Lesson 3

The Existence of God—Design

Apologetics Press Introductory Christian Evidences Correspondence Course

THE EXISTENCE OF GOD—DESIGN

One of the laws of thought used in the field of logic is the Law of Rationality. This law states that a person should accept as true only those conclusions for which there is adequate evidence. This makes good sense, because a person who accepts conclusions for which there is no evidence, or inadequate evidence, would be irrational. In discussing the case for God's existence, theists use logic, clear reasoning, and factual data to present arguments that are adequate to justify the conclusion that God exists.

The evidence used to prove the theist's position concerning God's existence may take many forms. The different arguments presented by theists, all combined, make an extremely strong, irrefutable case for God's existence. Taken as a whole, the evidence is adequate to justify the conclusion that God exists. In this lesson, we will present and discuss more evidence which proves that God exists.

THE TELEOLOGICAL ARGUMENT

In order to prove the existence of God, theists often use what is known as the Teleological Argument. "Teleology" is a word that refers to purpose or design. Thus, this approach suggests that where there is design, there must be a designer. In logical form, the argument may be presented as follows:

1. If the Universe shows evidence of design, it must have had a designer.
2. The Universe shows evidence of design.
3. Thus, the Universe must have had a designer.

This correct form of logical reasoning, and the implications that flow from it, have not escaped the attention of those who do not believe in God. Even unbelievers understand that one does not get a poem without a poet, a law without a lawgiver, a painting without a painter, or design without a designer. However, even though many unbelievers admit that design demands a designer, they deny that there is any design in nature sufficient to establish the existence of a Great Designer.

The disagreement between the person who believes in God and the person who does not has nothing whatsoever to do with whether design demands a designer. Rather, the point of contention is whether or not there **is** design in nature adequate to prove the conclusion that a Designer does exist. This is where the Teleological Argument comes into play.

DESIGN OF THE UNIVERSE

Our Universe operates using exact scientific laws. The precision of the Universe, and the exactness of these laws, allow scientists to launch rockets to the Moon with the full knowledge that they will land within a few feet of their intended target. Such precision and exactness also allow astronomers to predict eclipses many years before they happen, or to determine when Halley's Comet will be seen again.

The precision, complexity, and orderliness within the Universe are not in dispute. But while atheists willingly admit that there is complexity (and even order), they are not prepared to say that there is design, because they know that purposeful design demands a Designer.

Is there evidence of design? The atheist claims that no such evidence exists. The theist, however, says there is evidence of design and offers the following information as support for that claim.

We live in a tremendously large Universe. While its outer limits have not yet been measured, it is estimated to be as much as 93 billion light-years in diameter (a light-year is the distance light travels in one year, moving at a speed of more than 186,000 miles per second; a light-year is approximately 5.9 trillion miles). There are an estimated two trillion galaxies in the Universe, and innumerable stars. The Milky Way galaxy in which we live contains over 300 billion stars, and is so large that even moving at the speed of light, it would require 100,000 years to travel across it. If we drew a map of the Milky Way galaxy where we live, and represented the Earth and Sun as two dots one inch apart (thus a scale of one inch equals 93 million miles—the distance between the Earth and the Sun), we would need a map at least four miles wide to locate the next nearest star, and a map 25,000 miles wide to reach the center of our galaxy. Without doubt, this is a rather impressive Universe.

While the size itself is impressive, its design is even more impressive. The temperature inside the Sun is estimated to be over 20 million degrees Celsius. The Earth, however, is located at exactly the correct distance from the Sun to receive the proper amount of heat and radiation to sustain life as we know it. If the Earth were moved just 10% closer to the Sun (about 10 million miles), far too much heat and radiation would be absorbed. If the Earth were moved just 10% farther from the Sun, too little heat would be available. Either situation would spell doom for life on Earth.

The Earth is rotating on its axis at 1,000 miles per hour at the equator, and simultaneously moving around the Sun at 70,000 miles per hour (approximately 19 miles per second), while the Sun and its solar system are whirling through space at 600,000 miles per hour in an orbit so large that it has been estimated it would take over 220 million years just to complete a single orbit.

Interestingly, however, as the Earth moves in its orbit around the Sun, it departs from a straight line by only one-ninth of an inch every eighteen miles. If it departed by one-eighth of an inch, we would come so near to the Sun that we would be incinerated; if it departed by one-tenth of an inch, we would find ourselves so far from the Sun that we would freeze to death. The Earth is about 240,000 miles from the Moon, whose gravitational pull produces ocean tides. If the Moon were moved closer to the Earth by just one-fifth, the tides would be so enormous that twice a day they would reach 35-50 feet high over most of the Earth's surface.

What would happen if the rotation rate of the Earth were cut in half, or doubled? If it were halved, the seasons would be doubled in length, which would cause such harsh heat and cold over much of the Earth that it would be difficult (if not impossible) to grow enough food to feed the Earth's population. If the rotation rate were doubled, the length of each season would be halved, causing the same kind of potential food shortage. The Earth is tilted on its axis at exactly 23.5 degrees. If that tilt were reduced to zero, much of the Earth's water would accumulate around the two poles, leaving vast deserts in their place. If the atmosphere surrounding the Earth were much thinner, meteorites could strike our planet with greater force and frequency, causing worldwide devastation.

The oceans provide a huge reservoir of moisture that constantly is evaporating and condensing, thus falling upon the land as refreshing rain. It is a well-known fact that water heats and cools at a much slower rate than a solid land mass, which explains why desert regions can be blistering hot in the daytime and freezing cold at night. Water, however, holds its temperature longer, and provides a sort of natural heating/air-conditioning system for the land areas of the Earth. Temperature extremes would be much more unpredictable than they now are if approximately four-fifths of the Earth were not covered with water. In addition, humans and animals inhale oxygen and exhale carbon dioxide. On the other hand, plants take in carbon dioxide and give off oxygen. We depend upon plants for our oxygen supply, yet we often fail to realize that almost 50% of our oxygen comes from tiny plants in the seas. If our oceans were much smaller, we soon would be out of air to breathe.

Can a person reasonably be expected to believe that these exacting requirements for life as we know it have been met "just by accident"? The Earth is exactly the right distance from the Sun; it is exactly the right distance from the Moon; it has exactly the right diameter; it has exactly the right atmospheric pressure; it has exactly the right tilt; it has exactly the right amount of oceanic water; it has exactly the right weight and mass; and so on. If this many requirements were met in any other area of life, the idea that they had been provided "just by accident" would be dismissed immediately as ludicrous. Yet

some people still suggest that the Universe, the Earth, and life on the Earth are all here as a result of a lucky accident. Several years ago, in *Science Digest* magazine, world-renowned physicist John Gribbin published an article that stressed the importance of facts like the ones mentioned above, yet labeled his article "Earth's Lucky Break!" The famous British astronomer Sir Fred Hoyle, however, has suggested that the idea of randomness and disorder somehow giving rise to design and order is like saying that a tornado could sweep through a junk-yard and assemble a Boeing 747 from all the scraps. The statistical improbability of the Universe "just happening"is staggering. The only alternative is that it was created by an Intelligent Designer—God.

DESIGN OF THE HUMAN BODY

Many years ago, the ancient scholar Augustine observed that "men go abroad to wonder at the height of mountains, at the huge waves of the sea, at the long course of the rivers, at the vast compass of the ocean, at the circular motion of the stars; and they pass by themselves without wondering." Indeed, while we stand in amazement at so many stunning scenes from our unique Universe, we often fail to stand amazed at the marvelous creation that is the human body. According to those who do not believe in God, the human body is the result of a set of "lucky" circumstances set in motion by those mythical parents, "Father Time" and "Mother Nature." Yet this suggestion does not fit the actual facts of the case. Can a person reasonably be expected to conclude that the masterpiece of the human body—with its ingenious systems and amazing design—is the result of blind chance operating over millions of years in nature as atheism suggests? Or would it be more reasonable to suggest that the human body is the result of purposeful design by a Great Designer?

The human body may be considered at four different levels. First, there are cells, representing the smallest unit of life. Second, there are tissues (muscle tissue, nerve tissue, etc.), which are groups of the same kind of cells carrying on the same kind of activity. Third, there are organs (heart, liver, etc.), which are groups of tissues working together in harmony. Fourth, there are systems (reproductive system, circulatory system, etc.), which are made up of groups of organs carrying out specific bodily functions. While we will not have the space to examine each of them here, a brief look at the human body as a whole leads to the conclusion that there is intelligent design at work.

A human body is composed of over 250 different kinds of cells (red blood cells, white blood cells, nerve cells, etc.) totaling approximately 100 trillion cells in an average adult. These cells come in all different shapes and sizes, and perform many different tasks. For example, certain cells—like the male spermatozoa—are so small (each being only 0.05 mm long) that 20,000 of them would fit inside a capital "O" from a standard typewriter. Some cells, placed

end-to-end, would make only one inch if 6,000 were assembled together. Yet all the cells of the human body, if set end-to-end, would encircle the Earth over 200 times. Even the largest cell of the human body, the female ovum, is unbelievably small, being only 0.01 of an inch in diameter. Cells have three major parts. First, each cell has a cell membrane that surrounds it. Second, inside the cell is a three-dimensional cytoplasm—a watery substance containing specialized organelles. Third, inside the cytoplasm is the nucleus that contains most of the genetic material and serves as the control center of the cell. The cell membrane is approximately 0.06-0.08 of a micrometer thick, yet allows selective transport into, and out of, each cell.

Inside the cytoplasm, there are many different chemical reactions occurring at any one time, with each cell having the following biochemical capabilities: (1) communication; (2) waste disposal; (3) nutrition; (4) repair; and (5) reproduction. Also in the cytoplasm, there are organelles such as the mitochondria (over 1,000 per cell in many instances) that provide the cell with its energy. Further, there are ribosomes, which are protein-producing factories. Golgi bodies store some of the proteins manufactured by the ribosomes, while lysosomes within the cytoplasm function as waste disposal units.

The nucleus is the control center of the cell, and is separated from the cytoplasm by a nuclear membrane—essentially a double plasma membrane. Within the nucleus is the genetic information of the cell (chromosomes made of deoxyribonucleic acid—DNA). DNA is a supermolecule that carries the coded information needed to produce all of the components of the cell. If the DNA from a single human body cell were removed from the nucleus and unraveled (it is found in the cell in a spiral position), it would be approximately six feet long and would contain approximately six billion nucleotides (known as "base pairs"). It has been estimated that if all of the DNA in an adult human were placed end-to-end, it would reach to the Sun and back (186 million miles) 400 times.

It also should be noted that the DNA molecule does something that we as humans have only begun to understand: it stores coded information in a chemical format and then uses enzymes and RNA molecules to decode and utilize the information. DNA is a complex, multi-layered operating system. If the information were written in English, the DNA in a single human cell would fill a 300-volume set of encyclopedias of approximately 2,000 pages each. Yet just as amazing is the fact that all the genetic information needed to reproduce the entire human population (about eight billion people) could be placed into the space of about one-eightieth of a cubic inch. In fact, chromosomes (which are the individual segments of the genome) are compacted around 10,000 fold in order to fit within the nucleus! The human genome is truly a fascinating marvel that we are just beginning to understand. Further, we now know that there is a level of control and regulation "above" the genome called the epigenome.

Old claims that 98% of the human genome is junk DNA have been destroyed by the discoveries of the last decade. In fact, the ENCODE project, a multinational collaborative research initiative examining the function of the genome, stated in 2012 that over 80% of the genome has now been assigned a biochemical function (so far). This is an astounding testimony to the grand design of the genome. The information content of the genome could not have arisen by chance via random mutations plus natural selection. Only intelligence is able to design a code like the human genome.

What, then, may we say about the amazing genetic code found within the DNA in each cell? The complexity of the DNA molecule—along with the staggering amount of chemically coded information it contains—proves that this "supermolecule" simply could not have happened by blind chance. An intelligent Designer is demanded by the evidence.

DESIGN IN THE ANIMAL KINGDOM

Many bird watchers and animal lovers have grown to love and appreciate the evident design of the natural world. The following paragraphs list just two examples of intricate design found within the animal kingdom.

The Bird with a Thermometer in Its Beak

We all remember having our temperature taken when we were sick. Sometimes we had to hold the thermometer under our tongue for around 60 seconds. As technology advanced, however, newer thermometers were developed that could be inserted into the ear, taking only a few seconds to measure temperature. But there is an Australian bird called the mallee fowl that has a built-in thermometer which is far more accurate than the ones humans use to take their temperature.

When the time comes for the female mallee fowl to lay her eggs, the male bird digs a pit in the ground and piles a large mound of sticks and leaves in the pit. He covers this pile with sand, sometimes making it as tall as four feet. With the sand on top, the leaves and sticks begin to rot, which produces heat. The male makes a hole in the top of the mound, where the female then lays a single egg. About a week later, he will make another hole and she will lay another egg. This process goes on until there are about 18 eggs in the nest.

Several times a day, the male pokes his beak into the mound. He then sticks out his tongue, which is such a good thermometer that it can measure a temperature change of 1/10 of a degree. If the mound is too hot, he removes some of the sand. If it is too cool, he adds more sand. After about seven weeks of incubation, the babies hatch.

How does the mallee fowl know the exact temperature to keep its eggs? How does it know that rotting leaves covered by sand will produce heat? How does

its tongue measure temperature changes of 1/10 of a degree? It's simple—the mallee fowl was designed. And design demands a Designer!

The Beetle with a Bomb in Its Belly

The bombardier beetle is another creature that shows incredible design. It has a pulse defense mechanism that works as follows. Two chemicals, hydrogen peroxide and hydroquinones, are produced in glands, and then are stored in a large reservoir housed within the beetle's abdomen. When the animal is threatened, muscles surrounding the reservoir contract, pushing the chemicals through a valve into a heart-shaped reaction chamber lined with cells that secrete peroxidases and catalases (oxidative enzymes). These enzymes quickly break down the hydrogen peroxide, and catalyze the hydroquinones into p-benzoquinones—compounds known for their irritant properties. This chemical reaction results in a release of free oxygen and heat. The beetle ejects the spray out of a revolvable turret at **212 degrees Fahrenheit**, in a pulse-like fashion at 500 pulses per second.

Can you imagine trying to explain all of this intricate design by "chance evolutionary processes" occurring over millions of years in nature? The fact is, only intelligent design can explain how the beetle is able to produce the proper chemicals, keep them separate until they are needed, manufacture the right enzymes, and propel the hot mixture into the face of its enemy.

CONCLUSION

The only people who have difficulty understanding the implications of design are those who have "refused to have God in their knowledge" (Romans 1:28). Such people can say that "there is no designer," but their arguments are not convincing. One does not get a poem without a poet or a law without a lawgiver. One does not get a painting without a painter or a musical score without a composer. And just as surely, one does not get purposeful design without a designer. The design in the Universe—from the giant Universe to the tiny cell—is apparent, and is sufficient to draw the conclusion demanded by the Law of Rationality. God does exist!

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Questions—Lesson 3

TRUE OR FALSE

Write TRUE or FALSE in the blanks before the following statements.

_____ 1. Teleology simply means purpose or design.

_____ 2. If the Universe shows design, there must be a designer.

_____ 3. Taken as a whole, there is enough evidence to prove that God exists.

_____ 4. Sometimes purposeful design does not have a designer.

_____ 5. Our Universe operates according to specific natural laws.

_____ 6. The Earth is exactly the right distance from the Sun to sustain life.

_____ 7. The human body is made up of cells, tissues, organs, and systems.

_____ 8. Humans have learned how to chemically code information.

MULTIPLE CHOICE

Circle the correct answer(s).

1. If the Universe shows design, then there must have been which one of the following?
   (a) An accident (b) A big explosion
   (c) A designer (d) A tiny particle
2. Taken as a whole, the evidence proves that there is what in the Universe?
   (a) Design (b) No design
   (c) Order, but not design (d) Accidental design
3. The Earth is in which galaxy?
   (a) Snickers (b) Plutonic
   (c) Red Stratus (d) Milky Way

4. The Earth is about how many miles from the Moon?
   (a) 24,000 (b) 240
   (c) 240,000 (d) 2,400,000
5. Which area is the control center for the cell?
   (a) Nucleus (b) Cell membrane
   (c) Cytoplasm (d) Organelle
6. Which molecule can store things that are coded chemically?
   (a) Tissue (b) Cell
   (c) DNA (d) Oxygen

MATCHING

Match the ideas with their supporting information (place correct letter in the provided space by each number).

1. ___ Only accept conclusion with adequate evidence
2. ___ Purpose or design
3. ___ Operates using exact natural laws
4. ___ Covers four-fifths of the Earth's surface
5. ___ Composed of 250 different kind of cells
6. ___ Contains chemically coded information
7. ___ Denies that purposeful design exists in the Universe
8. ___ Located exact distance from the Sun to support life

A. Universe
B. Water
C. Human Body
D. Law of Rationality
E. Atheist
F. Earth
G. Teleology
H. DNA molecule

FILL IN THE BLANKS

1. If the Universe shows _____, there must have been a _____.
2. The _____ shows _____.
3. Thus, the _____ must have had a _____.
4. Our Universe operates using _____ scientific _____.
5. The _____ _____ galaxy in which we live contains over 300 _____ stars.
6. The Earth is rotating on its _____ at 1,000 _____ per _____ at the equator.
7. The _____ is a supermolecule that carries the _____ information for the _____ of the cell.

NOTES/COMMENTS

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