

Life on Earth: By Chance or by Choice ?

Have you ever talked to someone who has "lost faith" in God? During ten years of teaching on a university campus I probably had between five and six thousand students in my classes. I talked personally to about half of them on practically every subject imaginable -- from love, courtship, and marriage to whether there is a God or not! Most of those students were fine young people with a wholesome outlook on life, but some were disillusioned and gripped by deep despair. Some in the latter category had come to college with child-like faith in family, country, and God, and had had their faith shattered by the impact of higher education. Some of these students had become disillusioned through philosophy, others through psychology or science, or a personal experience of some kind, and a few even through the study of religion!

It is a heart-breaking experience to talk with a disillusioned young idealist. I found myself listening to many different students with basically the same story. They had been reared to believe in God and in the Bible. Their parents, their Sunday School teachers, and their home church pastors had taught them to accept by faith the existence of a personal God who created them, loved them, heard their prayers, and took a personal interest in them. Now after two or three years in college they found themselves questioning, wondering, doubting, or actually rejecting the simple pietistic faith which they brought to college. It now appeared too simple, too naïve, too gullible, too unsophisticated.

For some of these students the doubts had risen due to an increased scientific knowledge of the vast expanse of the universe and the possibility of things happening by chance. As a Physics major asked me one day in an Old Testament class as we discussed the Genesis account of creation, "**Prof, if the universe is infinite in size, does it not logically follow that there are an infinite number of chances that the earth and its resultant life-forms could have begun by accident instead of by intention? Couldn't you explain life as beginning by mere chance instead of by creation? Is the idea of God really necessary?**"

It was to this kind of query that I wanted to respond and thus I decided to re-study my science books. I wanted to be as honest and open to truth, pleasant or unpleasant, as I asked my students to be. If scientific data seemed to indicate there was no God, I wanted to know it. My science courses in high school and college had not led me to that conclusion, but I needed to update my knowledge of science. While in high school I had had a keen interest in science and in fact had won a scholarship to Louisiana State University by placing second in statewide competitive examinations given to the top six seniors of every high school in the state. Major sections of those exams were on science. Also, while still a freshman in college I was offered assistantships or grading positions by two of the three professors I had for science courses, although they both knew I was a Bible major preparing for the ministry. But later as a Bible professor I realized that I had not kept up with the march of science. I decided to renew my interest and refresh my

understanding of the field. Thus after much study and review, I developed a speech or an address about belief in God in the light of scientific data.

Since some people believe that science and religion conflict, I want to begin where science and the Bible -- and you and I -- agree. You and I would agree that we live on the planet called "Earth" which is only one planet in our solar system. Our solar system is only a small part of a larger area called our galaxy, and our galaxy is a small part of space. But once you agree to that, I have a question to ask you. Do you believe it had a beginning? Logicians or philosophers of logic have certain distinctions which they make, certain choices which you and I may call exclusive alternatives. There are certain things in life that can be narrowed down to where you have to choose one of two things. No other choices are before us. Not all choices are of this type, however, but some are. An example of this type of choice, for instance, is that you either have to choose to go on living or you have to choose to die. There is no other choice before you: life or death. And so it is with the world: either we believe that the world has always existed or we believe that it had a beginning. This is a genuine exclusive alternative. I know of no other choice. Do you? It has always been here or else it has come into existence.

As we said earlier, not all choices are of this type. Some months ago in a large city I entered an ice cream parlor that advertised over 100 different flavors. Now it ought to be obvious that I did not face an "exclusive alternative" type of choice between vanilla and strawberry ice cream. But I did face that type of choice while there -- between having some ice cream or no ice cream. Any response I made to ice cream in that store could be classified under one of those two headings! Reality forces us to face many exclusive alternatives.

Both science and the Scriptures say our world and our universe as we know it have had a beginning. Not all agree on exactly when it began. Scientists will disagree and say somewhere between ten and fifteen billion years ago, but they agree that our world has had a beginning. There was a time when it did not exist. It is now in existence. It has come into being. The Bible does not put a date on it but it beautifully says in Genesis 1:1, "In the beginning God created the heavens and the earth." Thus science and Scripture agree that our world has had a beginning.

But once that is granted, a second exclusive alternative faces us. **Was the cause (or were the causes) of its beginning mere chance or purposeful choice?** Either our world began as the result of accident (a cosmic coincidence, an atomic accident) or it began as the result of non-accident or purpose. Was the cause or were the causes the result of non-intelligence or intelligence? Was non-purpose or purpose the case of the origin of the world? In other words, did the world and its resultant life forms begin by "chance" or "choice?" Those who believe in God can believe that it began by chance but usually believe it began by choice. Now, a person can believe either. **Both "chance" and "choice"**

explanations are actually "faith" statements. It is not knowledge versus faith; it is faith versus faith. Man was not there. He does not actually "know;" he really only believes -- regardless of his explanation. One may believe it happened this way or that (and have "evidence" for his belief), but it is still a faith explanation. The person, who believes in God and believes that God created the world, believes in "choice" and should openly admit that his is a faith statement. But a person who believes it began by sheer chance or who does not believe God created the world is exercising an amazing faith also and should openly admit that his is a faith statement. Thus a person can believe in chance or choice. Before looking at some scientific data, let's think about the matter of things happening by chance as compared to their happening by choice.

Let me try and illustrate it this way. If I were to take ten coins (let us say silver dollars) and an ink marker, and place the numbers one through ten sequentially on the coins so that each bore a different number, what do you think the chance would be that I could put those ten coins in my pocket, shake them up, and pull out accidentally the coin with the number one on it first? The chance is one out of ten. If I returned that coin to my pocket, and shook all ten around again, what chance do you think I would have of pulling out the coin with the number two on it second? The chance would be one out of a hundred. To return that coin to my pocket and accidentally pull the coin with the number three on it has now changed to one out of a thousand. The number five coin fifth is one out of one hundred thousand chances. The number six coin sixth is one out of one million; number seven one out of ten million; and number ten one out of ten billion chances! The chance of my pulling ten coins out of my pocket in perfect sequence by sheer accident would be one out of ten Billion (1 out of 10,000,000,000)! Do you really understand how remote that chance is? Well ten billion is such a staggering number that most of us cannot comprehend it. Let me try to put it in every day terminology. If you could start today spending one hundred thousand dollars a day, every day, without a single day off, do you know how long it would take you to spend just one billion dollars? Twenty-seven and one-half years. Twenty-seven and a half years for just one billion and I'm talking about one chance in ten billion to pull out ten coins in a row. The chances of accidentally pulling ten coins out of my pocket in perfect sequence is what one-dollar would be to 275 years of \$100,000 a day!

If I were to start pulling those coins out in such a perfect order, would your mind really let you believe that I was doing it accidentally, by mere chance, or wouldn't your mind tell you I was doing it by design? How many coins would I have to pull out of my pocket before you stopped believing that I was doing it by accident and started believing I was using a system? Until the third or fourth coin? I wouldn't believe you beyond the third! My mind would rebel against a gullibility or credulity of just accepting your word that you were doing it by chance. I would find it far more intelligent and sensible to believe that you had devised a system whereby you could detect a particular coin while in your pocket. Wouldn't your mind demand the same of you? Wouldn't you find it much more

sensible to believe that I had filed one notch on the number one coin, two notches on the number two coin, three notches like a triangle on the number three coin, a hole in the number four coin, something sticky on the number five coin, etc...etc...etc? Wouldn't you really find it much more satisfying intellectually to explain the pulling out of those coins by design or intent than by accident? Wouldn't you really find it virtually impossible to simply believe that I had pulled them out by chance rather than by choice? Would your mind permit you to accept the belief in one chance out of ten billion when you know how easy it is for an intelligent person to devise a system and pull them out easily by choice?

With the subject of things happening by chance or choice before us, now let us turn again to the world, to its beginning and to the beginning of life on it. I know that analogies do not prove; they can only illustrate. But I believe illustrations can be very thought provoking. Therefore, I want to turn to the field of science and set before you ten very interesting things about the earth and conditions that have made life possible on it. (More than **100** such examples can be found, however). I will use information drawn from competent scientists but the arguments and deductions are mine.

1. The first thing concerns the angle of the earth in relationship to the sun. We might assume that it is "straight up and down" or parallel to the sun, but it is not. It is not sitting perpendicular: it is tilted -- tilted at about a twenty-three degree angle. Perhaps you have noticed globes in libraries sitting at an angle. One eminent scientist said this is very important because it makes it possible for life to exist as we know it. Were it too straight up and down, human life probably would not exist. The tilt affects the amount of heat absorbed by our earth and we'll say more of this later. This is like the first coin. It does not require much faith to believe that this could happen by accident. After all, the universe is extremely large. For one planet to happen to be tilted just about right is not a big matter to believe. But let us go on to a second thing.

2. While tilted at about a twenty-three degree angle, our world is rotating on its axis at the rate of about a thousand miles an hour. This rate of speed one scientist said is just about right for you and me to exist. For, said he, if our world turned at only 100 miles an hour instead of 1,000 miles an hour, our days and nights would be ten times as long. What do you think would happen to you and other living things on June or July or August days ten times as long as they now are? The heat would build up so great that it would wither, wilt, scorch and kill virtually everything above the surface of the ground. And whatever survived the incredibly hot days would soon freeze in the ten-times-as-long nights when the earth radiates its heat into the atmosphere. Temperatures would plummet to something like 240 degrees below zero. Therefore, he said our world was rotating just about the right speed so as to alternate between heating and cooling. Thus our earth is tilted just right and turning just right. These two are interesting maybe, but let's turn to a third.

3. This world of ours wobbles off of that twenty-three degree tilt. The prominent scientist said our world wobbles upward off that tilt about three degrees. It comes back to the twenty-three degree angle then tilts downward about three degrees and starts back upward to the twenty-three degree average tilt. It follows this tilting procedure with amazing regularity while spinning at a thousand miles an hour. Our seasons and our climates are affected by it. Do you remember from your college or high school geometry how many would be 90 degrees, or 45? Three degrees is a relatively small angle, but said he, if our world straightened up more than three degrees off the twenty-three degree tilt, life might perish from the earth! The sun would strike our earth so directly (instead of at a glance) with such a tremendous force and heat at the center, that without the tilt to deflect the light and heat, the earth would absorb too much heat! It would evaporate the oceans so rapidly that moisture would be pulled to the North and South Poles and build up in tremendous ice caps. Between these incredibly deep icecaps would be barren deserts or molten pools of lava created by the impact of the sun's heat. Life as we now know it would probably perish from off the earth.

4. On the other hand, if the world were to tilt more than three degrees downward from the normal twenty-three degree stance, the sun would strike our northern Arctic region with such a tremendous heat that it would probably melt those huge ice caps. The melting ice might cause enough additional water to flow into our oceans and cause us to die. For the oceans are about the right depth and just a few feet more water in the oceans (without more air coming into existence) would give enough additional liquid that it might absorb or dissolve all the carbon dioxide and the oxygen out of the air. Without carbon dioxide, the plants could not manufacture food. Without the oxygen, you and I and all other land animals would die! Here are four things, then, about the world working together in such a wonderful way; tilted just right; spinning just right' wobbling up just right' wobbling down just right. And the chance by accident is one of ten thousand chances!

5. We have already implied a fifth thing -- the depth of the earth's oceans. A former president of the American Academy of Science wrote a book many years ago in which he said that if the earth's oceans had been just a little deeper when the earth originally began, that that much more water would have absorbed or would have dissolved the carbon dioxide and oxygen out of the air to start with and life could not have begun unless more air had been in the atmosphere originally. Thus, the earth's oceans are just about the right depth in relation to the amount of air in our atmosphere.

6. A sixth thing is the earth's crust. Not only are the earth's oceans about the right depth but the earth's crust is just the right thickness. For if the earth were only ten feet thicker on the outside than it is that much additional matter would have oxidized all the free oxygen out of the air when the world began, and life forms could not have begun. This, like the depth of the oceans, is true unless more atmosphere had come into existence when the world began. Ten feet more solid matter on the outside of the earth's crust! Think about it for a moment! That's

not very much more is it? The earth is approximately 4,000 miles in radius, so ten feet to 4,000 miles or twenty feet to 8,000 miles (the approximate diameter) is a very narrow margin indeed! Here are six things, then, working together just so well, tilted just right, spinning just right, wobbling up just right, wobbling down just right, earth's oceans just right, and the earth's crust just right -- six things just about right! And the chance of pulling six coins out of my pocket just right by accident is one chance in one million!

7. While all of this is working just right, there is a seventh thing. We are moving around the sun in an elliptical orbit at just about the right speed. The orbit is not in a perfect circle as we might suppose, but more like a round-ended (American) football. We are speeding through space while we are rotating and wobbling up and down, at the rate of 18 miles a second, or 1,080 miles a minute, or if you prefer, 64,800 miles an hour. The astronauts can orbit the earth if they get about 17,000 miles per hour, and they only hit about 24,000-25,000 miles per hour coming back from the moon, but we're racing around the sun at nearly 65,000 miles per hour! But this is just about the right speed! If our world slowed down and went only one-third that speed around the sun, 6 miles a second or about 21,600 miles per hour, it would be pulled so close into the sun at the shallow or narrow part of that football-like orbit, that we would be burned to a crisp as we passed by. Or the slowing of the earth's speed would cause us to be pulled back into the sun much as our orbiting astronauts come down when the retro-rockets break their speed and the earth's gravity pulls them down out of earth-orbit. And so we would be pulled into the sun and burned up if we moved around the sun too slowly.

But if our world, wobbling and spinning, were to slightly more than double its speed so that it would travel forty miles a second, that much additional speed would throw us so far into space at the long point of the orbit that we would freeze to death in the far reaches of incredibly cold space before we were to come back close enough to the sun. Thus our speed around the sun is just about right!

8. If those things were not enough, there is an eighth thing just about right -- our earth is about the right number of miles from the sun for us to be able to live; about 93 million miles. At this distance our earth receives neither too much nor too little heat from the sun for us to live. The surface of the sun is between 11,000-12,000 degrees Fahrenheit on the average. If this does not seem so hot, let me remind you that asbestos melts around 4,000 to 5,000 degrees! Some sunspots that erupt on the sun's surface interrupt even radio communications on the earth and produce up to a million and a half to two million degrees Fahrenheit. And the interior of the sun is said by scientists to be approximately 40-50 million degrees! Across those 93 million miles, we get enough of the sun's heat, but not too much, to live. And 100 degrees seems very hot weather to us, but did you know this, that if only fifty degrees more or fifty degrees less out of those 11,000-12,000 reached our planet on the average for a year, that we could not live? Fifty degrees more or fifty degrees less for a year! You and I are so fragile that we would perish if our earth's temperature averaged that much more or less for the period of a year. But

fifty degrees is less than one-half of one percent of the average surface temperature of our sun! That's an awfully close margin in my opinion! Eight things so wonderfully and closely related. But there is a ninth thing.

9. While the earth is tilted, spinning, wobbling and racing around the sun, the moon is moving around the earth at just about the right distance! All of us, I'm sure, have looked up and wished that great big beautiful moon would come in closer. This sound like a romantic thing, but we had better let it stay just the distance that it is. Averaging about 240,000 miles from the earth, the moon is just about right for our well being. From that distance the moon exerts such a pull of gravity that it literally lifts the oceans of the earth and dashes them against the continents with such force that in some parts of the world, the tides rise between sixty and seventy feet. The earth's crust literally bends and stretches outward several inches from the sheer pull of our moon. Scientists say that if our moon were to come in from 240,000 to only 50,000 miles, the gravitational pull would be so fantastically increased that every lower region of the earth would be inundated with water from the higher tides! The Atlantic ocean, for example, would have tides that would move through the Gulf of Mexico and sweep across Texas to break against the Rocky Mountains with such force that they would create hurricanes in the air as they came in and went out! But you wouldn't be worried about the hurricanes since those colossal tides would wash every bit of soil, every tree and everything else into the oceans as they daily pounded the Rocky Mountains. In due time the impact would be so great the tides would shatter every mountain range of this earth and wash them into the ocean bottoms. And if you could take a giant or cosmic shovel of some kind and scoop the continents into the ocean beds, our ocean beds are so large when compared to our continents that you could put every continent into the bottoms of our oceans and have an earth covered by one and a half miles deep in water without a single foot of ground on which to stand! Thus the distance of the moon is just about right and a ninth thing is working so wonderfully well for our existence. And the chance of my pulling nine coins out of my pocket by mere chance in perfect sequence is one chance out of one billion!

10. For the tenth thing I want to draw from biology. I sat amazed as a biology teacher told us that in every green leaf on every piece of grass or weed, bush or tree, there were tiny cells called chloroplasts which contained a substance called chlorophyll that performs a function so basic to our existence that we are absolutely dependent upon it. The little cells, activated or energized by the power of the sun, take carbon dioxide from the air and moisture from the soil and break down their molecular structure so as to form a molecule of starch and in the process free atoms of oxygen back into the air. On this process, called photosynthesis, the entire animal kingdom completely depends! For if it stopped, one of two things would happen; either we would starve to death for lack of food (since this is the basic food-producing process) or we would die from asphyxiation (since this is the basic way nature replenishes our oxygen supply). Without the regular release of oxygen back into our atmosphere we would die in due time due

to its constant use by such things as our lungs, our car motors, our factories, etc. Our very lives depend upon the regular functioning of this basic process.

Here then are ten things (and remember more than **100** can be found) all working together so wonderfully well. And the chance of my pulling ten coins out of my pocket in perfect sequence by sheer accident is one chance in ten billion! Could these have all happened by accident? Could life have begun by accident when it seems that so many things had to be necessary in order for it to begin? Some people believe that it did, but I for one cannot. If I saw you pulling coins out of your pocket in an amazing sequence, my mind would demand that I believe you were doing it by design or purpose and not by random accident. When an eminent scientist says that for life to begin there must be protein, and that the chances of the 2,000 atoms in a protein molecule coming together by accident is one out of 10 to the 321st power, then I find it much easier to believe and more reasonable to believe those factors for life are the result of choice rather than chance.

Others may believe this orderly universe and its intricate life forms are the product of chance or accident, but I cannot. I could not believe that you "just accidentally" pulled those ten coins out in perfect sequence and neither can I believe all these things "just accidentally" happened. There are signs of choice, and I call choice by the word "God". Both answers -- chance and choice -- are faith answers, but in the light of scientific data, is it so gullible, so naïve, so credulous to choose the faith answer called "choice"? Does it really take more faith? Is it really more gullible than the other faith answer called "chance"?

Others can answer as they will, but for myself, when I look up to a starry night or see a beautiful sunset, I must say with the popular gospel song:

Oh, Lord my God, when I in awesome wonder,
Consider all the worlds Thy hands have made.
I see the stars; I hear the rolling thunder,
Thy power throughout the universe displayed.

Then sings my soul my Savior God to Thee
How great Thou art! How great Thou art!
Then sings my soul my Savior God to Thee
How great Thou art! How great Thou art!

But in conclusion, let me say that my own religious faith was not begun by deductions from scientific data. Many years ago as a high school student, I heard a teacher say that most people, including college graduates, had never read the world's number one best selling book completely through. She challenged us to do it. I had grown up in a secular home, though not an atheistic one, and did not know what book she meant. She said it was the Bible. She said that if we would read three chapters a day for six days a week and read five chapters on Sunday, we could read the entire Bible in one year's time.

The time came when I realized that I would have to stop reading the Bible or I would have to commit my life in faith to the living God revealed in Jesus Christ, whose presence and reality was becoming so real to me. I realized that it was not enough simply to acknowledge the existence of God. The book of James says that even the "demons" or "devils" believe there is a God (James 2:19). And you know where they are! It is one thing to acknowledge that there is a God; it is quite another to be rightly related to that God! I knew that I was not right with Him. The New Testament made it clear that by faith in Jesus Christ I could have my sins forgiven, my rebellion pardoned, and my incompleteness made complete. All of this was possible because Christ had loved mankind, had died, and had risen from the dead!

That there was a God did not surprise or amaze me, since it seemed easier to believe in intelligence than in non-intelligence as the cause for an orderly system, but that a God great enough to create our fantastic universe could or would care enough for mankind that He would let His own Son die to redeem us -- this really overwhelmed me! Could it be true? Was it fact or fantasy? Was it reality or myth? And when the truth of the New Testament became real to me through faith, something happened within me that completely changed my life. My attitudes, my outlook, my everything truly changed. In the words of the New Testament, I had a "new birth" (Gospel of John 3:3). I could only say of Christ as Thomas had said, "My Lord and my God." (Gospel of John 20:28)

I became a true believer through the witness of the Word of God. I became a Christian because of the power of the Scriptures, used by the Holy Spirit, to awaken a living faith in the living God who revealed Himself in His Son -- Jesus Christ.

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