receive only the recessive alleles without any of the dominant ones. The recessive are no longer overpowered and can finally produce a visible result. (This is the cause of a "throwback" to previous generations.) The previously unexpressed features do not necessarily mean that new genes came into existence, but more likely show that the dominant genes that were previously blocking their expression are missing.

C. EVOLUTION REQUIRES MORE THAN CHANGE.

Evolution is more than just the expression of previously existing genes. It requires the occasional appearance of totally new structures (bones, wings, arms, legs, eyes, etc.) which are the result of genes that are somehow added to the gene pool of a previously existing species. Technically, this is called *macroevolution*. It should not be confused with *microevolution*, which is nothing more than variation within a kind. In fact, microevolution would be better described as *microexpression* of already existing genes. Evolution requires new genetic information, not just minor variation based on previously existing information.

Visual
#6-48

There are a few alleged transitions in the fossil record within small groups such as certain types of shellfish. Since we can't do breeding experiments on them, we can't be sure if they belonged to the same or different kinds. However, the differences from one specimen to another are trivial. Creationists believe that these "transitions" reflect microevolution – variation within a kind – rather than the evolution of a new kind.

D. EVOLUTION VS. DESCENT WITH MODIFICATION.

The concept of organic evolution, that phase of evolution that has to do with living things, is based on the observation that animals and plants produce offspring that vary somewhat from their parents. However, this phenomenon fits equally well with creation. Both expect offspring to differ from their parents to some degree.

Visual
#6-49

1. EVOLUTION: MANY MUTATIONS BENEFICIAL.

Evolution (initial disorganization) says that some of the changes that occur in successive generations ultimately produce new body structures. The gradual accumulation of these structures must lead to the appearance of new and more complex types of creatures. Such changes must be ascribed to *mutations*, accidental errors in the process of copying each generation's DNA.

There is no question that most mutations are harmful. However, since so many new

structures have developed, there must have been a great many beneficial mutations through the eons. We should observe at least a few modern day mutations that have a beneficial effect on the affected species.

2. **CREATION: MUTATIONS HARMFUL.**

Creation (initial complexity) says that except for mutations, changes occur only within the limits set by the genetic information contained in each kind's DNA. In case of mutation, we expect the change to be harmful or at best neutral. Since mutations work by changing what is already present rather than adding new information, no mutation should improve the overall condition of the kind.

Visual
#6-50

Evolution requires not just change, but change in the direction of increased complexity – from simple to complex. Since creation postulates that everything began at its best, it predicts that changes will tend toward deterioration – from complex to simple.

E. **EVOLUTION VS. ADAPTATION TO THE ENVIRONMENT.**

It is obvious that many species are able to adapt to changing conditions in their environment, and that some individuals adapt better than others. This leads many people to think that the species and individuals must have evolved.

Visual
#6-51

This is not true. According to evolution, the first living cell would have been extremely simple. In order for brains, bones, eyes, hearts, lungs and so forth to evolve, many brand new genes would have had to come into existence. This would require the *addition* of a great deal of genetic information.

Creation, on the other hand, leads us to expect that a skillful designer would have built in enough variability to allow each kind to adapt to changing circumstances. Though individuals might adapt by changing their behavior, the species would adapt through the expression of already existing combinations of genes. Suppose, for instance, that a dominant gene resulted in yellow skin for a particular type of lizard, while the recessive allele led to purple skin. As long as the environment was primarily yellow, the lizards with the dominant gene would thrive. However, if something happened to kill off all the vegetation except the purple vines and flowers, the yellow lizards would stand out and would become easy prey. The yellow gene might eventually be eliminated. Even if it was still expressed occasionally, the purple lizards would take over. Though we might say that the species adapted to its new environment, all that really happened was that previously dominant genes were eliminated and allowed previously recessive ones to be expressed. This is a *loss* of information. It is not evolution at all.

F. **THE MECHANISM OF EVOLUTION.**

Recommended resources:

Francis Hitching, *The Neck of the Giraffe*, Ticknor & Fields, New Haven, 1982
Davis and Kenyon, *Of Pandas and People*, Houghton Publishing Co., Dallas, TX, 1989.

The latter is a biology textbook suitable for use in public schools that presents the creation/evolution controversy in terms of intelligent design vs. random chance. It is especially recommended for science teachers.

If everything evolved from one simple cell, then different types of animals and plants must have acquired new body structures billions of times since life began. Ever since Darwin, evolutionists have been trying to determine how such a thing might happen.

1. **LAMARCKIANISM - Use and Disuse of Body Parts.**

Visual
#6-52

Darwin's *The Origin of Species* is mistitled. He dealt with how species might have diversified after they first appeared, but did not answer the question of why new ones should develop in the first place. Others built on his work and developed a model of evolution called "Darwinism" which attempted to explain the appearance of new fea-

tures and the loss of old ones. Darwinism depended upon *Lamarckianism*, named after its inventor, French biologist Jean Baptiste de Lamarck.

As organisms use certain parts of their anatomy those parts become more developed. Likewise, as they stop using body parts those parts atrophy. Lamarck believed that their offspring would inherit the changes. The most famous example of this belief is his 1809 story about how giraffes developed long necks. He said that they must have lived in an area subject to periodic drought. When the weather dried up, so did the trees. The shorter giraffes starved as soon as the lower leaves were gone. Only those who stretched their necks enough to reach the higher ones survived. They passed on their longer necks to their offspring, who repeated the process for many generations. Finally, the familiar long-necked giraffe had evolved.

Lamarckianism has been thoroughly discredited. The effects of use and disuse are not passed on to offspring. Repeated experiments such as cutting the tails off 100 successive generations of mice have shown that the characteristics of each organism are determined solely by the DNA it inherits from its parents. Use and disuse has no effect on your DNA. You can build up your muscles until you look like Mr. Universe, but your children won't be any stronger than if you had never exercised. The only way you can affect your future offspring is by damaging your DNA with drugs, radiation, and the like.

2. ***NEO-DARWINISM - Natural Selection Operating on Mutation.***

With Lamarckianism conclusively disproved, evolutionists tried to come up with another explanation for the giraffe's long neck. The new scenario said that since some giraffes would naturally be taller than others, only those fortunate enough to have longer necks would survive. As the droughts continued for many generations all the giraffes with genes for short necks died out. Eventually, only giraffes with genes for long necks remained.

While this sounds plausible, the length of the modern giraffe's neck is not the only factor that needs to be considered.

a. ***Survival of Other Leaf-Eaters.***

The giraffe is not the only leaf-eating animal. How did its leaf-eating neighbors survive in the same environment without developing long necks?

b. ***Ability to Eat Grass.***

If other animals survived by simply bending down and eating grass, so could the shorter-necked giraffes. They should still be with us today.

c. ***Fossil Giraffes.***

No one has ever found any short-necked fossil giraffes.

- Though an animal called an okapi is similar in some ways to a giraffe, it is not considered ancestral. Like the giraffe, it appears in the fossil record suddenly and fully formed.
- Likewise, an extinct animal called *Samotherium* is considered a member of the giraffe family, but it is not considered an ancestor to the giraffe (Danowitz *et al.*, 2015).

d. ***Sexual Dimorphism.***

Giraffes exhibit *sexual dimorphism*: the males are one to two feet taller than the females. In an environment in which a few inches more height meant the difference between life and death, the females would have starved. The species would have become extinct in one generation.

e. ***Height at Weaning.***

An adult male giraffe grows as tall as nineteen feet. The young are only about twelve feet tall when their mothers refuse to nurse them any more. If adults had trouble reaching the leaves, the young would have been far too short to feed them-

selves. Giraffes would have become extinct in one generation.

f. *Internal Neck Structures.* (Davis & Kenyon, 1989; Mitchell *et al.*, 2009)

Length is not the only unique feature of the giraffe's neck. Since the head is so high above the ground, the heart has to pump harder than any other animal's to get blood to the brain. But what happens when the giraffe lowers its head to get a drink of water? It not only has to contend with the full force of its heart's pumping action, it also has to deal with gravity trying to force the blood the wrong way through its neck. Were it not for the control structures in the neck, the pressure could produce brain aneurysms that would rupture and kill the animal.

Such a misfortune does not happen because the giraffe's neck has built-in pressure sensors which detect increases in blood pressure as it bends down. The brain then sends signals to the heavily muscled arteries. Some constrict to reduce the blood flow, while others reroute a portion of it through a network of blood vessels known as the *rete mirabile* ("marvelous net"). Meanwhile, a series of one-way valves prevent blood from flowing the wrong way back up the neck. When it straightens up again, everything goes back to normal.

No other animal known has such a system.

- The giraffe's supposed relative, the okapi, lacks these structures (Augliere, 2016; Coppedge, 2016).
- We cannot be sure about soft tissue in *Samotherium* because it is known only from fossils.

This elaborate system exists because of information contained in the giraffe's DNA. Though some of its evolutionary ancestors might be a bit taller or shorter because of genetic variation, no one has come up with any possible scenario to explain how the DNA might have mutated to produce the intricate blood control system at the same time as a gradually lengthening neck. The most reasonable conclusion is that giraffes were designed that way from the beginning.

The example of the giraffe's neck illustrates the fact that evolutionists must rely on made up "just-so" stories.

i. Use and disuse of body parts is not a valid mechanism for evolution.

ii. Normal variation is not sufficient to introduce radically new structures.

Evolutionists must admit that the only mechanism available to cause one species to evolve into another is random mutation. However, there is not a single known case where mutations add to the genetic content of a species; instead, they change segments of DNA from meaningful to meaningless. In those few cases where an individual benefits from a mutation, the species suffers because its gene pool is diminished. There is no way mutations could produce a giraffe. They don't create genetic information, they destroy it.

G. NATURAL SELECTION.

Another misconception is that belief in creation rules out belief in natural selection or "survival of the fittest." This is nonsense. Both sides believe in survival of the fittest. The question is, who is the fittest?

1. *EVOLUTION: Natural Selection is a Creative Process.*

Evolutionists have no alternative but to believe that mutations provide the raw material from which new features evolve. The individuals that acquire these new features supposedly have an advantage over their unchanged relatives and are more fit to survive and produce offspring. For example, if a mutation caused a rabbit to become an albino just as the climate changed to make his environment snowy white, he would be hard for predators to see and would have an advantage over his brown relatives. If he had enough offspring the mutation might be added to the gene pool and eventually produce

Visual
#6-53

Illustration
in *Of
Pandas
and
People*, p.
70

Visual
#6-54

a new species of white rabbits. Thus, natural selection must at least occasionally be a creative process.

2. **CREATION: Natural Selection is a Destructive Process.**

Creationists point out the fact that no known mutations give such an advantage. On the contrary, almost all mutations are harmful or fatal to the individual affected. He is less fit, not more. He will probably die sooner than his unchanged relatives, making him less able to produce offspring. Natural selection is thus viewed as a conservative process that weeds out defective specimens. It does not create; it destroys.

The arctic rabbits used as an example are not really albinos. They are white throughout the winter months but become brown when the snow melts and their surroundings become dark. Such a process would require a whole series of mutations, all happening at exactly the right times while the climate gradually changed. A truly remarkable chain of accidents!

Being in the right place at the right time has a great deal to do with which individuals live and die. No matter how fit an animal is, if a forest fire breaks out he gets barbecued. Perhaps we should talk about “survival of the luckiest” instead.

H. INDUSTRIAL MELANISM - THE PEPPERED MOTH.

When confronted with the fact that there are no documented cases of any kind of animal or plant evolving into a different kind, evolutionists counter with one example of “evolution in action,” the peppered moth.

In the area around Liverpool, England lives a species of moth known as Kettlewell’s moth, the peppered moth, or *Biston betularia*. It comes in light and dark varieties. Before the industrial revolution, the trees in the area were light in color. As the story goes, the light moths were hard for birds to see as they rested on the trees, while the dark ones were easy to spot. Most of the dark moths were quickly eaten, victims of natural selection. The light moths which escaped comprised the vast majority of the moth population. However, when the industrial revolution got under way and factories began to belch out great quantities of smoke, the light-colored lichens on the trees died and the soot-coated trees became darker and darker. Now it was easier for the dark moths to blend in and survive. Soon the percentage of dark moths was far greater than that of the light ones.

Is this a case of evolution? Not at all. The moth population began with light and dark moths of species *Biston betularia* and it ended with light and dark moths of species *Biston betularia*. In addition, a pollution cleanup campaign in the area made the trees lighten again. As they moved back toward their original color, the percentage of light moths also shifted back towards its original amount. The peppered moth is an excellent example of natural selection, but it has nothing to do with the evolution of a new kind of creature (Matthews, 1971, xi). Nothing new was added.

A postscript to the story: it turns out that the famous photos of the light and dark moths found in many biology books were faked by photographers who pinned dead moths to the tree trunks. In real life, the moths do not rest on the trunks but stay mostly in the upper branches. How sad that evolution is so weak that it must rely on lies to persuade the gullible public. Even if the story were accurate, it still wouldn’t give any support to evolution.

Suggestion for teachers: you can illustrate industrial melanism, natural selection, and the peppered moth by making two large cutouts in the shape of moths, one of them out of black construction paper and the other out of white. Hold the two against a white background and ask the students which would be easier for birds to see and eat. Repeat the demonstration against a black background. The students will be able to see for themselves how natural selection operates. It works on previously existing features without creating anything new.

Visual
#6-55

Photo on
p.46,
Morris &
Parker,
*What is
Creation
Science?*
(available
from
I.C.R.)

Visual
#6-56

I. SELECTIVE BREEDING.

One of the principal arguments for evolution is our ability to develop new strains of animals and plants by selectively breeding for desired features. For example, selective breeding has produced cows that give more milk and chickens that lay more eggs.

Selective breeding works by deliberately breeding individuals that have desired genes and eliminating (that is, killing off) the ones without those genes. In an extremely simplified example, suppose a certain variety of rose had only two alleles for color, yellow (recessive) and red (dominant). If each plant had only two gene sites for color with an equal probability of each being occupied by the dominant or recessive allele, an average of one out of four offspring should be yellow. However, we could selectively breed the offspring to produce either all red or all yellow flowers within just two generations. Nothing would have evolved; we would merely have eliminated previously existing genes from the selectively bred strain.

Evolutionists believe that since man can bring about limited changes such as these, natural selection (random chance operating on the raw material furnished by mutations) must have been able to produce unlimited changes. This belief goes against thousands of years of observation.

1. *REDUCED VIABILITY.*

The individuals produced by selective breeding are less viable (able to survive on their own) than those in the wild state. They require much more care in order to stay alive (Falconer, 1960, 186). For example, chickens have been bred to reach frying size only seven weeks after hatching, but they require a great deal of care simply to be kept alive for those seven weeks. The selective breeding helps us, not the chickens. It makes them weak and unable to survive without constant care from the breeders.

2. *INSTABILITY.*

When the selective breeding is discontinued, the group reverts to its wild state within a few generations (Wysong, 1976, 317-318).

3. *LIMITS TO VARIATION.*

Selective breeding enables us to emphasize preexisting features, but in every case we reach a limit beyond which no further change is possible (Fix, 1984, 184-185). Two examples are the sugar beet and the fruit fly *Drosophila*. In 1800, experimenters in France began attempting to increase the percentage of sugar in table beets from the natural amount of six percent. By 1878, after many generations of selective breeding, they were able to raise the percentage to seventeen. In more than a century since then, attempts to go beyond this limit have failed. Likewise, attempts to reduce the number of bristles on the thorax of fruit flies succeeded for twenty generations until a limit was reached. In hundreds of generations since then no further change has been possible (Tinkle, 1967, 55).

These are not isolated cases. In every instance, breeders have found that they soon reach a limit beyond which no further changes are possible (Lester & Bohlin, 1984, 95-96). In order to stay alive, the affected individuals require greater care than those not produced by artificial selection. When allowed to resume natural breeding the group reverts to its wild state within a few generations.

The best efforts of careful breeders throughout history have never been able to make any species of animal or plant vary beyond definite limits. Nevertheless, evolutionists believe that a series of accidents accomplished what thousands of years of careful planning could not. They must discard thousands of years of observation simply because they are not willing to accept the evidence.

Don't let anyone tell you that such a belief is science. It is faith. The observations of science show that even under carefully controlled conditions there are clearly defined limits to change within kinds.

Visual
#6-57

J. VESTIGIAL AND NASCENT ORGANS.

If animals and plants really evolve into new kinds, they must develop new organs and structures while losing old ones – legs taking the place of fins, wings taking the place of legs, and so on. Thus, evolving species should have partially formed *nascent* organs that are not yet fully functional. Likewise, they should have *vestigial* structures that no longer have a function and are merely evolutionary leftovers. Sounds like Lamarckianism, doesn't it?

Belief in creation, on the other hand, leads us to expect a complete absence of nascent structures. Any vestigial structures we might find reflect deterioration of the gene pool rather than evolution. Genetic information has been lost because of the accumulation of harmful mutations through the centuries.

What do we actually observe? There is not a single nascent structure known in any type of creature. We don't see anything with half an eye, half a wing, or half of anything else. Creation wins easily on this point.

Visual
#6-58

What about well-known “vestigial” structures such as the coccyx (tailbone), appendix, tonsils, and so forth? For years most evolutionists believed (based on a list compiled in the 1800s by the German biologist Wedersheim) that over 180 structures or organs in the human body had served some purpose in man's evolution but were now useless evolutionary vestiges (Key, 1959, 13). Creationists believed that a few structures might have atrophied because of accumulated mutations, but that the number should be quite small.

Creation is correct again. There are now at most six organs in the human body for which a function is not known (Kofahl & Segraves, 1975, 171).

Visual
#6-59

- If you look at a bare skeleton, the coccyx does indeed look like a tail. However, if you look at the whole body including muscles, the function of the coccyx is obvious: it is the anchoring point for the pelvic muscles. (Ask anyone who's ever had a broken tailbone if it's useless!) Besides, the apes supposed to be our closest relatives, chimps and gorillas, don't have a tail. Why should we?
- The tonsils and appendix are part of the body's reticulo-endothelial system and contain lymphoid tissue used in fighting infection, especially during infancy. If a structure has a function at any time, it is not a useless evolutionary leftover.
- Most bacteria are not harmful. In fact, many are necessary for proper functioning of the digestive system. The appendix contains a store of the good bacteria necessary in case the system needs to be “rebooted.” (Smith, 2009)
- We now know of a function for almost all the rest of these “vestigial” structures.

Despite the evidence, some continue to cling to belief in vestigial organs. Recent high school biology textbooks still list the appendix, tailbone, and so on as evolutionary vestiges. When you have no evidence, you have to rely on myths instead.

K. EMBRYONIC RECAPITULATION.

Recommended visual materials: “The First Days of Creation,” <i>Life Magazine</i> , August 1990, pp. 26-46

Visual
#6-60

The “Embryonic Recapitulation” fraud has had so much impact on the abortion issue that it is worth bringing up again. Beginning in 1866 Ernst Haeckel, a professor of zoology at Jena University, published drawings and reports claiming that the human embryo exhibits all the stages of evolutionary development as it matures. He said that it develops gill slits, a yolk sac, a tail, etc. He called this the “Fundamental Biogenetic Law,” often expressed in the slogan “ontogeny recapitulates phylogeny.”

Haeckel's deception was immediately obvious to embryologists such as Wilhelm His, who first pointed it out in 1874, just a few years after Haeckel published it (Taylor, 1987, 275-277). This did not deter Haeckel. For over 40 years he taught this “Law” at lectures and seminars all over Europe. So blatant was his deception that in the early 1900s a Jena University Court of his peers finally found him guilty of fraud for falsifying his drawings

(Wysong, 1976, 401; Hitching, 1982, 202-203; Fix, 1984, 285; Pitman, 1984, 120; Singer, 1931, 487). Incredibly, embryonic recapitulation is still taught in many schools almost a century after Haeckel's disgrace.

The "gill slits" on the human embryo are neither gills nor slits. They never have anything to do with breathing but are pharyngeal pouches housing the thymus and parathyroid glands and the middle ear canals. The "yolk sac" contains blood cells, not yolk. The "tail" is essential as an anchoring point for the pelvic muscles (Morris & Parker, 1982, 27-33). In addition, many events during embryonic development take place out of evolutionary sequence. The tongue develops before the teeth, the heart forms before the rest of the circulatory system, the respiratory surface of the lung forms after the rest of it is complete, and so on.

The modern technique of intrauterine photography shows how a baby actually develops in the womb. For a beautiful view refer to the 1990 *Life Magazine* article mentioned above. You might want to point out that a developing baby at four and a half weeks (p. 40) looks somewhat like a reptile. Does this mean it is going through a reptile stage? Not at all.

I can look at a cloud and say it looks like an elephant, but that doesn't mean it *is* an elephant. It just means I have a good imagination. If I think that because it looks like an elephant to me it must be an elephant, I am an idiot. Likewise, I can look at a 4-1/2 week baby and say it looks like a reptile, but that doesn't mean it is a reptile. It just means I have a good imagination. If I say it *is* a reptile, I am an idiot.

A baby receives its full complement of DNA - 23 chromosomes from the mother and 23 from the father - at the instant of conception. As soon as the sperm and egg unite into a single cell the new baby has all the genetic information it needs to develop a fully formed human body. The development it goes through for the next nine months is merely the visible expression of the information contained in its DNA. Despite what courts and abortion clinics say, an embryo is not a blob of protoplasm, but a developing person.

What about reports of babies born with tails? In no case has the "tail" ever contained bone. They are nothing more than fatty tumors. If these are really tails, what about babies born with fatty tumors on their necks or stomachs? Does this mean that our ancestors used to have tails on their necks or stomachs? Of course not. Tumors can grow anywhere, but only the ones that seem to support evolution make the news.

L. SUMMARY

The information on the previous few pages does not prove that creation is correct. However, it shows that some commonly held beliefs are false and offer no support to evolution, while others fit at least as well with creation.

- (1) Natural selection and descent with modification fit as well with creation as with evolution.
- (2) There is no known mechanism to cause organisms to develop outside the limits of their kind. Each kind's reproductive mechanism is geared to produce only offspring of the same kind.
- (3) The complete absence of examples of evolution in action is a serious objection to evolution but is precisely what creation predicts.
- (4) The limits of selective breeding argue against the possibility of accidental evolution but follow logically from creation.
- (5) The total lack of vestigial and nascent organs deals a serious blow to evolution, but fits perfectly with creation.
- (6) The absence of evidence for evolution in the development of embryos is a puzzle to evolutionists but follows naturally from the creation model.

CHAPTER 6 REVIEW

I. Presuppositions and Biases.

Everyone has presuppositions by which they interpret evidence. If we are not aware of our presuppositions, we may overlook the obvious.

- A. Scientists biased in favor of creation include some of the great scientists of all time such as Newton, Pasteur, Kelvin, Maxwell, Faraday, Mendel, et al.
- B. Scientists biased in favor of evolution include many who rejected God and had to adopt evolutionary presuppositions. They include Darwin, Huxley, Gould, Haeckel, Asimov, Sagan, et al.
- C. Everything relating to evolution on the prehistoric earth is based on logic, not observation. If the logical structure is wrong (e.g., invalid use of a converse) then the conclusion is unreliable. Likewise, if any of the major or minor premises of evolution is wrong, then the whole system is unreliable.
- D. Presuppositions or postulates of each model.
 1. Evolution - Even if there is a God, He is not involved in nature. Everything must be explained by purely natural evolutionary processes. The earth is billions of years old. There was no worldwide flood. Similarities in living things are due to accident or common ancestry.
 - 1a. Atheistic evolution - the word of scientists is the final authority on every- thing.
 - 1b. Theistic evolution - same as atheistic evolution, except God is invoked to explain how life and the human soul began.
 2. Creation - God exists and is powerful enough to do anything He wants.
 - 2a. Recent creation - The Bible is the final authority in everything it addresses. The evidence of science must be interpreted accordingly. Creation was fairly recent. Much of the earth's geology is due to Noah's flood. Similarities between different kinds are due to common design.
 - 2b. Gap Theory - The word of scientists is the final authority on the age of the earth. There were two worldwide floods. Lucifer's destroyed the world, but Noah's left almost no trace. Similarities reflect design.
 - 2c. Progressive Creation or the Day-Age Theory - The word of scientists is the final authority on the age of the earth. There was no worldwide flood. Similarities show common ancestry.

Progressive Creation and both evolution models rest on uniformitarianism, the belief that there has never been a worldwide flood.

II. Critical Thinking - Examining the Evidence.

- A. Potential problems with evidence.
 1. It may be incomplete - e.g. Nebraska Man.
 2. It may be withheld - e.g. Java Man, early atmospheric oxygen.
 3. It may be falsified - e.g. "embryonic recapitulation," Piltdown Man.
- B. Questions to ask when evaluating claims about evolution.
 1. WHO says they saw it? Are they reliable?
 2. WHAT did they actually see? Is it enough to justify the conclusion?
 3. WHAT are they NOT telling us - assumptions, biases, withheld evidence, etc.?
 4. HOW can I test it? If it can't be tested, it's not science.
 5. What does GOD have to say about it? He was there and knows what happened. The scientists were not and are only guessing.
- C. The MoLOR technique.
 1. Select a scientifically oriented article.
 2. Identify the primary claim.
 3. List everything presented as evidence.

4. Evaluate each piece of alleged evidence to see if it is empirical, from a scientific source, and free of bias.
5. Evaluate the claim.
6. Prepare a written critique.

III. Common Misconceptions.

A. “Species” vs. “Kind.”

Creationists believe that species change: they deteriorate or diversify. Kinds are usually larger than species. Kinds remain fixed because everything reproduces only “after its kind.”

B. Macroevolution requires the addition of new genetic information. It has never been observed.

C. Evolution vs. Descent With Modification.

1. Evolution says that changes in successive generations accumulate and result in new structures and features, ultimately producing new kinds of organisms.
2. Creation says that normal changes in successive generations can occur up to the limits set by the information in DNA. Changes beyond these limits (due to mutations) will be harmful, not beneficial.

D. Evolution is not the same as Adaptation to the Environment.

E. The Mechanism of Evolution.

Lamarckianism (inheritance of characteristics acquired through use and disuse of body structures) has been thoroughly disproved. The only possible mechanism for evolution is mutation in DNA. However, no indisputably beneficial mutations have ever been observed.

F. Natural Selection.

1. Evolution says this is a creative process that leads to the development of new kinds of organisms.
2. Creation says this is a destructive process that weeds out defective specimens in already existing kinds.

G. Industrial Melanism - the Peppered Moth.

This is not a case of evolution. The moths started with light and dark varieties and ended with light and dark varieties. It is an excellent example of natural selection as a conservative (destructive) process.

H. Selective Breeding.

1. Selective breeding benefits the breeder but makes the affected species less able to survive.
2. When allowed to resume normal breeding patterns, the species quickly reverts to its wild state.
3. In every case, selective breeding has reached a limit beyond which no further change has been possible.

I. Vestigial and Nascent Organs.

1. There are no known nascent organs.
2. We now know the functions of almost all the organs previously thought to be evolutionary vestiges.

J. Embryonic Recapitulation.

This was a fraud. The embryo does not exhibit stages of evolutionary development before birth.

Many still believe these falsified “proofs” of evolution. Most high school biology textbooks still contain one or more of these errors.

CHAPTER REVIEW QUESTIONS

1. Anyone who has ever thought about the creation/evolution controversy will have certain presuppositions or _____.
2. Creationists and evolutionists look at exactly the same _____, but interpret it according to out presuppositions.
3. Which ancient Greek philosopher invented the type of logic we still use thousands of years later?

4. Deductive logic starts with general _____ (also called postulates axioms, or presuppositions) accepted as true, then moves from these general principles to draw conclusions about specific cases. This is how mathematics works.
5. Inductive logic starts with examining a number of specific instances then trying to determine a general principles. This is how science works.
6. One of the most common structures in deductive logic is the syllogism. It requires major and minor premises and a _____.
7. If any of the premises of a syllogism is false, the _____ is not reliable.
8. The most fundamental premise of evolution is that everything must be explainable by purely _____ processes.
9. How many things NOT explainable by natural processes would it take to falsify this premise?

10. Since divine creation depends on non-natural processes, can evolutionists accept it as a possibility? _____
11. The idea of creation does not require any specific age for the universe. (Biblical creation implies an age measured in thousands of years.) However, evolution requires at least _____ of years.
12. Since the Genesis Flood would explain much of the geologic record in a short time, evolution requires uniformitarianism – that is, there has never been a worldwide _____.
13. Creation says that similarities between living things not closely related are probably due to common _____.
14. It is possible to draw wrong conclusions from evidence if it is _____, _____, or _____.
15. In order to be confident about statements having to do with the past, we should ask questions:
 - a. _____ says they saw it?
 - b. _____ did they actually see?
 - c. What are they _____ telling us?
 - d. _____ could we test it?
 - e. How does this line up with the Word of _____?

16. A _____ in Genesis may include multiple species, genera, and possibly even families.
17. Evolution involves change in the direction of increasing _____. (Simple to complex)
18. Creation implies change in the direction of _____ complexity. (Complex to simple)
19. DNA copying mistakes during reproduction are called _____.
20. Creation says that though some mutations may be neutral, the great majority should be _____.
21. Evolution says that there must have been hundreds of thousands or millions of helpful (_____) mutations.
22. Are characteristics acquired or lost through use and disuse of body parts as proposed by Lamarck passed on to the next generation? _____
23. In every case where humans have selectively bred the animals or plants, they quickly reach a _____ beyond which no further change is possible.
24. Rather than being a “tailbone,” the coccyx is actually the anchoring point for the pelvic _____.
25. The so-called “gill slits” in the embryo are not slits and have nothing to do with breathing. They are pouches that house a number of _____ as well as the middle ear canals.

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