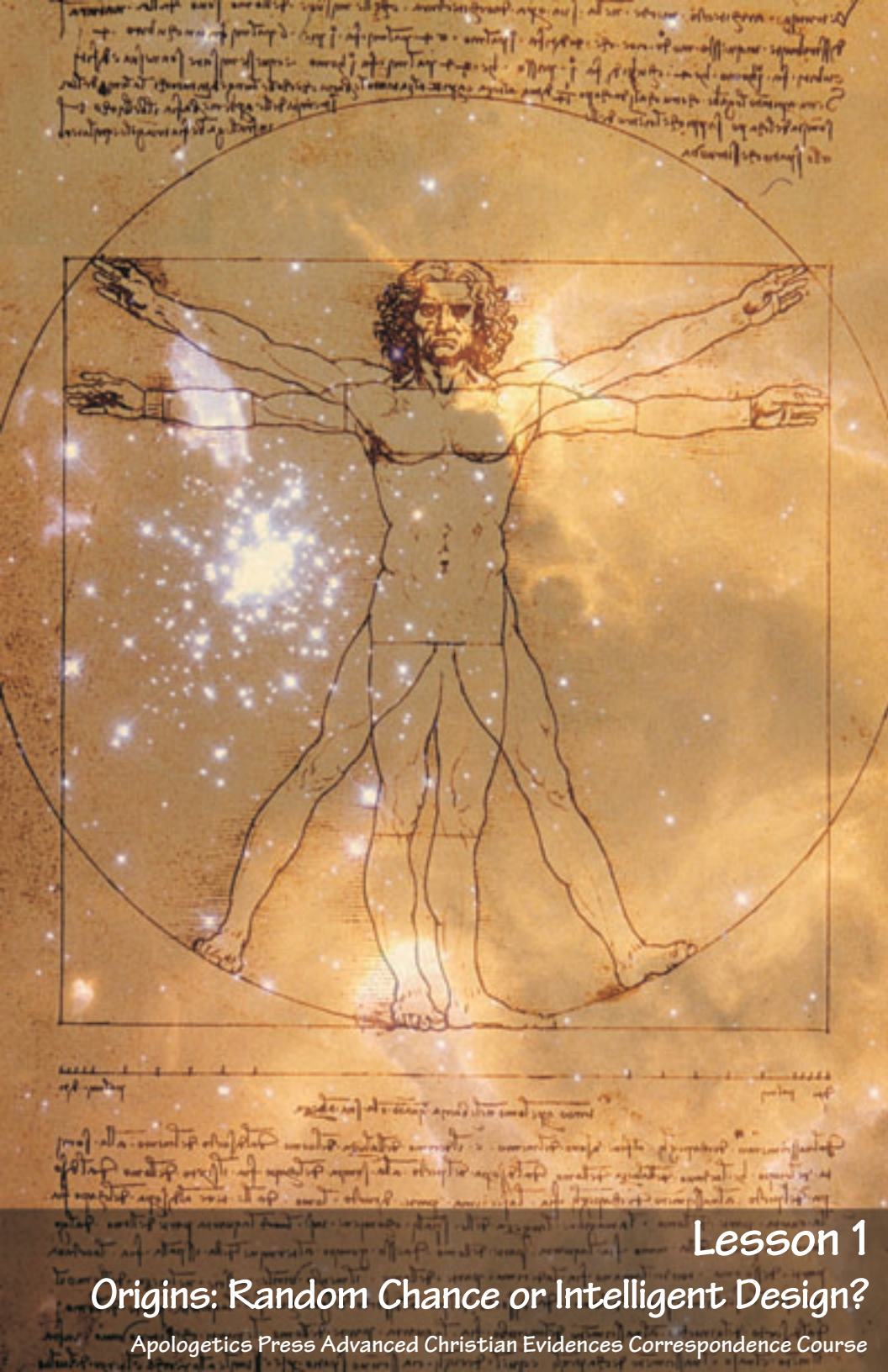

# Lesson 1

## Origins: Random Chance or Intelligent Design?

Apologetics Press Advanced Christian Evidences Correspondence Course

# ORIGINS: RANDOM CHANCE OR INTELLIGENT DESIGN?

## INTRODUCTION

Yucca flowers are quite unique, in that they can only be pollinated by a single insect—the yucca moth. The physiological design of the yucca flower makes pollination impossible by conventional means. Commonly, insects such as honey bees pollinate plants as they fly from flower to flower seeking food. Most of the time, both honey bees and plants benefit from the bees' activity. The honey bee gets some food, and the plant gets pollinated. Honey bees collect pollen from the anthers (the male reproductive part of a flower) in special pollen baskets on their hind legs, to be taken back to the hive for the bees' use. However, honey bees are messy gatherers of food, and as such, pollen gets stuck on the hairs of their bodies. When the bees visit their next flower, some of that pollen brushes off onto the flower, and if it sticks to the stigma (female reproductive part of the flower), pollination takes place. Hundreds of varieties of plants are pollinated in this way.

Pollination of the yucca flower is different. When the yucca moth comes to a yucca flower, it collects a ball of pollen, and then lays eggs in the ovary of the female part of the flower. Afterward, it climbs to the top of the female part of the flower and places the ball of pollen on the stigma—exactly where it needs to be for pollination to occur. Once it is pollinated, the yucca flower can produce seeds in its ovary. The yucca moth caterpillars eat some of the seeds, but many seeds are left over to produce new yucca plants. Because the yucca moth caterpillars eat only yucca seeds, and because the yucca plant is pollinated only by yucca moths, the moths and the plant depend on each other for survival. This symbiotic relationship demonstrates the complexity and obvious design observed throughout nature. Evolutionists would have us believe that this pollination process came into existence by mere chance over millions of years, yet both the moth and the plant are vital to one another's existence, and neither could have waited for the other to evolve.

If we attribute the pollination process of the yucca plant to design, then the question becomes—who is the designer? Where we see evidence of design, it only makes sense to look for the designing agent. Whether it be a house fashioned out of tongue depressors, or a stealth fighter, **someone** was responsible for the overall design of the finished product. For instance, if we were walking through the Sahara Desert and came across a laptop computer, we would not think for a moment that it arrived there by random chance. We would recognize immediately that the computer was the end product of design and manufacturing. But what about things that are not manmade? What about the Universe or the human body? Evolutionists quickly disregard any notion that either the Universe or the human body shows signs of design, because they realize the implications of such a notion. By admitting there is inherent design—whether it is the usefulness of the human hand or the "just right" atmospheric conditions of the Earth—the necessity of an intelligent designer immediately arises.

For instance, the Earth is slanted on its axis exactly right—at a tilt of 23.5°. If it were not tilted, but instead sat straight up in its orbit around the Sun, there would be no seasons. The tropics would be hotter, and the deserts would get bigger. If the tilt moved all the way over to 90°, much of the Earth would switch between very cold winters and very hot summers. In addition, the Earth is poised 240,000 miles from the Moon, whose gravitational pull is responsible for 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. Yet evolutionists are unwilling to acknowledge the obvious design in the exact placement of the Earth and the Moon.

But the more that design is discovered in the world (or Universe!) around us, the more evolutionists are faced with the daunting task of trying to dream up realistic explanations of how it is that so many things in nature have precisely the correct measurements and/or relationships. The statistical probability of **everything** happening by random chance is both unthinkable and impossible. Even evolutionists, in their more candid moments, are willing to admit as much. Richard Dawkins of Oxford University noted: "The more statistically improbable a thing is, the less we can believe that it just happened by blind chance. **Superficially** the obvious alternative to chance is an intelligent Designer" (1982, 94:30, emp. added). We suggest, however, that it is not at all "superficial" to attribute purposeful design to an "intelligent Designer." Rather, the available evidence permits no other rational conclusion. Consider, if you will, some of that evidence.

## DESIGN OF THE HUMAN BODY

In speaking of the human body, one evolutionist wrote:

> When you come right down to it, the most incredible creation in the universe is you—with your fantastic senses and strengths, your ingenious defense systems, and mental capabilities so great you can never use them to the fullest. Your body is a structural masterpiece more amazing than science fiction (Guinness, 1987, p. 5).

Could a rational person really be expected to conclude that the "structural masterpiece" we call the human body—with all of its "ingenious" systems and its "highly endowed organization"—is the result of undirected evolutionary processes operating over eons of time in nature? Or is it more logical to conclude that the body is the result of purposeful design by a Master Designer?

From an organizational standpoint, the human body may be considered at four different levels. First, there are **cells,** which represent the smallest unit of life. Second, there are **tissues** (muscle tissue, nerve tissue, etc.), which are groups of the same types of cells carrying on the same kind of activity. Third, there are **organs** (heart, liver, etc.), which are groups of tissues working together in unison. Fourth, there are **systems** (reproductive system, circulatory system, etc.), which are composed of groups of organs carrying out specific bodily functions. To the unbiased, it should be obvious that the physical body has been marvelously designed and intricately organized for the purpose of facilitating human existence upon the Earth.

## The Body's Cells

A human body is composed of over 250 different kinds of cells (red blood cells, white blood cells, muscle cells, fat cells, nerve cells, etc.—Baldi, 2001, p. 147), totaling approximately 100 trillion cells in an average adult (Fukuyama, 2002, p. 58). These cells come in a variety of sizes and shapes, with different functions and life expectancies. Each cell possesses organelles such as ribosomes, mitochondria, Golgi apparatus, endoplasmic reticulum, and a nucleus —all of which play vital roles in keeping the organism alive. While all of these microscopic organelles point to an intelligent designer, the truly amazing intricate complexity of a cell is observed within the nucleus, for it is within the nucleus that the DNA—or genetic code—is to be found.

If transcribed into English, the chemical code (deoxyribonucleic acid—DNA) in the human genome (i.e, in a spermatozoon or ovum) would fill a 300-volume set of encyclopedias of approximately 2,000 pages each (Baldi, p. 21). Yet just as amazing is the fact that all the genetic information needed to reproduce the entire human population (around six billion people) could be placed into a space of about one-eighth of a cubic inch. The intricate and complex nature of the DNA molecule—combined with the staggering amount of chemically coded information that it contains—speaks unerringly to the fact that this "supermolecule" simply could not have come into existence due to blind chance and random natural forces operating through eons of time, as evolutionists have claimed. This is not an adequate explanation for the inherent complexity of the DNA molecule. Does coded information happen by chance? And could the decoding system (RNA and ribosomes) just happen by chance as well? Hardly.

## The Body's Tissues

In the human body, there are numerous tissues (e.g., muscle tissues, nerve tissues, etc.). In fact, a single human has more than 600 muscles (containing about six billion muscle fibers), composing about 40% of the body's weight. Muscles are the "engines" that the body uses to provide the power for movement. Some muscles are tiny (such as those regulating the amount of light entering the eye), while others (like those in the legs) are massive.

Muscles may be classified either as "voluntary" (i.e., under the control of the human will), or "involuntary" (i.e., not under control of the will). The voluntary muscles of the arms, for example, are attached to the bones by tough cords of connective tissue called tendons. One must "think" in order to move these muscles. The involuntary muscles are those whose contraction and relaxation are not controlled consciously (e.g., the heart and intestines). Some muscles are both voluntary and involuntary (e.g., the muscles controlling the eyelids, and the diaphragm). All muscles, in one way or another, are regulated by the nervous system. The design inherent in voluntary and involuntary muscles is utterly incredible.

If it is clear that an automobile engine was intelligently designed, why is it not reasonable to draw the same conclusion with reference to muscles? John Lenihan, even though an evolutionist, wrote: "The body's engines [muscles

—BT/BH]...demonstrate some surprisingly modern engineering ideas" (1974, p. 43). Who initiated these "engineering ideas"? The answer, of course, is the Great Engineer, God.

## The Body's Organs

### The Skin

The skin is the largest single organ of the human body. It consists of three areas: (a) the skin layers; (b) the glands; and (c) the nails. If the skin of a 150-pound man were spread out, it would cover 20 square feet of space and weigh about 9 pounds. The skin is also a very busy area. "A piece of skin the size of a quarter contains 1 yard of blood vessels, 4 yards of nerves, 25 nerve ends, 100 sweat glands, and more than 3 million cells" (Youmans, 1979, 17:404d). The skin absorbs ultraviolet rays from the Sun, and uses them to convert chemicals into vitamin D, which the body needs for the utilization of calcium. It retains the fluids in the body, and yet still is permeable enough for perspiration to penetrate in order to cool the body. And, the skin is the primary means of defense against bacteria and other harmful organisms. Man has yet to develop a durable material that can perform the many functions that the skin carries out on a daily basis.

### The Eye

One of the most forceful evidences of design within the human body is the eye. Even Charles Darwin struggled with the problem of an organ so complex as the eye evolving via naturalistic processes. In *The Origin of Species* he wrote:

> To suppose that the eye with all its inimitable contrivances for adjusting the focus to different distances, for admitting different amounts of light, and for the correction of spherical and chromatic aberration, could have been formed by natural selection, **seems, I freely confess, absurd in the highest sense** (1859, p. 170, emp. added).

However, in spite of his misgivings, Darwin went on to argue that the eye had, in fact, been produced by natural selection through an evolutionary process. Darwin, of course, is not the only one to be troubled by what appears to be obvious evidence of design in the eye. Evolutionist Robert Jastrow lamented:

> The eye is a marvelous instrument, resembling a telescope of the highest quality, with a lens, an adjustable focus, a variable diaphragm for controlling the amount of light, and optical corrections for spherical and chromatic aberration. **The eye appears to have been designed; no designer of telescopes could have done better**. How could this marvelous instrument have evolved by chance, through a succession of random events? (1981, pp. 96-97, emp. added).

Considering how extremely complex the mechanism of the eye is known to be, it is easy to understand why Dr. Jastrow would make such a comment. Light images from the environment enter the eye (at approximately 186,000 miles per second) through the iris, which opens and shuts like the diaphragm of a camera to let in just the right amount of light. The images move through

a lens that focuses the "picture" (in an inverted form) on the retina at the rear of the eyeball. The image then is picked up by some 137 million nerve endings that convey the message (at over 300 miles per hour) to the brain for processing. Little wonder that secular writers are prone to speak of "the miraculous teamwork of your eye and your brain" (Guinness, 1987, p. 196). If the function of the camera demands that it was "made," does it not likewise stand to reason that the more complex "human camera," the eye, also must have had a Maker?

### The Ear

Another evidence of design is the ear, which is composed of three areas: outer, middle, and inner. Sound waves enter the outer ear (at 1,087 feet per second!) and pass along a tube to the middle ear. Stretched across the tube is a thin membrane, the eardrum. The sound waves hit this tissue and cause it to vibrate. The vibrations then are conveyed into the inner ear where they in turn cause vibrations in three small bones (known as the hammer, anvil, and stirrup) that are joined together and operated by tiny muscles. The result is that the sound is amplified. These bones, which one authority says "are **designed** to transmit even very faint sounds" (Sedeen, 1986, p. 280, emp. added), are connected to another membrane, the oval window. As it vibrates, it generates movement within a small spiral passage, the cochlea, which is filled with liquid. Those vibrations are picked up by some 25,000 auditory receptors and transferred as electrical impulses by means of the auditory nerve (with its 30,000 nerve fibers) to the brain. The brain receives these vibrations (up to 25,000 per second!) and interprets them as voice, thunder, music, or the thousands of other sounds that we hear daily. The complexity of this integrated system is nothing short of phenomenal. One writer noted: "Amazingly, the inner ear, although no bigger than a hazelnut, contains as many circuits as the telephone system of a good-sized city" (Guinness, 1987, p. 208). Would anyone suggest that a city's telephone system could design itself?

The balancing ability of the auditory system has been compared to the "inertial system used in missiles and submarines" (Lenihan, 1974, p. 90). Thus, the ear mechanism actually is designed to accomplish two functions —hearing and balance. In the words of Lenihan, "The combination, in such a small space, of the hearing and balancing systems of the body **represents a remarkable achievement of biological engineering**" (p. 94, emp. added). Does "blind nature" have the ability to engineer such remarkable technology?

## The Body's Systems

### The Skeletal System

As a specific example of bone design, consider the bones of the foot. One-fourth of all the body's bones are in the feet. Each human foot contains 26 bones. The feet have been designed to facilitate a number of mechanical functions. They **support**, using arches similar to those found in an engineered bridge. They operate as **levers** (as in those occasions when one presses an

automobile accelerator pedal). They act like **hydraulic jacks** when a person tip-toes. They **catapult** a person as he jumps. And feet act as a **cushion** for the legs when one is running. All of these features are quite helpful—especially in view of the fact that an average person will walk about 65,000 miles in his/her lifetime (equivalent to traveling around the world more than two-and-a-half times). The human skeletal system demonstrates brilliant design, which shows that there must have been a brilliant Designer behind it.

### *The Circulatory System*

The circulatory system—which consists of the heart, arteries, arterioles, vessels, and capillaries—has several functions. First, it transports digested food particles to the various parts of the body. Second, it takes oxygen to the cells for burning food, thus producing heat and energy. Third, it picks up waste materials and carries them to the organs that eliminate them from the body.

The heart is an involuntary muscle that beats about 100,000 times a day, or nearly 40,000,000 times in a year. It pumps about 1,800 gallons of blood a day. In a lifetime, a heart will pump some 600,000 metric tons of blood! Evolutionists Miller and Goode conceded that "for a pump that is keeping two separate circulatory systems going in perfect synchronization, **it is hard to imagine a better job of engineering**" (1960, p. 68, emp. added). Yet this amazing device, which they admitted is "hard to describe as anything short of a **miracle**" (p. 64, emp. added), was produced by blind forces?

### *The Nervous System*

The brain, located in the protective case called the skull, is the most highly specialized organ in the body. The late Isaac Asimov, well-known science writer and humanist, once stated that man's brain is "**the most complex and orderly arrangement of matter in the universe**" (1970, p. 10). **Who** arranged it? Paul Davies, atheistic professor of mathematics and physics at the Universe of Adelaide in Australia, observed that the human brain is "the most developed and complex system known to science" (1992, 14[5]:4).

## CONCLUSION

It is not just the brain that is "difficult to explain by evolution." Were space to permit, we could examine numerous other body systems (e.g., digestive, reproductive, etc.), each of which provides clear and compelling evidence of design. Atheistic philosopher Paul Ricci has suggested: "Although many have difficulty understanding the tremendous **order and complexity** of functions of the human body (the eye, for example), **there is no obvious designer**" (1986, p. 191, emp. added). The only people who "have difficulty understanding the tremendous order and complexity" found in the Creation are those who have "refused to have God in their knowledge" (Romans 1:28). Such people can parrot the phrase that "there is no obvious designer," but in light of the actual evidence, their arguments are not convincing.

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# Questions—Lesson 1

## TRUE OR FALSE

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

_____ 1. Honey bees are the primary pollinators of the Yucca plant.

_____ 2. The liver is the largest organ in the human body.

_____ 3. Light images enter the eyes at approximately 186,000 miles per second.

_____ 4. Yucca caterpillars only eat seeds from the Yucca plant.

_____ 5. The average human body is composed of 100 trillion cells.

_____ 6. The human body produces Vitamin K from sunlight.

_____ 7. The human foot contains 26 bones that function together.

_____ 8. The Earth is slanted on its axis exactly right, at 13.5°.

## MULTIPLE CHOICE

Circle the correct answer(s).

1. Which of the following houses the genetic code (DNA) for humans?
   (a) Golgi apparatus (b) Cell wall (c) Nucleus (d) Ribosomes

2. 1,087 feet per second is the:
   (a) Speed of sound
   (b) Speed of light
   (c) Speed the Earth is orbiting the Sun
   (d) Speed nerve signals go to the brain

3. The heart beats approximately how many times in a seven-day week:
   (a) 100,000 (b) 1,000,000 (c) 550,000 (d) 700,000

4. The distance (in miles) from the Earth to the Moon is:
   (a) 570,000 (b) 240,000 (c) 750,000 (d) 420,000
5. If transcribed into English, the DNA in the human genome would fill a:
   (a) 300-volume set of encyclopedias, each containing 2,000 pages
   (b) 250-volume set of encyclopedias, each containing 2,000 pages
   (c) 200-volume set of encyclopedias, each containing 1,000 pages
   (d) 150-volume set of encyclopedias, each containing 1,000 pages

## MATCHING

Match the related concepts (place the correct letter in the space provided by each number).

1. ____ Number of different kinds of cells in the body
2. ____ Number of muscles in the human body
3. ____ The number of nerve endings conveying messages to the eye
4. ____ The number of auditory receptors that transmit vibrations to the brain
5. ____ The amount (in metric tons) of blood the heart will pump in a lifetime
6. ____ The distance (in miles) that the average person walks in his/her lifetime
7. ____ The number of gallons of blood the heart pumps in a day

A. 137 million

B. 600,000

C. 250

D. 65,000

E. 1,800

F. 600

G. 25,000

## FILL IN THE BLANKS

1. The _____ has been called the most complex matter in the Universe.
2. Paul Ricci stated: "Although many have difficulty understanding the tremendous order and complexity of functions of the human body, there is no obvious _____."
3. If the Moon were moved closer to the Earth by just one-fifth the current distance, the _____ would be so enormous that twice a day they would reach 35-50 feet high over most of the Earth's surface.
4. Charles Darwin, in commenting about the possibility of the *eye* forming by natural processes, stated that "it seems, I freely confess, _____ in the highest sense."
5. Evolutionist Robert Jastrow lamented: "The *eye* appears to have been designed; no designer of _____ could have done better."

## NOTES

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