

Chapter 1: Where did it all come from?

“...and finally, as I studied through genetics and embryology, the last clouds of doubt were blown away. After all those years of feeling like I was an orphan walking in the darkness, I became convinced there really was a God. Later I understood that all my life God had been directing my path; even at my most painful and seemingly hopeless moments, He had been watching over me like a father, a great God with a father-heart of love, making sure that I could finally come to the truth.”

“I just can’t believe that!” Xiao Wang shifted in his chair, a frown of intense concentration on his face.

Professor Ho nodded calmly and said gently, “I would never want anyone to believe anything unless they were rationally convinced that it is true. But I think you agree by now that it’s too important to ignore. You have to find the answer.”

Xiao Wang hesitated, then said nothing and dropped his gaze to the floor, unconsciously scowling. It was true; he couldn’t be satisfied anymore without an answer. He felt caught. He wished he’d never come there, never started thinking about these things.

Xiao Li looked at him earnestly. “You said you wanted to find the truth. Aren’t you willing to even try? To at least look at the evidence, hear the argument?”

Xiao Wang snapped his head up to look at his roommate and smoothed the scowl off his face. Xiao Li met his gaze, eyes unblinking behind his glasses black plastic frames. “Of course I want the truth,” said Xiao Wang. “But I won’t be easy to convince!” He turned: “Professor Ho, please continue. I’m sorry for interrupting.”

“Not at all.

The smooth, young faces of the two students gazed at him earnestly and quietly. Professor Ho leaned forward in his desk chair and his wrinkles creased into a sympathetic smile.

“You see, before that I was very much like Xiao Li said he used to be. When I didn’t think about things, life was O.K., but whenever I asked myself why I was here and what the purpose of life was, I had no answers.”

Xiao Li nodded in agreement, but Xiao Wang was beginning to scowl again without knowing it. “Why do I need to know why I’m here?” he asked combatively, covering over his own inner turmoil.

“Because God made you with a longing for purpose and meaning hardwired into your heart, that’s why you long to know why you’re here. I understand that you don’t believe in God yet, but that’s the real answer to your question.

“Eventually I realized I had three questions tearing at my heart: Where did I come from? Why am I here? Where am I going? I was an atheist then, so the only answers I had came from philosophical materialism. Where did I come from? Answer: You evolved by accident from apes, and before that from fish, and before that from bacteria. Why am I here? To struggle to survive—but eventually you’ll lose. Where am I going? To death and nothingness. Then I asked, so where is the meaning in life? There was no answer to that question; just silence.”

“That’s exactly how I felt!” said Xiao Li. Xiao Wang was listening quietly now, thoughtfully.

Professor Ho continued. “So there I was: in the prison house of atheism, locked in the jail cell of materialism, with the chains of evolution around my wrists and ankles. I couldn’t find any meaning in life, and I was getting more miserable every day.

“Finally, by God’s grace, one day I came across some scientific materials critical of evolution. For the first time, I looked at those chains of evolution on my hands and feet and asked myself, ‘How do you know it’s true?’ That was the beginning of my jailbreak!”

“So you just decided to believe God created everything?” Xiao Wang asked.

“Not at all. I had to be convinced, and it took a long time.”

Xiao Wang snapped combatively, “Show me God and I’ll believe in Him right away!”

Professor Ho beamed a bright smile in reply. “If anyone ever shows you ‘god,’ whatever you do, don’t believe in Him! The only things you can see with your eyes are material objects, light bouncing off matter. No lump of matter can be your Creator! Worshipping material things is superstitious idolatry. I think you’d agree with that?”

“Of course I don’t believe in idols. But your ‘god’ isn’t real either. He’s just an abstract idea in your head, something you can’t see or touch! How do you know He’s there?”

“I infer it from what He has made. If you don’t mind, I’d like to show you a verse in the Bible that summarizes the logic of it.”

“Sure.”

Professor Ho opened a thick, battered old Bible and flipped quickly through the worn pages. He stopped on a discolored page covered with faded notes and then quoted by heart:

Because that which is known about God is evident within them; for God made it evident to them. For since the creation of the world His invisible attributes, His eternal power and divine nature, have been clearly seen, being understood through what has been made, so that they are without excuse. (Romans 1:19-20)

“This verse says that when we look at the natural, physical world, ‘through what has been made’ we can draw three inferences:

1. There is a Creator.
2. He has supernatural power, what the verse calls ‘eternal power.’
3. He is not a part of our mass-energy-space-time universe. His existence is completely independent of matter.

He obviously is not just a part of human psychology, either. That's what the verse calls His 'divine nature.'

When we honestly examine the universe around us, we will reach these three conclusions."

"I don't see that," countered Xiao Wang.

"You haven't thought about it!" Xiao Li snapped back. "Look at Nature all around you! It's so amazing, how can you—"

"That's just your personal feeling, totally subjective—"

"You've never even considered—"

Professor Ho held up a hand. "Calm down a minute gentlemen! I am inviting you to examine the evidence and think. Here's how the logic works. There are at least two ways to prove something exists. One is by directly observing it, like when a person comes into the room and we see, hear and shake hands with him. The other is by observing the effects of the thing on something else, like electricity flowing through a light bulb. When we turn on an electric light, we don't 'see' electricity moving through the wires; the electricity is an invisible flow of electrons. We 'see' the effect that the electric current has on the bulb; namely, light is given off.

"It's the same with God. We don't see Him; He's invisible. What we see is the effect He has on the world. From the results of the things He has done we infer His existence."

"I don't understand what you mean."

"I'm sorry, I'm being too abstract. Let's think of some examples. If you walk into an empty kitchen, with no one else there, and find a hot bowl of rice steaming on the counter, where did it come from?"

"Someone must have put it there before you came in."

"Right, of course. Even though you couldn't see the person, you could see the result of their action. It's like that with God: you can see the results of His actions, namely, this world around us, filled with complex living things."

"But that's not the same! We already know rice bowls are filled by people. Is your God a waiter who fills rice bowls?"

"No, He's the Creator of waiters, and of rice! But I have a second example that might be helpful. Suppose you were walking on an uninhabited mountain and you came across a jagged, broken stone. Where would you think it came from?"

"Why it was there naturally, of course!"

"What if you rolled the stone over and saw this on the other side:"

"Obviously that's writing. Someone must have carved it on there."

"Really? How do you know it isn't just random marks in the rock? Can you read it?"

"No, I can't read it, but it has several unique, repeated patterns carved in straight lines on a smoothed rock. Obviously it's writing."

"Really? How can you be sure it didn't happen by chance? Do you at least recognize the language?"

"No. But I can see it's writing, and only humans produce writing. Maybe it's oracle bone writing."

"Actually it's an ancient Hebrew inscription from about 700BC found in an underground water tunnel dug by the Jewish king Hezekiah who is mentioned in the Bible.¹ It talks about how they built the tunnel. When you saw it, you realized that it must be writing—that is, information recorded on matter—and you knew that it could not have happened by chance; someone must have written it. Even though you've never seen those people, you're sure that they must have existed because you see the results of their actions—letters carved in stone."

"OK, but what has that got to do with believing in God?"

"We conclude that God exists because of what He has made."

"But that's still not the same! We know people can write. Did your God carve a stone tablet?"

"Well, He did once, but we don't have it anymore. But we do have something He wrote. Every cell in your body is filled with thousands of pages of information written in your genes. Your genes are information, and information doesn't happen by chance—not in ancient water tunnels, and not in human cells either!"

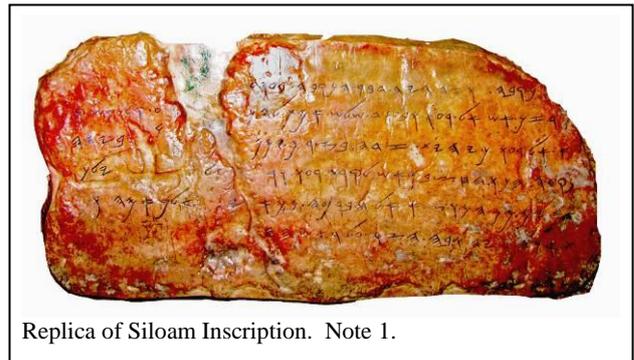
"So we're back to evolution!"

"Yes, the chains of the myth of evolution are the first thing that needs to come off before we can get out of the philosophical materialistic jail cell. And the file I'm going to use to cut through those chains is natural science. Modern science is Creationism's biggest helper, because if we examine the universe as it actually exists, we find that it must have been designed.

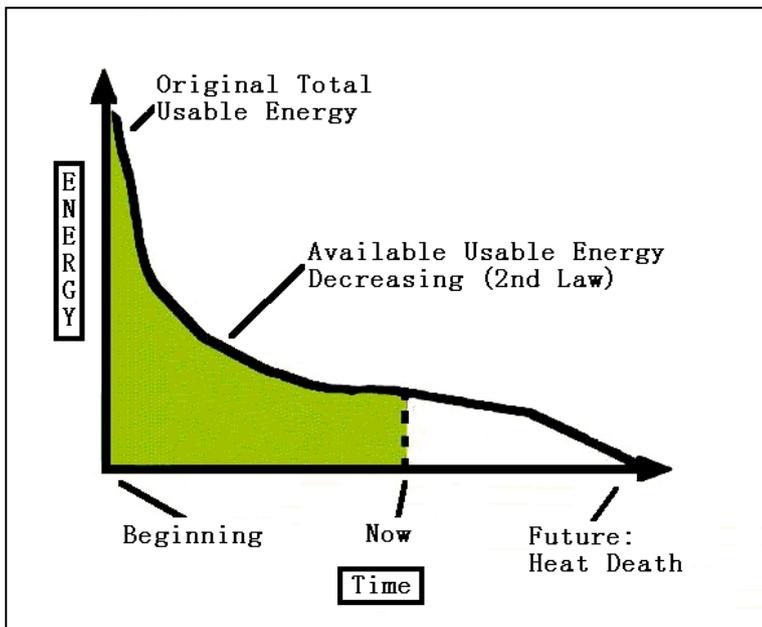
"You see, it's not just that atheism leads to despair. It does lead to despair, but the bigger problem is, it simply can't be true. The materialist or atheistic worldview can't give us any logical, scientific understanding of where anything came from. It can't explain where the universe came from, or where life came from, or how so many different kinds of organisms came to exist on earth."

Origin of the Universe

"Perhaps the first thing we need to ask is, where did the universe come from in the first place? Atheistic scientists



Replica of Siloam Inscription. Note 1.



used to believe the universe was eternal. By the early 20th century though, it was discovered that what the Bible says is correct: the universe had a beginning. The proof of this comes from the Second Law of Thermodynamics, also called Entropy. Entropy states that the amount of useable energy in the entire universe is constantly decreasing.”

“But I thought matter and energy cannot be destroyed, only converted into each other” Xiao Wang objected.

“Quite right, matter and energy cannot be destroyed—that’s the First Law of Thermodynamics—but *usable* energy in the universe is constantly decreasing. To put it simply, entropy means the hot areas of the universe are getting colder, and the cold areas are warming up slightly, like when an ice cube melts in a glass of warm water. The warm water gets cooler and the cold ice gets warmer until they even out. One example is our sun: eventually it will

burn out. Its heat will be spread out into the huge, cold regions of space, warming them up very slightly. If enough time passes, eventually the whole universe will even out at the same, very cold temperature—about 4 °Kelvin. That’s what physicists call the universe’s heat death. Then there will be no way to gather energy (heat) back together into one place, which means there will be no useable energy available for doing any work. The amount of useable energy in the universe is finite; eventually it will be used up.

“Entropy is an essential law of physics. It applies everywhere in the whole universe and shows up in every scientific observation made by humanity. If we don’t believe in entropy, we have no science at all.”

“I know about that,” Xiao Wang agreed, “but how does it prove the universe had a beginning?”

“Well, if the universe had no beginning, if it were eternal, it would already have existed for an infinite amount of time. The history of the universe—and of entropy—would stretch infinitely back into the past. At any point we choose called ‘now’ an infinite amount of time would have already passed. In an infinite amount of time, a finite amount of energy would have been used up long already.”

“From this we reach a simple conclusion: the universe we live in must have had a beginning, and the useable energy has been running down since then. It’s either that, or all of physics is fundamentally wrong—which would mean that all of natural science is wrong! Do you believe in physics?”

“Yes, of course! It’s the best proven, most objective of all sciences.”

“I believe in physics too, so I know the universe had a beginning.”

“And you think that beginning was your God?”

“Well, consider it logically. In the physical universe, effects must have causes. The universe *has* usable energy, but it can’t *make* useable energy—unless we don’t want to believe in the physics we observe every day! So the useable energy must have come from somewhere outside of the universe, from something not part of the mass-energy-time-space universe. There must be a cause.”

Origin of God

“So you think God was the cause. But then where did your God come from? You said every effect has a cause. If your God caused the universe, who caused Him?”

“A good question! I know a Christian who, as a young boy less than ten years old, asked his mother: ‘Where did God come from?’ She said she didn’t know. He thought a bit and suggested: ‘Maybe there was a great magician who made God!’ But then the question came to him: then who made the magician? Over 2,400 years ago the ancient Greek philosophers already recognized this problem, and they realized also the impossibility of infinite regress: it can’t be that there was an infinite number of causes and effects stretching backwards through time, because then you would never be able to reach ‘now’.”

“Why not?”

Professor Ho paused a moment, pondering how to explain it. “Picture time as a long row of dominos, stretching back into the past and forward into the future. The dominos are falling at a rate of one per second. The fall of each domino is both an effect of the previous domino’s striking it and a cause of the fall of the next domino. If the universe were eternal, it would have existed forever in the past. So how many dominos would have already fallen by the time we arrived at the year 2000? How many dominos—how many seconds—are there in ‘forever’?”

Xiao Wang pondered for a moment. “An infinite number,” he finally replied.

“Yes,” Professor Ho agreed. “So how long would it take for an infinite number of dominos to fall, or an infinite number of seconds to pass?”

Xiao Wang again pondered for a moment. “You could never pass an infinite amount of time,” he admitted. “Infini-

ty means you never get there.”

“Exactly! And that’s why the universe cannot be eternal. If it were, you could never get to ‘now’ because you’d have to pass infinity first! This is called the impossibility of infinite regress. The real mass-energy-time-space universe in which we live could not have existed forever as an infinite sequence of time and cause and effect. So, as those Greek philosophers pointed out long ago, there must have been a First Cause, an Uncaused Cause—a Cause *outside* of the cause-and-effect chain which we observe in the physical universe. To put it another way, there must have been a hand which knocked over the first domino—and, for that matter, which created the dominos in the first place!”

Xiao Wang had another rebuttal. “Maybe the universe started from nowhere for no reason!”

“That’s postmodernism. That denies all the science, all the physics we see every day, and all the logic we use every day. Every day we observe that effects in this universe have causes. That’s the basis of science. Do you believe in science?”

“Yes... O.K., maybe saying the universe came from nowhere doesn’t make any sense. But you’re denying science, too. You say your God had no cause!”

“I said everything in the universe we can observe has to have a cause. The whole point about God is that He’s outside of the universe and therefore outside of the chain of cause and effect.”

Xiao Wang paused and thought hard for a minute. “O.K.,” he said at last, “I see your point. Logic needs a cause outside the universe to be the starting point for cause and effect, and physics needs an initial source of energy outside of the universe. But that doesn’t prove your God!”

“Not quite yet, perhaps. Perhaps we’re still in the materialistic jail cell! But we’ve made progress—we’ve cut the chain off one leg. A universe with a beginning seriously undercuts materialistic philosophy. Materialism or atheism can’t explain the origin of the universe.

“Now let’s get the chain off the other leg. Materialism and evolution also can’t explain the origin of life.”

Origin of life and sub-cellular components (amino acids, specific proteins)

Xiao Wang shook his head in disagreement. “Well, I don’t know about the universe, but we do know where life came from. It evolved. Simple chemicals in the ocean were struck by lightening for millions of years, and they became cells. Simple single-celled organisms got more complex due to the struggle to survive, and they became shellfish, then later vertebrate fish. By mutation, natural selection and survival of the fittest, they evolved upward, moved onto land and gradually developed into all the rest of living things.”

“Yes, that’s the story we’ve all read in our textbooks and seen on T.V. But how do you know it’s true?”

“All the scientists have been researching it ever since Darwin! Do you think they’re all wrong and you’re right?” Xiao Wang asked scornfully.

“Actually not all natural scientists believe in evolution. Although we rarely hear about it in China, more and more scientists in the West are doubting or rejecting the theory of evolution, including some scientists who do not believe in God.”

“They’re just a few crackpots!”

“Although they are in the minority, science should not be ‘majority rules’ but rather ‘seek the truth.’ On the internet you can find a long list of well over a thousand scientists, mostly Ph.D.’s, who state:

We are skeptical of claims for the ability of random mutation and natural selection to account for the complexity of life. Careful examination of the evidence for Darwinian theory should be encouraged.
(www.discovery.org)

Those are the ‘Intelligent Design’ movement scientists; they don’t necessarily believe in God, but most of them probably do.

“In addition, there are many ‘Creationist’ scientists. Over 600 of them, all with Ph.D.’s or M.S.’s in natural or applied science, are members of the Creation Research Society. They explicitly do not believe in evolution, but in special creation by God:

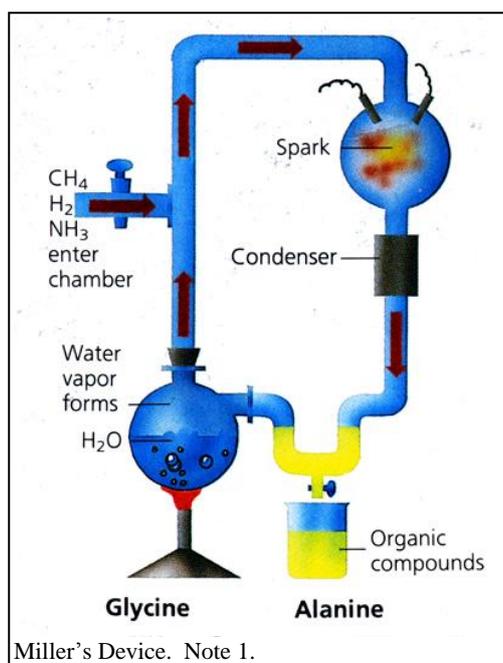
All basic types of living things, including humans, were made by direct creative acts of God during the Creation Week described in Genesis. Whatever biological changes have occurred since Creation Week have accomplished only changes within the original created kinds. (www.creationresearch.org)

It’s simply not true that evolution is a ‘scientific fact’ that all scientists agree with. If you do a little research, you’ll quickly confirm that.

“Why are so many genuine scientists doubting evolution? The reason is that each year it becomes more obvious that evolutionary theory cannot explain the world we observe around us. Evolution cannot explain the origin of biological life, or even of the chemicals like DNA and proteins that make up life. Evolution cannot explain the origin of functional structures—eyes and feathers and lungs. Evolution cannot explain the origin of radically different kinds of life—fish and whales, birds and dinosaurs. And finally, evolution is contradicted by what we actually observe in the fossil record.”

Professor Ho paused and looked at Xiao Wang over the top of his glasses. “Those are strong claims, and you’ll want to see the proof before you accept them.”

Xiao Wang nodded vigorously.



Amino Acids

“Let’s begin at the foundation then. As we know, living things are made of cells. Without cells, there is no life. Inside cells are proteins, extremely special chemicals which are absolutely necessary for life as we know it. Without proteins, there is no life. Proteins are composed of long strings of amino acids. Without amino acids, there is no life. The 20 types of amino acids which comprise proteins are often called the building blocks of life.

“In school, most of us were taught that amino acids could have formed by chance in the early earth’s oceans. We were shown a picture of the ‘Miller-Urey’ experiment which looked something like this one.

“Miller assumed the early earth had an atmosphere of ammonia, methane and hydrogen. He boiled water into these gasses, then passed the mixture through a repeated spark. Various reactions occurred. Then he trapped out the organic compounds so they would not be destroyed by further reactions. He produced very small amounts of two biologic amino acids, along with lots of other chemicals. Later experiments were able to produce other types of amino acids. This was taken as proof that amino acids could have been produced spontaneously on an early, pre-life earth. It still shows up in many of our textbooks.

“What’s wrong with this experiment and others like it? Only everything.

1. The chemical reactants contained in the apparatus are wrong. Miller carefully excluded free oxygen from his apparatus because he knew it would quickly react with and destroy any amino acids which might form. For decades now, however, scientists have agreed that the earth always had free oxygen in it’s atmosphere. This is demonstrated by the nature of the lowest levels of sedimentary rocks.² Despite this fact, a 21st century Chinese high school biology books confidently states:

在地球形成的初期，原始大气中不含游离氧...³ (In the early stages of the formation of the earth, the primordial atmosphere did not have free oxygen...)

Many other Chinese textbooks make the same mistake, even to this day.

2. The energy source was wrong. Miller used a small, gentle spark continuously repeated in one place for days or weeks. We are told this was supposed to represent lightning. Actually, lightning is so hot that would destroy, not create, amino acids. Even if we believe amino acids might have formed due to milder electrical discharges in the atmosphere, Miller’s continuous spark in a specific place actually gave off more electrical energy in two days than a given spot in the ocean would receive in 40 million years.⁴ This relates to the third problem.

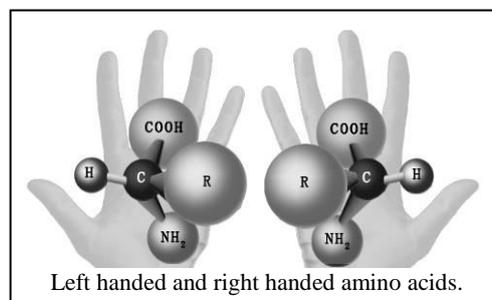
3. The amino acids would have quickly been destroyed in the real world. Amino acids are unstable chemicals. Sunlight, heat, and reactions with other chemicals would have quickly destroyed them even if they had been produced on the imagined ‘early earth.’ Miller avoided this reality by adding a trap to his apparatus to draw off the desired chemicals before they were destroyed in subsequent reactions⁵ In the real world, however, mere sunlight alone would have destroyed amino acids far faster than they could have possibly been formed. Every chemist knows this, but they don’t talk about it in our textbooks!

4. The amino acids produced could never have been the basis for life. Amino acids (except glycine) come in two forms, so-called left handed and right handed. Miller’s experiment and all others like it produced roughly equal amounts of left handed and right handed amino acids. But living things exclusively use left handed amino acids.⁶ All proteins are strictly left handed. A single right handed amino acid stuck into a protein could stop its synthesis and ruin it’s function.^A There is no known ‘natural’ way to produce exclusively left handed amino acids. Only living things do it, but they do it based on copying their pre-existing set of highly organized, exclusively left handed amino acids.

“In the end we have to conclude that Miller’s experiment is nothing more than a very crude, artificial way for a chemist to make small amounts of mixed left and right handed amino acids in the laboratory. It has nothing to do with anything which ever happened in nature.”

Xiao Wang looked puzzled. “Then why was it considered so important? And why has it appeared in so many textbooks for so long?”

Professor Ho nodded understandingly. “Yes, why? Because it’s the only straw of hope that evolutionists have to try to explain the origin of



^A Right handed amino acids and proteins do occur in living things in rare cases. For example, the fungus which produces penicillin produces a toxic right handed acid for self-defense. It is one of the components of our antibiotic drug penicillin. We might compare it to the use of radioactive materials in a nuclear weapon: good for defense, but lethal to your cells if even a tiny amount gets loose in your body!

life on earth by chance. One evolutionist even openly used religious language to describe Miller's experiment. He called it the 'rock of faith' on which evolutionary origin of life researchers rested. They indeed have faith! But it is not a scientific or rational faith."

Xiao Wang was unconvinced. "I admit they have a problem explaining where those chemicals came from, but it still doesn't prove to me that life could not have originated by chance."

"You're quite right," agreed Professor Ho. "What really proved to me that life did not come by chance was thinking about the origin of the next largest building block of life: proteins."

Proteins

"Amino acids are a long, long way from life. Alone they really can't do anything. They're just building blocks. One of their most important uses is in making proteins. Proteins are very complex, very specific chemicals. Your hair, your skin and your muscles are all made of different types of proteins. More importantly for the origin of life, the miniature machines which do most of the work in a cell are tiny, specialized proteins. This picture represents the (unfolded) amino acid chain making up one of the smallest, simplest proteins: ribonuclease. Each of the small balls is an amino acid. There are 20 different amino acids used in living things. Ribonuclease is a total of 124 amino acid 'letters' long and utilizes 17 of the 20 types of biologic amino acids.

"Each protein is highly specific in its composition and shape. Proteins are formed by linking together long chains of amino acids in a specific order. Then the chain folds itself into a specific shape which corresponds to its function. The final shape is determined by which amino acids are used and their order in the chain. It's very much like a sentence composed of letters. A sentence's function (that is, its meaning) is determined by both which letters are used and their order. Take for example the sentence:

The pin was sharp.

Consider how the meaning (function) of this sentence changes when we change the order of two letters:

The **nip** was sharp.

Or when we change a single letter:

The pen was sharp.

Most changes, however, would result in *no* meaning:

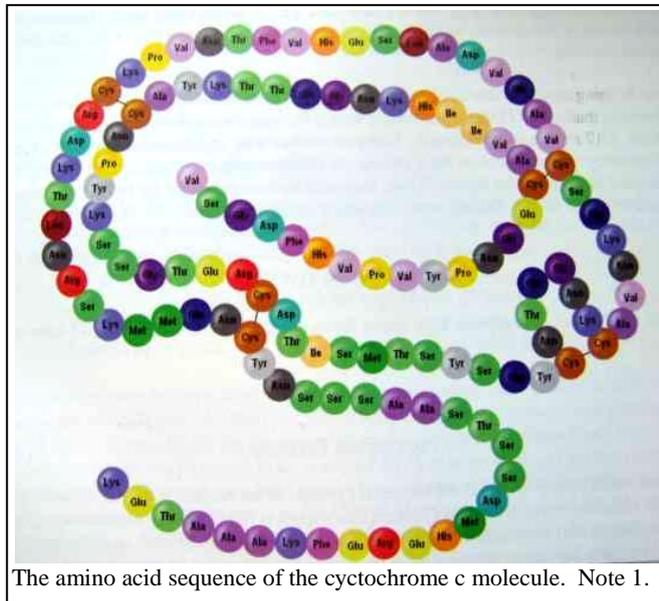
The **ain** was sharp.

The **pbn** was sharp.

The **pid** was sharp.

The pin **cas** sharp. ...

Proteins are like that. Change an amino acid, and you get a different protein with a different function—or, in many cases, no function at all! It is true that in most proteins, some amino acid substitutions can and do occur



The amino acid sequence of the cytochrome c molecule. Note 1.

without having any apparent impact on function, but there is always a core of positions where few or no substitutions are allowable, parts of the chain where even a single substitution will ruin the entire function of the protein. Note that the average sized protein has about 400 amino acids. To be very generous to the evolutionists, let's assume that only 100 of the 400 have to be specific amino acids in specific places to produce a protein with the necessary function. Is it possible to get 100 specific amino acids in the right order?

"Dr. Duane Gish has a Ph.D. in biochemistry from the University of California, Berkeley. He worked for 18 years doing biochemical research in American universities and industry. Here's how he describes it."

How, then, do evolutionists believe that life came into existence? Why, just by chance! Evolution teaches that no one did any planning; nothing was designed; no one did any research, and that no intelligence was involved. Everything that was necessary to put together the vast number of chemical processes in just the precise way to produce life just happened by accident! This takes a giant leap of faith on the part of the evolutionist, but it is not a *reasonable* faith. ...

Evolutionists must have faith...but their belief that something as wonderfully designed, as incredibly complicated, and as intricately coordinated as a living cell could just put itself together, is not reasonable. It is forced upon them because they choose *not to believe* that the great Master Engineer of the universe—God Himself—created life, just as we read in the Bible.

Furthermore, to believe that life created itself requires not only blind faith, but also, it demands poor science, or what is called pseudo, or false science. It can be shown, using scientific methods, that it is *impossible* for life to have created itself, even if given 4.6 billion years (the age of the earth claimed by many evolutionists). ...

Each protein, each DNA, and each RNA molecule is very large and complex. Let us consider the probability of the production of one single protein molecule by chance. Proteins are long chains, and the

worked with whatever proteins happened to turn up.”

“Some might suggest that any old protein would do for a start. That’s not true, actually—in reality, *no* proteins would ever appear—but even if by a miracle one did, as soon as you had one protein, all the other proteins would be constrained by needing to be able to interact properly with the first one. It’s like building a bicycle: maybe you could start with a cogwheel or a chain of any size you liked, but after that everything else would have to fit with it, or the bike would not move. Proteins in cells aren’t a random collection of molecules. They are an integrated set of tiny machines all working together in a microminature factory. Each one has a specific task and is designed to do that task. And one little mistake can ruin it and impact the entire cell—or your entire body. Here’s another example from Dr. Gish, the biochemist:

DNA and RNA molecules are even more complex than proteins. Just recently, it has been discovered that the DNA molecule—the gene that codes for only one of the many proteins involved in blood clotting—has 186,000 links (these links are called nucleotides) in its chain. If only *one* of those 186,000 nucleotides is wrong, the body cannot manufacture that blood-clotting factor, and the person suffers from hemophilia.⁸ [Editor’s note: This does not mean that *each and every* nucleotide is absolutely constrained, but rather that, in at least one case, a single nucleotide error ruins the functionality of the gene.]

One nucleotide wrong results in one amino acid being wrong—and the protein does not function correctly! If you have a pressurized bloodstream, as humans do, you need a special set of proteins to control blood clotting, and it’s simply not true for proteins that ‘any old one will do.’

“So here’s my conclusion. The odds of forming a single, medium sized functional protein by chance are certainly not better than one in 10^{100} . That’s not even asking where you got all the amino acids from in the first place, nor how they were preserved from decomposition and kept together in one place before there were cells. Let’s just assume they dropped down from heaven into a conveniently placed hole in a rock! You’d still never get a functional protein by chance. In simple terms, the number one in 10^{100} means the event would never happen once in the entire universe, even if it has existed for 30 billion years. It’s numbers like this that convince me beyond a doubt that life never could have occurred by chance. There must have been a designer, a Creator.”

Xiao Wang looked thoughtful. “I must admit that is the most convincing argument I ever heard in favor of a designer.”

“Everyone who honestly faces the evidence thinks so. One of the world’s most famous (former) atheists is the British philosopher Anthony Flew. He spent decades arguing against the existence of God in universities all over the world. But he became a reluctant believer in a designer in 2003 after examining the evidence from biochemistry about the origin of life. He stated that he changed his mind:

...almost entirely because of the DNA investigations. What I think the DNA material has done is that it has shown, by the almost unbelievable complexity of the arrangements which are needed to produce (life), that intelligence must have been involved in getting these extraordinarily diverse elements to work together. It’s the enormous complexity of the number of elements and the enormous subtlety of the ways they work together. The meeting of these two parts at the right time by chance is simply minute. It is all a matter of the enormous complexity by which the results were achieved, which looked to me like the work of intelligence. ...it’s simply absurd to suggest that the...elaborate feat of the origin of life could have been achieved by chance.⁹

Flew is not a Christian. In fact, he still hates the God of the Bible—he called Him a ‘cosmic Saddam Hussein’¹⁰—but he has to admit life did not arise by chance.

“I remember my feeling when I finally realized that life was designed. What a revelation it was to me! It was a whole new world! Or should I say, I saw the world in a whole new way. I felt like Leeuwenhoek peering into his microscope and seeing for the first time the ubiquitous microorganisms which surround us: all around me was something I’d never dreamed of before! A *designed* world was a world with the possibility of meaning and purpose, with the possibility of hope. Maybe the Designer had a *reason* for making us, a reason higher than ‘survival.’ Random chance evolution, then ‘survival of the fittest,’ struggling to survive for no other reason than survive—these gave no meaning to my life. I already knew that. But suddenly I had hope of finding meaning in life!”

Xiao Li was smiling brightly. “I felt the same thing!”

Xiao Wang was motionless with his eyes fixed on Professor Ho.

He continued. “I didn’t know it at the time, but the heavenly Father, God, was revealing Himself to me through what He had created. He was showing me His power and His intelligence through Nature, just like that verse says:

Because that which is known about God is evident within them; for God made it evident to them. For since the creation of the world His invisible attributes, His eternal power and divine nature, have been clearly seen, being understood through what has been made, so that they are without excuse. (Romans 1:19-20)

Xiao Wang spoke up suddenly. “Just because we can’t explain the origin of life doesn’t mean your God did it!”

Professor Ho raised his eyebrows in a friendly way, wrinkling up his forehead, and nodded. “You’re quite right, Xiao Wang! We haven’t proved things yet. But there’s at least one thing we *have* explained about the origin of life: it wasn’t by chance. It had to have been specifically guided, directed—and therefore designed!

“Now that we know life was designed, we’ve filed through the second chain of evolution; both legs are free! Before

long we'll follow Flew out of the prison house of atheism. But we still need to cut through the chains on our arms."

Origin of novel functional structures

Xiao Wang was far from ready to concede so much. "I admit it's hard to explain the origin of life. We don't know where the first cell came from; maybe space aliens sent it here! But I think Darwinian Evolution at least explains how life developed after it started."

"You raise an interesting point," replied Professor Ho. "You bring us to the next level in our analysis of the origin of living things. In fact, Evolution cannot explain the origin of the different functional structures in different kinds of living things. That's the next chain of evolutionary myth that we need to saw through."

"Some proteins function individually as machines inside a cell. However, most functional structures in living things are made of many proteins (and other molecules) or many specialized cells combined together in intricate arrangements. Think of eyes or lungs. They are complex, integrated systems. It has never been observed that such a system came about by chance; in fact, it is easy to show that it never could have."

"Why not?" countered Xiao Wang. "They could be built up a little bit at a time by natural selection."

"Could they be? Actually, natural selection can only select something which has an advantage *right now*. Half an eye or half a wing achieves nothing and has no 'advantage' to 'select.' In fact, a partial organ can only waste the organism's energy and get in the way of other functions."

"But it might help a little bit."

"Like, for example, an 'incipient eye' that could see some fuzzy shapes?"

"Yes, that's a good example."

"It would be a good example if it were possible, but it's not. To have sight, you need a way to sense light (like an eyeball), a way to communicate what you sense (like an optic nerve), and a way to analyze and respond to what you see (like the brain's visual processing areas). Unless you have all three of those parts, any single part is worthless and will be *removed* by natural selection, not chosen. You need all the parts before you get any function; that's what the intelligent design scientists call 'irreducible complexity.' Nothing works until everything works."

"I'm not sure I understand."

"Perhaps an analogy will help. Think of an electric light bulb. It's function is..."

"To give off light."

"So what does a light bulb, let's say an incandescent one, need in order to give off light? At least four things:

1. a resistor which glows when an electrical current is passed through it
2. no oxygen in it's surroundings
3. a source of electrical current
4. a conductor for the electricity to reach the resistor

Most importantly, it needs a resistor which will glow when an electric current is passed through it. But if a resistor like that is exposed to the air, it will burn out almost instantly. So it needs to be kept in a sealed container without oxygen—a light bulb. The light bulb must not allow air in, but must allow light out, so it must be transparent, like glass. Then it needs a source of electrical current—a battery or a generator or whatever. It also needs some kind of conductor from the current source to the resistor—copper wires or something else. Notice that all of these must be arranged very precisely: the transparent bulb must be hollow, the resistor and inert gasses must be sealed inside the bulb, the wires must be attached to form a circuit through the resistor, etc. What happens if one wire is missing?"

"It won't light."

"If the bulb is made of steel?"

"No light comes out."

"If there's no resistor?"

"Obviously, no light will be given off."

"Yes, and the same is true if there is no source of electricity, or if both wires are on one side, or if the resistor is split in the middle, or if anything else is out of place. What's the advantage of a light bulb that doesn't give off light?"

"Nothing."

"Would human buyers purposely select to buy a half-finished light bulb which doesn't give off light?"

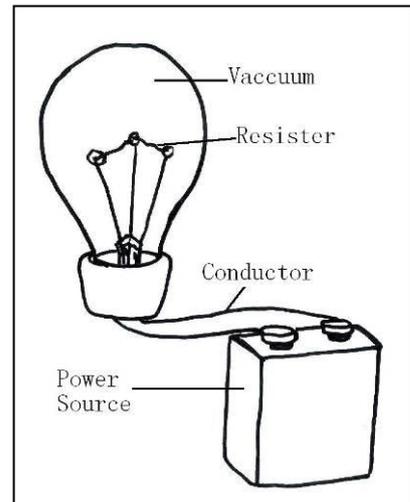
"No."

"It's the same way with living things. Natural selection can't select a non-functional 'incipient structure.' And functional structures always have a minimum required complexity."

Xiao Wang shook his head. "But living things are different from nonliving things."

"Yes, but in what way?" replied Professor Ho. "Living things are biochemical machines functioning according to the laws of physics. There is no 'life force' or other special 'law' that applies only to organisms. The only difference is that living things are far, far more complex than human inventions!

"The point is this: the most minimal versions of most functional structures in living things never could have been developed bit by bit the way Darwin imagined because they would not have worked until every minimally necessary



part was in place. Before that there would have been no function, and so the imagined ‘incipient organs’ would have been removed by natural selection like a third leg on a human being!”

“I don’t see how you could prove that.”

“Let’s look at what Dr. Michael Behe has to say. Behe is a Ph.D. biochemist and a tenured professor at an American university. He used to believe in evolution by random chance—he was taught it like all of us have been—until he began to examine the scientific evidence. He’s the scientist who popularized the term ‘irreducible complexity.’ Here he discussed a rotating ‘tail’ which some bacteria use to propel themselves through liquids.

Some bacteria boast a marvelous swimming device, the flagellum, which has no counterpart in more complex cells. ...the bacterial flagellum acts as a rotary propeller...

... The flagellum is a long, hairlike filament embedded in the cell membrane. [The bacterial rotary motor] must have the same mechanical elements as other rotary devices: a rotor (the rotating element) and a stator (the stationary element).

The bacterial flagellum uses a paddling mechanism. Therefore it must meet the same requirements as other such swimming systems. Because the bacterial flagellum is necessarily composed of at least three parts—a paddle, a rotor, and a motor—it is irreducibly complex. Gradual evolution of the flagellum...therefore faces mammoth hurdles.¹¹

In the flagellum, all the parts work together, and there’s no motion unless all of the parts are in place. And you don’t need just three ‘simple’ pieces, but the dozens of different proteins that compose them, interacting together in a precise arrangement before the flagellum could have even a minimal function. Do you remember the rough odds we calculated for getting a single specific protein?”

“One in 10^{100} .”

“Yes, but here we need dozens, all appearing in the same place at the same time. If we only needed *four* specific proteins, the odds would be one in $(10^{100} \times 10^{100} \times 10^{100} \times 10^{100}) = 10^{400}$, much worse than what statisticians call ‘impossible.’ The odds of getting *forty* specific proteins by chance are more like one in 10^{4000} .”

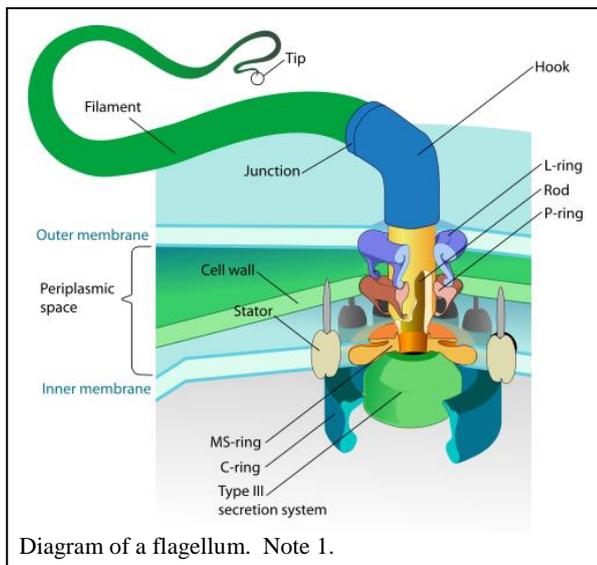
“Well, maybe the proteins were all there to begin with doing something else in the cell and they just jumbled into each other by chance.”

“Look at the picture again. It’s just not the case that ‘any old protein will do.’ Each different type has to have a

very, very specific shape! Many of the components in a cell are highly unique; one molecular biologist estimated ‘a quarter of the cell’s mass...consists largely of components which only occur once or twice.’¹² And every kind of protein in a flagellum has to fit precisely with every other one.”

“Well I’m sure there’s some scientific explanation” Xiao Wang asserted.

“Perhaps you have a confusion here, an understandable one,” Professor Ho replied gently. “You said you’re sure there’s some ‘scientific’ explanation, but I think you mean you’re sure there’s some *evolutionary* explanation. Science means seeking the truth about the physical world. The *scientific* explanation would be to conclude that the flagellum did not happen by chance, but rather was designed. In any case, there is no ‘evolutionary’ explanation for the flagellum. Dr. Behe went looking for one:



The general professional [scientific] literature on the bacterial flagellum is ... rich ... with thousands of papers published on the subject over the years. This isn’t

surprising; the flagellum is a fascinating biophysical system, and flagellated bacteria are medically important. Yet here again, the evolutionary literature is totally missing. Even though we are told that all biology must be seen through the lens of evolution, no scientist has ever published a model to account for the gradual evolution of this extraordinary molecular machine. ...

In summary, as biochemists have begun to examine apparently simple structures like cilia and flagella, they have discovered staggering complexity, with dozens or even hundreds of precisely tailored parts. ... The intransigence of the problem cannot be alleviated; it will only get worse. Darwinian theory has given no explanation for the cilium or flagellum. The overwhelming complexity of swimming systems push us to think it may never give an explanation.¹³

Behe puts his point very cautiously. I’ve studied the issue and I know that the real case is not Darwinism’s random chance ‘may never’ but rather ‘certainly cannot’ explain living things.^C What Behe notes about flagella is true of liter-

^C After Behe’s first book appeared, attempts were made to explain the origin of the flagellum via random evolutionary processes. Popular level books and websites by evolutionists sometimes claim the ‘problem’ of the flagellum’s has been solved. Such statements are both false and deceptive. Evolutionists’ so-called ‘explanations’ usually start by assuming that half of the unique structure [continued on next page...]

ally thousands of other structures in living things which are composed of tens of thousands of different types of proteins. Multiple parts need to be in place before anything will work, and it's statistically impossible to get the special proteins by chance in any realistic timeframe. It's simply not rational to believe in evolution anymore."

Xiao Wang looked thoughtful. He was silent for a moment. Suddenly he spoke again: "Then what about all the different species? We've watched one species evolve into another species."

"You mean, for example, the finches Darwin observed on the Galapagos islands, or the peppered moths that changed their color in Britain?"

"Yes, especially those examples. They were in all my textbooks."

"Yes, they've been using those for decades. But they are actually very misleading."

Origin of species: variation is not evolution

Professor Ho continued. "If we are going to understand the realities of the biological world, we need to distinguish between two very different things. One is variation among the individuals of a given type of organism; the other is the theorized *evolution* of one form into another. Variation is observed in the natural world; evolution is an imaginary thing existing in the minds of many people. An example of variation is the various breeds of dogs. An example of evolution, if it existed, would be reptiles or dinosaurs turning into birds. Variation is sometimes called *microevolution*, as compared to the (imaginary) *macroevolution* which would produce birds from dinosaurs."

"I don't see the difference."

"That's because our textbooks confuse the issue. The key difference is very simple. Variation occurs by recombination of the *preexisting* genetic material in a given kind of organism. Evolution would require the addition of completely *new* genetic material which could produce new structures."

"But isn't that what happened with Darwin's finches? They evolved new kinds of beaks."

"That's what our textbooks imply, but actually there was no new genetic information, which I'll prove in a moment."

But first, to help you understand variation, consider dogs. Where did the domestic dog come from?"

"People bred them from wolves."

"Right. You can show that by the fact that they can interbreed with wolves. So dogs started with a limited set of genetic information, a small subset of the variation available in the world's wolf population. What do you think they looked like at the beginning?"

"Like wolves, obviously!"

"And now?"

"Some of them still look very much like wolves, but some are very different."

"Why?"

"I don't know; maybe it's because of mutations!"

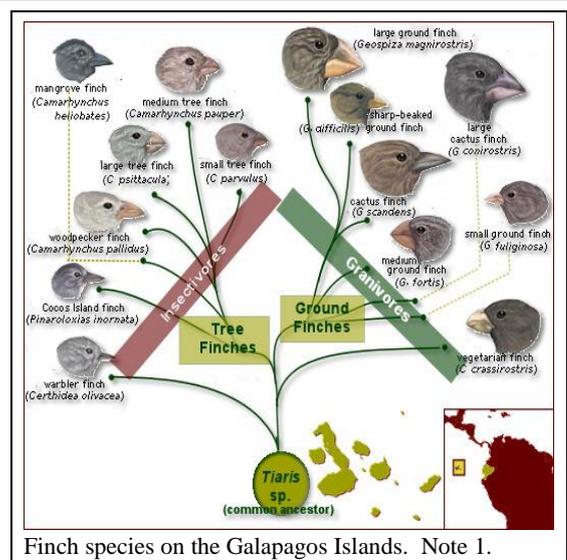
"Actually, virtually none of the variation among dog breeds is due to mutation—only a tiny, tiny bit. Almost everything you see is because of human selective breeding—*unnatural* selection. To produce the tiny Pekinese, breeders started from medium sized dogs and then chose the smallest dogs in each litter for a number of generations. To get the huge Saint Bernard, breeders chose the largest dogs in each litter for generations. They didn't *add* any genetic information; they just *selected* from what was already there. The potential for very large and very small dogs was always present in the genome of medium sized dogs. The human selection performed by breeders just allowed the preexisting, hidden genetic potential to be expressed. And it didn't take a long time. In fact, a mere hundred years of carefully directed dog breeding probably could have produced almost all of the variation we see today."

"So we could breed a Saint Bernard starting from a Pekinese?"

"No, you would need to start with a medium sized dog to get a



Some species of the dog. Note 1.

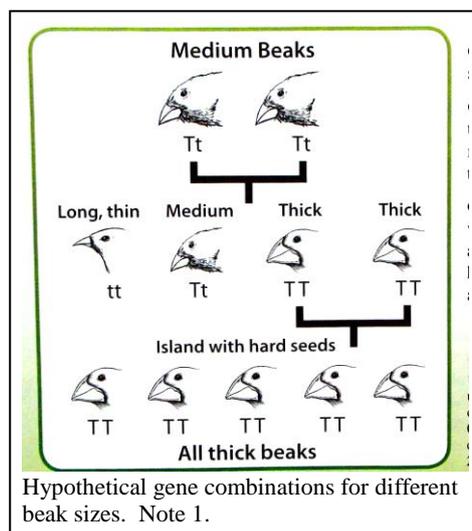


Finch species on the Galapagos Islands. Note 1.

of the flagellum already existed. They then precede by assuming that all intermediary steps would be functional and beneficial. Sometimes the intermediary steps are not even clearly specified! Along the way, the evolutionist do not calculate the actual odds of producing the needed substructures. For a thorough refutation of claims the flagellum could have been produced by random mutations see: Sean D. Pitman, M.D., *The Evolution of the Flagellum and the Climbing of 'Mt. Improbable'*, www.detectingdesign.com/flagellum.html, accessed 2012-04-22.

large or small one. Selective breeding works by *removing* genetic information—just the opposite of imaginary evolution. A medium sized dog has a mix of ‘big’ and ‘small’ genes. To breed a small dog, you keep choosing the smaller ones in a litter, because they have more ‘small’ genes. If you keep it up for a number of generations, eventually you reach a limit where you only have ‘small’ genes left in the breed—like the Pekinese. There would be no way to breed Pekinese back up to a Saint Bernard size, because they are missing the necessary genetic information. As you can see, it is the exact opposite of what evolution would require: you have *less* genetic information than before, not *new* genetic information being added!

“Look at these two sets of animals—some of the dog types in the world, and the various finches on the Galapagos. Which set has shows the most differences?”



“The dogs.”

“How many species are they?”

“One, obviously!”

“And the finches?”

“I don’t quite remember. I think they said there were 13 or 15.”

“The claims vary. Actually, however, they should all be regarded as one species. A few facts are overlooked in most of our textbooks. First, the differences among the finches are trivial—minor variations in size and shape of beaks. The differences are much less than are found among different dogs. Second, many of the various groups of finches interbreed in the wild (just as many dogs breeds can interbreed), showing that they should be regarded as the same species.”

“Third, it has recently been observed that beak size can change slightly in a single generation. Birds born during a drought developed slightly larger beaks than their parents. When the weather grew wet again, the next generation reverted to the slightly smaller beak size. This indicates the finch has a growth feedback mechanism which explains part of the observed beak variation without any genetic change at all.”

“Finally, the more significant differences in beak size or shape are easily explained by natural selection acting on pre-existing genes. If a pair of finches (gene combination ‘Tt’ in the diagram) with medium beaks and mixed genes flies to an island with hard seeds, their thick beaked offspring (gene combination ‘TT’ in the diagram) will tend to survive better. In a short time, natural selection will ensure that only thick beaked ‘TT’ finches are living on the island by *removing* the genetic information needed for medium and thin beaks. It’s the exact opposite of evolution: you end up with *less* genetic information than before, *not* more, new information.

“Let’s consider another popular example which is wrongly called evolution. You’ve doubtless seen a picture of light and dark colored peppered moths resting on light or dark colored tree trunks.”

Xiao Wang immediately nodded. “Of course, it’s famous. At first in the mid-nineteenth century almost all the moths were light colored. When the air became polluted by industry, the tree trunks darkened and the lighter colored moths were more easily found and eaten by birds. The population changed so that most of the peppered moths were dark.”

“Yes, that’s the story as it’s usually told. If it’s true, it’s a good example of natural selection, but has nothing to do with evolution.”

“Why not?”

“At the beginning of the process, what kind of moths were there?”

“Lots of light colored and a few dark colored peppered moths.”

“And at the end?”

“Few light colored and lots of dark colored peppered moths.”

“So we had light and dark peppered moths at the beginning—and the same thing at the end. There was absolutely nothing new! There was no evolution. There wasn’t even any new variation.”

Xiao Wang looked thoughtful, almost pained. “I never thought of that before....”

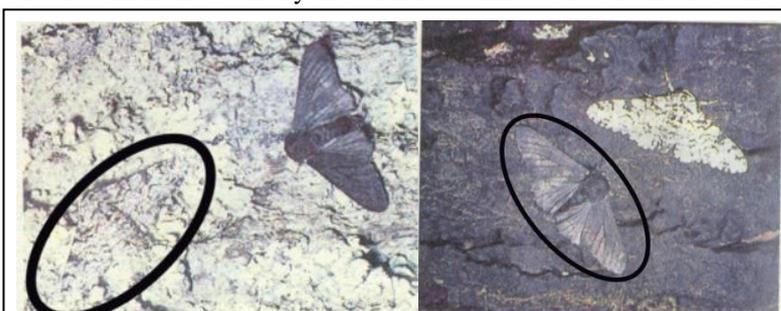
“Actually it’s even worse than that. The pictures you see in the textbooks are all faked, posed shots.”

“What do you mean?”

“The pictures are from middle 20th century. But late in the 20th century the scientists admitted that the moths don’t rest on tree trunks during the day! They actually are almost impossible to find during daytime. So the scientists took some dead captured moths and glued them to the tree trunks for the pictures—pictures which were supposed to illustrate the ‘natural advantage’ of color!”^{14,15}

“So the whole thing was false?” Xiao Wang could hardly believe what he was hearing.

“No. There probably was a shift in gene



Peppered moth. Note 1.

frequency from mostly light to mostly dark moths. But whether it was really due to darker tree trunks is unknown. In any case, the pictures use to ‘illustrate’ it were not natural. That tells you something about the honesty and carefulness of the evolutionary scientists.”

Natural selection is conservative force. It eliminates things; it doesn’t produce new things.

“So you don’t believe in natural selection at all?” Xiao Wang asked Professor Ho.

“I completely believe in it. It functions to remove things which are not well adapted to survive in a given environment.”

“So you *do* believe in adaptation to environment and survival of the fittest!”

“Perhaps not quite the way you mean it,” cautioned Professor Ho. “First we must deal with a common misconception. We have heard it said, ‘When the environment changes, organisms change to adapt to their environment. Those that cannot change go extinct.’ Is this true? A change in the environment might be able to cause the extinction of a life form, but can it cause the change of a life form?”

Xiao Wang began to be uncertain. “Well, organisms do change to adapt to their environment.”

“They don’t ‘change’ in the sense of creating something new. At most, minor changes occur within the range of the preexisting genetic information. But not enough to form a new functional structure.

“If you were to move today to a place in Africa near the equator and live there, you would not become a black person, nor would your children be black! In the same way, if you moved to Europe your children and grandchildren would still belong to the yellow race. Modern genetics tells us that it is a change in the genes which causes change in a life form. A change in environment cannot change you or the children you produce because a change in the environment does not change your genes.”

“I understand that! It’s mutations that change your genes.”

“We’ll talk about mutations in a moment, if that’s alright. I’m glad you understand that a change in environment can’t change your genes. Darwin didn’t.

“In Darwin’s time this was not known because genes had not yet been discovered. Many scientists, especially Lamarck, thought that small changes in your body could be passed on to the next generation. Thus they thought that if you moved to Africa and your skin darkened a little, your offspring would be even darker! In the past, this idea was very popular in the Soviet Union, and from there it spread to China. It’s completely wrong of course: neither environment nor activity can change your genes, so they cannot cause any so-called evolution.”

“We’ve seen in all the textbooks a story of how giraffes came to be long necked. Not so many decades ago in China, the schoolbooks were still following Lamarck. Lamarck said that the long neck of the giraffe came from constantly stretching its neck to eat leaves in tall trees: each generation stretched the neck a little longer, and gradually it became a long neck.”

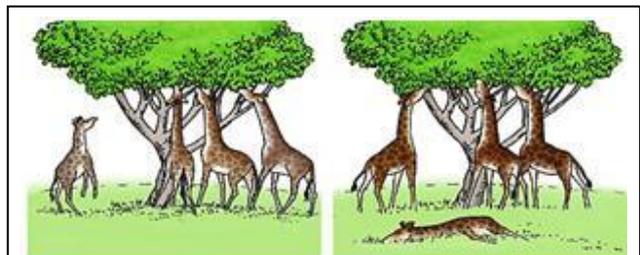
“They don’t say that anymore,” Xiao Wang corrected. “My textbook said it was variation and mutation.”

“Yes, well, that’s an improvement, but it doesn’t explain how there came to be long necked giraffes in the first place. High school science textbooks I checked recently just say that the giraffes used to have long and short necks, but the

short necked versions died out when the environment changed. This is a strange assertion, since there are vast numbers of short-necked leaf eating and grazing animals living in the same places as giraffes. Why didn’t they evolve long necks? Or go extinct? Why was it only the poor short necked giraffes who died? There was never any proof that they died out. Furthermore, giraffes eat food at all levels, including grazing on the ground, and females seem to prefer eating with their necks held horizontally. Most interestingly, giraffes are only observed to eat leaves from the treetops (acacia trees) in the *rainy* season, when there is also abundant vegetation at other levels. In the *dry* season they mostly feed on low shrubs.¹⁶ Even evolutionist Stephen J. Gould, who loathed creationism, was honest enough to admit that the textbook examples are misleading:

The [use of] giraffe necks [as textbook examples], by the way, make even less sense. ... We have no proof that the long necks evolved by natural selection for eating leaves at the tops of acacia trees. ... Giraffes do munch the topmost leaves, but who knows how or why their necks elongated?¹⁷

It’s obvious that being able to eat leaves off the tops of trees is helpful to the giraffe’s survival. And it’s obvious that, under certain conditions, natural selection would favor a long necked animal. That’s not the question. The question is, where did the long neck come from in the first place?



Above: The myth in the textbooks: relatively short necked giraffes died off because they could not reach leaves in the tops of trees.

Below: The reality in nature: long necked giraffes and shorter necked zebras live in the same places. Note 1.



“All of that is bad enough, but there’s something even worse. Because the giraffe’s neck is so long, blood must be pumped under very high pressure to reach it’s head. But it must bend it’s head down to the ground to drink water. Do you see the problem?”

“The blood would rush to it’s head...”

“Yes, which would naturally result in extremely high blood pressure, too high for even the very thick blood vessels of the giraffe to stand. The first time it stooped to take a drink it would burst a blood vessel in it’s head and die of a stroke! The giraffe has a number of adaptations to accommodate it’s blood pressure problems. One is a highly specialized vessel near it’s brain which acts like a sponge when it’s head is down, slowly absorbing blood. Without it, the giraffe could not survive. Was that mentioned in your biology textbook?”

“No...” admitted Xiao Wang. “Maybe it’s a recent discovery.”

“Actually, it has been known for decades. Now consider the problem for an ‘evolutionary’ origin of the giraffe. Without the ‘sponge,’ it can’t live with a long neck. But without the long neck, it doesn’t need the sponge. Which came first: the long neck that needed the ‘sponge’ or the ‘sponge’ whose only function is to accommodate the long neck?”

“Well, maybe they happened at the same time.”

“Really? No other animal has a neck like the giraffe, nor a sponge at the base of its brain! We’ve already seen that you couldn’t even get a single protein by chance in the entire history of the universe. Now why would you get a perfect matching of what must be at least dozens of genes all appearing at the same time to produce the long neck and the ‘sponge’? That many genes all falling into place at the same time would be a miracle!”

Xiao Wang smiled. “I guess *you* would say God did it!”

“I would conclude, logically, that the giraffe was designed just the way it is in the first place.”

Natural selection can only remove, mutations can only destroy

Professor Ho continued. “Mutations, natural selection and time are the three ‘magic ingredients’ which evolutionists constantly appeal to. We’ve already shown that even the claimed 30 billion years for the age of the universe is not enough time to produce anything with a specific function by random chance. What about mutations? Are they really useful?”

“A mutation is an inheritable change in a gene. By definition, it occurs in already living things with a full complement of already functioning DNA. The key point to understand is this: mutations do not add information to the genome, they remove information. We can categorize mutations as deletions, rearrangements, duplications, substitutions, and additions.

“Think of the genome as a long series of chemical letters spelling out amino acid words and protein sentences. Both evolutionists and creationists often use that analogy. It is directly comparable to writing in a book. Deletions are cutting out words or tearing out pages. That won’t increase information. Rearrangements are like shuffling words. That will usually destroy the meaning of a sentence completely. Sometimes it will give you a new sentence with a new meaning, but you will lose the old sentence, so there will be no net gain of information, *and* the new sentence will probably not fit with the sentences that come before and after it. Duplications might give you the same sentence twice, but no *new* information. Substitutions and additions of letters are like making random pen strokes on a page. In almost all cases those pen strokes will simply obscure what is already written, a decrease in information. In some cases they will just change the meaning of a word, but the meaning of the new word will usually not fit with the rest of the sentence.

“In all these types of mutations, no useful information is gained. In many of them, information is lost. Losing useful genetic information will make an organism *less* fit for survival, not more!”

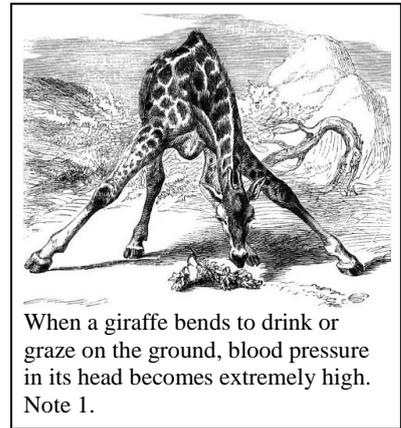
“Interestingly, the main examples we get in the textbooks of mutations are the very worst kind: deletions. Do you remember seeing a picture of wingless beetles something like this in your textbooks?”

Xiao Wang nodded. “Yes, I remember it very clearly. It was in all my biology textbooks from middle school through college! It explains the special beetles on the Galapagos and other islands. Ordinary beetles were carried by strong winds across hundreds or thousands of kilometers of open ocean to tiny islands far away where they landed and bred. That’s certainly possible. When strong winds happened again though, they tended to blow the unfortunate beetles back out to sea. However, mutations caused some of the beetles to have deformed or missing wings. Those beetles could not fly and so they were not blown away from the island by the storm winds. Thus they were more likely to leave offspring on the island than the normal winged beetles. After awhile, only (or at least mostly) flightless beetles remained on the island.”

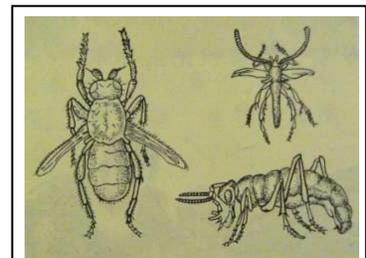
“Yes, that’s the story,” agreed Professor Ho. “And that example is supposed to prove evolution. But what does it really show? Is there *new* genetic information added? Are there *new* functional structures produced? No. Instead, an existing, marvelously complex functional structure, wings, is destroyed, and an ability, flight, is lost!”

“Yes, but it’s an advantage to the beetles’ survival” countered Xiao Wang.

“Perhaps so, in that special case,” admitted Professor Ho. “But what happened



When a giraffe bends to drink or graze on the ground, blood pressure in its head becomes extremely high. Note 1.



Beetles with deformed wings. Note 1.

was a *loss* of the genetic information. That method could not possibly have produced wings in the first place! For evolution to be true, it needs to *produce* things, not *remove* them. Is anything being produced in the wingless beetle example? Is something new evolving into existence?"

"No."

"Can this be used as an example of the *origin* of different species which have different functional structures?"

"No."

"Now that you see how bad this example is, let me ask you: why don't they give us a better example? One in which information is *added*, not removed?"

Xiao Wang was silent for awhile. "I don't know."

"Two or three generations of textbooks writers, hundreds of them all over world, all highly educated in biological science: couldn't they have chosen a better example, one in which information is unequivocally added?"

Xiao Wang was silent again for awhile. "You mean they don't *have* any examples?"

"Precisely. There has never been a mutation observed which has increased information content or produced a new functional structure. Instead, what we observe in nature is mutations destroying genes and structures. Destructive mutations are observed every day.

"Mongoloid retardation is caused by a mutation occurring in the womb in which the cells of the child carry an extra chromosome. The result is mental retardation, short stature, and a shortened lifespan. Earlier we discussed hemophilia. The blood of hemophiliacs is not able to produce proper blood clots. The result is that blood flowing from wounds is not quickly clotted, but flows for a long time. Before modern medical treatments were developed, it was very difficult for hemophiliacs to survive. This disease can be inherited through the mother, but its earliest origin was due to a mutation in human genes. Today, a normal mother and father will occasionally produce a hemophiliac child due to mutation. Other mutations of many kinds cause spontaneous abortion. Moreover, most kinds of cancer are caused by mutational damage to the DNA in a cell.

"What mutations actually do is degrade genomes and destroy functional structures."

"What about antibiotic resistance?"

Xiao Wang suggested.

Professor Ho frowned almost angrily.

"We've been told that some bacteria have 'evolved' a 'new' ability to resist antibiotics. The evolutionists are very misleading here, as they have been in the past with moths and finches. The cases which have actually been studied either come from borrowing genes from other, already resistant bacteria (lateral gene transfer), or from the *loss* of part of a structure in the bacteria which the antibiotic drug used to attach to (often a decrease in specificity of a binding site). The

first example, gene borrowing, is like your friend copying a video he owns and giving it to you: nothing new, just a copy passed from one person to another. That's not evolution. The second example, structural loss, is like having your foot pinned under a tree during a forest fire. To avoid dying in the fire, you might cut your foot off to escape and then have to hop on one leg for the rest of your life. That's not evolution either; you haven't 'gained' a new function, you've *lost* an existing one! Antibiotic resistance provides *no* evidence for mutations producing new genetic information and is *not* evolution."^{18, 19, 20} [Readers interested in more details should consult the references.]

Xiao Wang persisted, "Well, but mutations *can* provide new genetic material...new genes which might be useful *later* to an organism. First, a gene is duplicated—we know that happens sometimes. Then the duplicated gene is free to mutate without affecting the organism. Eventually, something useful might be produced. With so many organisms mutating for so long, sooner or later it would work!"

"By 'something useful' I assume you mean a new functional structure, at least a 'rudimentary' or 'incipient' one?"

"Yes."

"Do you think it could be less than one protein?"

"I guess not."

"Please remember, it's not just 'any old protein will do.' It would have to fit with everything already in the cell *and* provide a survival advantage to the organism. Do you remember the odds we calculated of getting a single, specific protein—just a medium sized one?"

Xiao Wang was silent for a moment. Then he said softly, "Less than one in 10^{100} ...not once in 30 billion years."

Professor Wang drew the conclusion for him: "So what would really happen is, the species would go extinct while it was waiting for the lucky mutation!

Schematic, simplified representation of antibiotic resistance achieved by loss of bacterial structure. Circle is bacterium which has a 'hook' useful to its survival. Triangle is antibiotic chemical.



Not resistant to antibiotic: The antibiotic chemically binds onto the bacterium at the 'hook,' subsequently killing it (or preventing its reproduction).



Resistant to antibiotic: Bacterium has suffered mutation which removes part of the 'hook.' Antibiotic can no longer chemically bind to the 'hook.' The bacterium survives, but must live without the advantage of the 'hook.' Information (binding site specificity) is reduced and in many cases functionality is reduced.

“Tearing down living things is easy; any child can step on a bug! Building up a living thing is so hard that we can’t do it yet. Take all the scientists in the world; give them the resources of all the laboratories in the world with an unlimited budget for an entire year. Ask them to produce from scratch a copy of one simple bacteria, an *e. coli* say. Require them to start from chemical reagents, not from biological products. All the scientists in the world with all the laboratories in the world couldn’t even build you a single bacteria!”

“Maybe someday they’ll be able to!” argued Xiao Wang.

“I expect someday they will,” agreed Professor Ho. “That will be a great achievement, and a good example of what *intelligent design* can do. But they won’t use any random processes to do it!”^D

The fossil record has nothing but gaps

Xiao Wang stared at the floor and seemed lost in thought for awhile. Professor Ho sat silently, calmly looking at his face. Finally a light seemed to dawn and Xiao Wang looked up again.

“Maybe we don’t know *how* evolution happened, but we have the proof that it *did* happen. It’s in the fossil record!”

Professor Ho smiled and nodded happily. “Yes, that’s where we need to go next! Just like your textbooks misrepresented the origin of life and the effects of mutations, they also misrepresented the fossil record. Our textbooks tell us the fossil record shows one life form gradually changing into another as you move up through the rock layers of the earth.”

“Yes, that’s the geological column. It shows evolution.”

“So we’ve been taught. But is that the reality? In reality the fossil record contains nothing but gaps between different kinds of organisms, gaps unbridged and unbridgeable.²¹ Let me read you a surprising statement from a paleontologist who was a professor at Harvard until his death in 2002. He was acknowledged worldwide as one of the greatest experts on evolution.

The extreme rarity of transitional forms is the trade secret of paleontology....The history of most fossil species includes two features particularly inconsistent with gradualism:

1. Stasis. Most species exhibit no direction change during their tenure on earth. They appear in the fossil record looking much the same as when they disappear; morphological change is usually limited and directionless.

2. Sudden appearance. In any local area, a species does not arise gradually by the steady transformation of its ancestors; it appears all at once and ‘fully formed.’²²

What Gould calls ‘gradualism’ is the kind of evolution we are taught in the textbooks: an organism gradually acquiring new functional structures across thousands or millions of generations. As he rightly points out, there is no evidence of this in the fossil record.”

“So he was a creationist?”

“Absolutely not! He was a convinced atheist and evolutionist to the day of his death. He constantly argued against creationism in his books and lectures.”

“Then why do you quote him?”

“To show you that even an anti-creationist at Harvard must admit there is no evidence for gradual transitions in the fossil record. Take another example of a quote from an authoritative evolutionist, James W. Valentine of the University of California, Berkeley:

The fossil record is of little use in providing direct evidence of the pathways of descent of the phyla or of invertebrate classes. Each phylum with a fossil record had already evolved its characteristic body plan when it first appeared so far as we can tell from the fossil remains, and no phylum is connected to any other via intermediate fossil types. Indeed, none of the invertebrate classes can be connected with another class by series of intermediates.²³

Scholars like these passionately believe in evolution and absolutely hate creationism. Even a mild ‘intelligent design’ is virulently opposed by them. But they have to admit that all the structures seen on organisms in the fossil record are fully functional. None are in an intermediate, non-functional state. In other words, the fossil record is full of gaps between organisms with no interconnecting forms—just like what we see in the world today.”

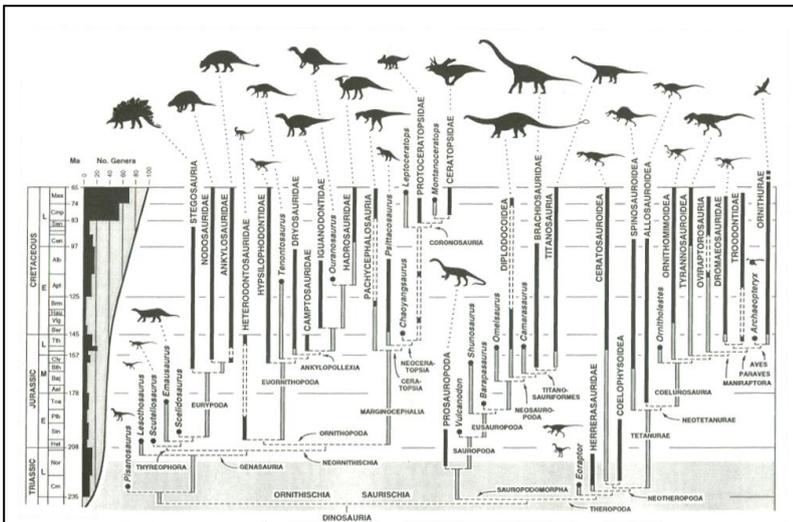
“Well, how do you know they just haven’t been found yet?”

“That’s a valid question,” Professor Ho acknowledged. “Firstly, in the 150 years since Darwin, literally millions of complete and partial fossils have been dug up—at least 100 million, and probably several times that number.^{24, E} Not surprisingly, thousands of new fossils forms have been discovered. The result is we have a hundred times more gaps than we did in Darwin’s day—and not a single indisputable transitional organism!^F Why should we believe we will ev-

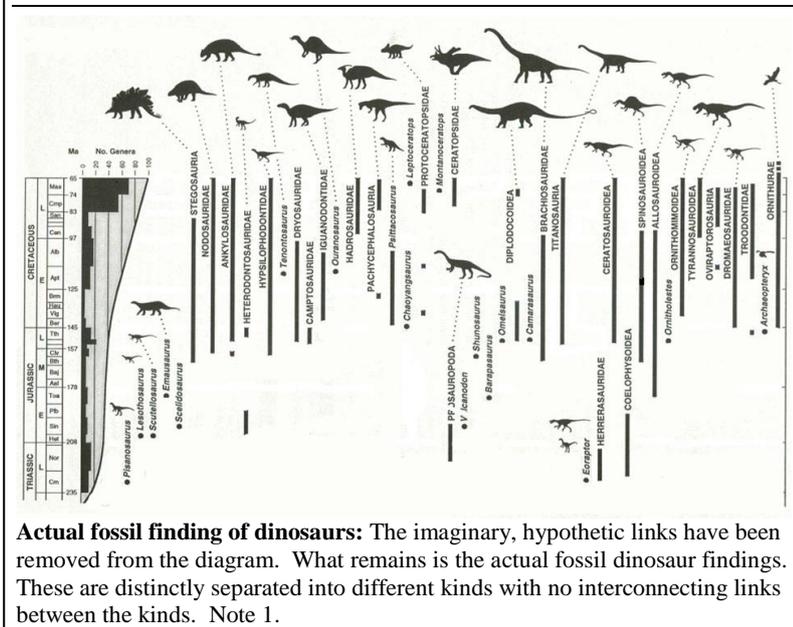
^D Some mutations apparently are not truly random. For example, if placed in conditions of low food availability, certain bacteria will cause parts of their genome to undergo high mutation rates, quickly leading to the restoration of a *preexisting* but disabled ability to use other food sources. This is clearly a pre-programmed ability. A similar process might be responsible for the changes which create some types of antibiotic resistance in bacteria. In both examples, mutations are initiated by the organism as a way to ‘switch on’ an existing but disabled function.

^E Note that this estimate comes from museum curators who are themselves evolutionists. See Note 24.

^F Of course, there are many forms which evolutionists *claim* are transitional. For discussion and refutation of commonly claimed ex-[continued on next page...]



Claimed 'tree of life' for dinosaurs: The links show in dotted lines and grey shaded lines have are entirely hypothetical; there is no have no fossil evidence for those connections; they are simply imagined in order to fill in the evolutionary 'tree.'



Actual fossil finding of dinosaurs: The imaginary, hypthetic links have been removed from the diagram. What remains is the actual fossil dinosaur findings. These are distinctly separated into different kinds with no interconnecting links between the kinds. Note 1.

er find these imaginary 'intermediate links'? In point of fact, most paleontologists have given up hope of finding them. Which is just as well, because they don't exist!

"There's a logical reason for this. The reason for the gaps between different types of organisms both now and in the past is there is no way to change one basic type into another. The imaginary 'intermediate forms' would not have been able to survive."

"Why not?"

"It's just like the giraffe example: without the 'sponge', it could not live with a long neck. An intermediary form with a fairly long neck and no 'sponge' would tend to faint every time it took a drink—and then be eaten by predators and quickly removed by natural selection! Or consider birds. Where do you think they came from?"

"From dinosaurs."

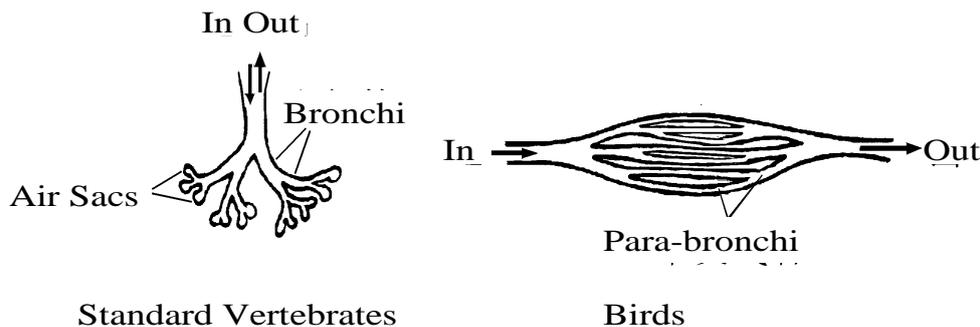
"Yes, that's the presently popular explanation. Other evolutionary suggestions are that they from reptiles or mammals. All of those ideas are impossible."

"How do you know!"

"Because of the impossibility of gradually transforming the ordinary vertebrate lung which both reptiles and mammals have into the specialized lung which all birds have. Here's the description of Dr. Michael Denton, a molecular biologist:

The evolution of birds is far more complex than the above discussion implies. In addition to the problem of the origin of the feather and flight, birds possess other unique adaptations which also seem to defy plausible evolutionary explanations. One such adaptation is the avian lung and respiratory system.

In all other vertebrates the air is drawn into the lungs through a system of branching tubes which finally terminate in tiny air sacs, or alveoli, so that during respiration the air is moved in and out through the same passage. In the case of birds, however the major bronchi break down into tiny tubes which permeate the lung tissue. These so-called parabronchi eventually join up together again, forming a true circulatory system so that air flows in one direction through the lungs. ... No lung in any other vertebrate species is known which in any way approaches the avian system. Moreover, it is identical in all essential details in birds as diverse as humming birds, ostriches and hawks.



amples see Notes 7, 21, 24, 28, as well as various specific articles on www.creation.com.

Just how such an utterly different respiratory system could have evolved gradually from the standard vertebrate design is fantastically difficult to envisage, especially bearing in mind that the maintenance of respiratory function is absolutely vital to the life of an organism to the extent that the slightest malfunction leads to death within minutes. Just as the feather cannot function as an organ of flight until the hooks and barbules are coadapted to fit together perfectly, so the avian lung cannot function as an organ of respiration until the parabronchi system which permeates it and the air sac system which guarantees the parabronchi their air supply are both highly developed and able to function together in a perfectly integrated manner.²⁵

Another writer amplifies the problem:

Can natural selection or mutations explain the thousands (millions) of genetic changes that would have to take place exactly at the same time for a reptile to become a bird? Does this hypothesized change in lungs (and feathers, etc.) even agree with what we know is true about the nature of mutations? Evolutionist Dr. Pierre-Paul Grasse', former president of the French Academie des Sciences and the scientist who held the Chair of Evolution at the Sorbonne in Paris for twenty years has clearly stated the problem: 'The opportune appearance of mutation permitting animals and plants to meet their needs seems hard to believe. Yet the Darwinian theory is even more demanding: a single plant, a single animal would require thousands and thousands of lucky, appropriate events. Thus, miracles would become the rule: events with a infinitesimal probability could not fail to occur. ...There is no law against day dreaming, but science must not indulge in it.'²⁶

"The problem which Dr. Denton (and others) have noted occurs throughout nature. There is no way to *gradually* transform one basic biological structure into another. In the middle of the transformation, the organism would die! Not surprisingly, there are actually no transitional forms of organisms in the fossil record. Many have been claimed; none are valid. Of course evolutionists would disagree with me! But even Stephen Gould and his Columbia University colleague paleontologist Niles Eldredge had to conclude:

At the higher level of evolutionary transition between basic morphological designs, gradualism has always been in trouble, though it remains the 'official' position of most Western evolutionists. Smooth intermediates between *Bauplane* [body plans] are almost impossible to construct, even in thought experiments; there is certainly no evidence for them in the fossil record (curious mosaics like *Archaeopteryx* do not count).²⁷

Their point is simple: there is no smoothly linked chain of fossil evidence for any of the imagined 'big transitions' between fish and amphibian, or between reptiles and birds."

Xiao Wang wondered, "Why does he say the Archaeopteryx 'doesn't count'? I was just going to ask you about it!"

"Yes, the Archaeopteryx appears in all the textbooks, doesn't it?"

"It was in all of mine. It was a primitive fossil bird with teeth and claws on the end of its wings. Isn't that a transitional form between birds and reptiles or dinosaurs?"

"Actually, it is certainly not transitional," Professor Ho said firmly.

"Why not! You just say that because you don't want to believe in evolution," countered Xiao Wang.

"In fact, I have three objective scientific reasons."

"Let's hear them."

Professor Ho began counting out on his fingers. "First, it is very possible that bird fossils are found much lower down in the rock record than Archaeopteryx. To take one example, fossils of the *Protoavis* have been found in rock layers which conventional geologists date to be 75 million years *earlier* than the Archaeopteryx.^{28,29} If these really are birds, and if we believe the conventional dating—I'm not saying *I* believe the dating, but evolutionists do—well, then obviously Archaeopteryx was *not* the ancestor of birds which lived 75 million years before it, and thus there is no reason to think it was the 'intermediate form' ancestor of other birds."

Xiao Wang remained unconvinced. "Well, even if that's true, Archaeopteryx was still halfway between a reptile and bird."

"That brings me to my second point," Professor Ho said as he counted off another finger. "The Archaeopteryx was a bird, not an 'incipient bird.' It had feathers, the key identifying characteristic of all birds. It's feet had the special claws of a perching bird. It also had a skeleton specially adapted in many ways to flight, like modern birds, and even a brain case much like modern birds, with a large cerebellum and visual cortex. The most recent studies indicate it was capable of excellent powered flight.³⁰ It's not a transitional form; it's a bird!"

"But it had *some* reptile features," Xiao Wang objected. "What about the teeth and the claws?"

"That's my third point," said Professor Ho, holing up another finger. "The Archaeopteryx's supposed similarity to reptiles is trivial and not evidence for evolution. It had three claws on the end of its wings. So do some modern birds. The ostrich has three claws on its wings. The hoatzin, a bird of South America, has two claws on its wings when it is a juvenile. There are other similar examples among modern birds. Some claim these example are not 'true claws' like the Archaeopteryx had, but clearly they are claw-like appendages; if claws are supposed to show an 'early' stage of evolution from reptiles, why are they there in some modern birds? Simply put, some birds have claws on the end of their wings, and some do not.

"The same is true of teeth. Teeth are not a defining characteristic of reptiles. Some reptiles, such as snakes, have teeth; some, such as turtles, do not. Adult forms of some amphibians, such as the caecilians, have teeth; others, such as true toads, do not. Most mammals, including humans, have teeth; a few, such as anteaters, do not. Most birds do not

have teeth; some do. It just so happens that the birds with teeth are, as far as we know, extinct. We find them in the fossil record. Interestingly, their teeth are *not* like reptiles' teeth:

...Archaeopteryx did not have reptile-like teeth, but teeth that were uniquely bird-like, similar to teeth found in a number of other fossil birds. ...Archaeopteryx and other toothed birds had unserrated teeth with constricted bases and expanded roots, while theropod dinosaurs, it alleged ancestors, had serrated teeth with straight roots.³¹

It's interesting that the Archaeopteryx and some other extinct birds had teeth, but they weren't like reptile or theropod dinosaur teeth. They certainly provide no evidence for evolution."

Xiao Wang was silent again, trying to take it all in. "But aren't there dinosaurs with feathers?" he asked at last.

"We've heard claims to that effect in recent years," Professor Ho replied with a nod. "It turns out at least some of those claims were based on fake fossils or misidentification, and many more on wishful thinking.^{32, 33, 34} I suppose it's theoretically possible that God created some dinosaurs with feathers, but there is still no truly solid evidence for 'feathered dinosaurs.' Don't believe everything you read in the newspaper or on the internet! In any case, for sure no intermediates between birds and dinosaurs have been found.

"So my conclusion is this," the Professor continued, "there is *no* evidence that one basic kind of life ever 'evolved' into another kind, no evidence in the present and no evidence in the fossil record. In fact, for most types of organisms (like birds with their special lungs) it isn't even logically possible."

Professor Ho sat back and smiled. "I think I hear the tinkling of the third evolutionary mythology chain falling on the floor. Soon we'll be out of jail!"

Evolution is a myth and a religion

Xiao Wang knit his eyebrows together, struggling with conflicting thoughts. "But there's one thing I can't understand. If you what you say is true, why don't more scientists reject it? Why is it still taught in all the universities?"

"I can understand why that troubles you," Professor Ho agreed. "All that weight of authority seems impossible to go against. Could the majority of biologists all over the world really be wrong? Well, they are wrong about macroevolution—but it's not because they aren't intelligent or well trained. In fact, their training is part of the problem. They receive constant indoctrination during their education. Evolution is presented as a scientific fact in schools and colleges worldwide, in popular newspapers and in scientific journals. Most people—including most scientists—never stop to question whether or not it might be wrong. This blindly held prejudice leads to academic censorship. The academic establishment won't let anyone who questions evolution publish in the science journals or present papers at conferences. Those few scientists who do dare to openly question it are severely criticized, denied grants and prizes they would otherwise have gained, and sometimes even fired from their universities.³⁵ It happened to Dr. Behe after he published his book criticizing Darwin. They couldn't fire him because he had tenure, but he became an outcast at his university, so toxic that no graduate student would dare to have him as their advisor anymore.³⁶

"But in spite of the prejudice and censorship, an awful lot of the counterevidence has 'leaked out'. In fact, the evolutionists are on a crusade to actively oppose both intelligent design and creationism."

"But why wouldn't they be willing to consider the possibility that they are wrong?"

Professor Ho looked over the top of his glasses and spoke emphatically: "Because evolution is their religion. You see, as soon as we demonstrate that life had to be designed, then there has to be a Designer. That means the pure atheism of philosophical materialism falls to the ground. But atheism is these people's religion, and evolution is atheism's philosophical base."

"Atheism is against religion!" Xiao Wang protested in surprise.

"No, atheism is merely a religion without a god," explained Professor Ho. "Consider what atheist Dr. Ernst Mayr, one of the most important evolutionists of the 20th century, said in 2003:

All of the atheists I know are highly religious; it just doesn't mean believing in the Bible or God. Religion is the basic belief system of the person.³⁷

Dr. Mayr is right that atheism is a religion. It's a religion that allows man to view himself as the greatest thing in existence. This religion creates such a severe prejudice against creationism in the minds of atheistic scientists that they do not honestly consider the evidence against evolution. Really, it's just like the Bible says:

20 For since the creation of the world His invisible attributes, His eternal power and divine nature, have been clearly seen, being understood through what has been made, so that they are without excuse. 21 For even though they knew God, they did not honor Him as God or give thanks, but they became futile in their speculations, and their foolish heart was darkened. 22 Professing to be wise, they became fools, 23 and exchanged the glory of the incorruptible God for an image in the form of corruptible man and of birds and four-footed animals and crawling creatures. (Romans 1:20-23)

The evidence for the creation of the physical world is enough to show there must be a Creator. But humans don't want there to be a Creator, so they come up with 'speculations,' claiming to be 'wise' and scientific, but actually becoming 'foolish.' Eventually they invent idols, 'images' in the form of mammals and reptiles to be their creators."

Xiao Wang shook his head and objected: "But evolutionary scientists don't worship idols!"

"Really? Whom do they claim for a Creator? Fish give rise to frogs, frogs give rise to monkeys, monkeys become

humans. Nature is their creator and their god—just like the ancient pagans.

“I can’t believe scientists would so knowingly reject the truth!” insisted Xiao Wang.

“Certainly some of them are simply indoctrinated and deceived. But others *could* know this truth, and choose not to. One of the best examples of this purposefully chosen self-deception comes from a statement made by the Harvard geneticist Richard Lewontin, a well known evolutionist and atheist:

We take the side of science in spite of the patent absurdity of some of its constructs, in spite of its 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 naturalism. 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 counter-intuitive, no matter how mystifying to the uninitiated. Moreover, that materialism is absolute, for we cannot allow a Divine Foot in the door.³⁸

This viewpoint is simply the religion of philosophical materialism, or atheism. Notice how Dr. Lewontin calls it ‘the side of science’ in the first sentence, but then a few sentences later admits that ‘It is not that the methods and institutions of science somehow compel us to accept a material explanation of the phenomenal world’ but rather that he has an ‘a priori adherence to material causes’ ‘no matter how counter-intuitive.’ In other words, even if it’s illogical, the answer has to be materialistic. Why? Because above all, he ‘cannot allow a Divine Foot in the door.’ How much more direct admission could you have that it’s his atheism which drives his materialism—and his evolutionism?

“Dr. Lewontin would doubtless try to justify his approach by saying that ‘science’ proceeds by looking for material causes of material effects. Well and good; but what if some causes—or the First Cause—are not material? By Dr. Lewontin’s definition of ‘science’ that’s not allowed—even if it’s true! If all the evidence points to a Creator, there’s still no Creator because that’s not ‘science’ according to Dr. Lewontin! It’s his religion of atheism that forces him to close his eyes to the evidence.

“Dr. Behe, the intelligent design biochemist, has a better definition of science:

[Science is] a vigorous attempt to make true statements about the physical world.³⁹

That’s what I’m always looking for: truth! That’s the only truly scientific attitude. And the truth is, the world around us was certainly designed, created in fact, by a Mind greater than man’s and a Power far beyond that of human beings.”

Xiao Wang questioned, “But I’ve read that Charles Darwin started out as a Christian and a creationist. It was his scientific observations which enabled him to discover evolution and then turned him to atheism.”

Professor Ho raised his eyebrows skeptically and nodded. “That’s what we’ve read in the textbooks. But neither one of those things is true. Darwin was certainly never a real Christian and came from a family background of non-Christians. And he didn’t deduce evolution. He learned it from books—especially one written by his grandfather.

“Charles Darwin’s’ grandfather, Erasmus Darwin, bequeathed to Darwin two ideas: atheism and evolution. Erasmus Darwin believed that microscopic life began spontaneously from non-living matter in the ocean and then, across millions of years, gradually developed by an evolutionary process into all other forms, including humans. As early as 1770 he added the Latin motto ‘E Conchis Omnia,’ ‘Everything [comes] from shells’ to his coat of arms, showing his belief that higher life forms evolved from shellfish. His earlier writings left room for a vague ‘First Cause’ to have started life, but that was probably just a concession to the social climate of the time. His last published work contained no concept of any creator. He expounded his fully developed idea of evolution in a book called *Zoonomia*. It was published in 1794-1796, over half a century before Charles Darwin published the *Origin of the Species* in 1859. Charles read *Zoonomia* in about 1827 when he was 18 years old, years before he went on the Beagle voyage to South America. In 1837, when he began writing his ideas in a notebook, Charles wrote the word “Zoonomia” on the title page, showing how indebted he felt to his grandfather’s ideas.⁴⁰ The implication is clear: Darwin didn’t go to the Galapagos Islands in 1835 as a simple believer in creationism who then developed the so-called ‘scientific’ theory of evolution based on his observations. On the contrary, he had the concept of ‘molecules-to-man’ evolution in mind long before he went, and then misinterpreted some minor variation (microevolution) of finches as support for macroevolution.”

“So Erasmus Darwin invented evolution?” Xiao Wang asked.

“No. The idea existed among the ancient Greeks and Romans. Anaximander (c.610-546 BC) taught that humans evolved from fish, and fish from sea slime. Empedocles (fl. 450 BC) said the constant flux of matter produced creatures with various shapes and structures. The ones adapted to survival lived and reproduced; those not well adapted, died. That is just our random mutation, natural selection, and survival of the fittest—over 2,000 years before Darwin! Democritus (460-361 BC) also taught evolution and added the idea of a universe composed of atoms moving eternally through infinite space. Epicurus (341-270 BC) expanded his ideas, taught an explicit atheism and claimed that a slight swerving in the motions of atoms provided a randomness which was the source of all observed variation. These ideas were picked up by Romans such as Lucretius (99-55 BC), and Pliny the Elder (AD 23-79) who said ‘we are so subject to chance that Chance herself takes the place of God.’ Evolution and atheism are not the conclusions of modern science; they are thousands of years old!⁴¹

“Erasmus Darwin was a highly educated man. He certainly read Latin and probably Greek, and would have been familiar with the Western classical writings. He didn’t have to develop the idea of evolution himself; he could get it ready-made from the ancient Greeks and Romans. And it certainly was not a deduction from scientific inquiry!

“Charles Darwin inherited something else from his grandfather besides the theory of evolution. Erasmus Darwin was explicitly anti-Christian; in his medical work he classified ‘fear of hell’ as a disease! Charles Darwin’s father Robert was an unbeliever who bordered on total atheism. Charles started life as a nominal Christian and doubtless really believed God was the Creator when he was young. But it seems unquestionable that his family background influenced him. Late in life Charles Darwin revealed his actual attitude in his autobiography:

I can indeed hardly see how anyone ought to wish Christianity to be true; for if so the plain language of the text seems to show that the men who do not believe, and this would include my Father, Brother and almost all my best friends, will be everlastingly punished. And this is a damnable doctrine.⁴²

This time it was Xiao Li who spoke up. “But I’ve heard that Charles Darwin became a Christian near the end of his life!”

Professor Ho pursed his lips and shook his head. “I know many Christians say that. But if you examine the actual record of his later life, there is absolutely no evidence for it.⁴³ Darwin was quite hardened in his anti-Christian position at the end of his life. In the end, Charles Darwin was another person who didn’t *want* the Bible to be true, and to be confident in his atheism, he needed evolution to explain life.”

Life from space: By accident?

Though he didn’t admit it, Xiao Wang was amazed to find out the actual history of the development of the theory of evolution. His faith in the whole idea was already badly shaken. But there was in his own heart something of the same aversion to admitting there was a Creator that Professor Ho had accused the atheistic scientists of. Surely there was another explanation! Suddenly it occurred to him. “Well, maybe life came from outer space.”

Professor Ho nodded vigorously. “The fourth and final chain of evolutionary mythology which we need to cut off! The idea that things evolved ‘somewhere out there’ in outer space and then sent life to earth. That’s a solution some scientists have taken in recent years. Since it has become so painfully obvious that life could not have started by chance on earth, some atheists have tried to rocket their problem off to the stars.”

“But they have evidence,” Xiao Wang objected. “After all, didn’t they find life, or maybe fossils, on Mars?”

“The claim has repeatedly been made that there is or was life on Mars. Over a hundred years ago the famous American astronomer Percival Lowell was sure he’d identified canals dug by Martians! They turned out to be natural phenomena. Or perhaps you remember the ‘face’ on Mars? It turned out to be just a mountainside. The same is true with claims about life on Mars. Every few years a ‘new’ discovery is announced with hype and fanfare. Then other scientists raise objections. After further analysis, it becomes clear that the original claims were exaggerated distortions. The former ‘proof’ is quietly retired. Then, after a few years, a new extravagant claim hits the newspapers, and the whole process starts again.”

“But I thought they found fossils.”

“That was claimed early on for a meteorite believed to be from Mars which was found in Antarctica. But now it’s generally agreed what they found were just tiny mineral globules produced by ordinary, non-biological chemical reactions.”^{44,45}

“Well, but didn’t they at least find the chemical building blocks of life?” Xiao Wang persisted.

“We’ve read that in our textbooks, haven’t we?” Professor Ho turned and pulled a glossy volume from his crowded bookshelves. “One middle school text I have here assures the students:

1969年，人们发现坠落在澳大利亚启逊镇的陨石含有并非来自地球的氨基酸。⁴⁶ (In 1969 it was discovered that a meteorite which fell at the town of Murchison in Australia contained amino acids which originated outside the earth.)

What has actually been found? On Mars itself, apparently nothing. In meteorites believed to have come from Mars, tiny traces of ‘organic’ chemicals have been found. It’s important to understand that ‘organic’ does *not* mean ‘coming from living things’ or ‘used in the chemistry of life.’ ‘Organic’ chemicals are simply those which contain carbon. Most of the ‘organic’ chemicals found in meteorites are not used in biological life on earth. In fact, if the ‘organic’ chemicals found in meteorites had been present in any imagined ‘prebiotic soup’ on earth or another planet, it would have virtually guaranteed that the pure biochemicals actually needed for life as we know it never could have formed. Instead, the types of ‘organic’ chemicals in the meteorites would have reacted with any amino acids present and formed compounds useless for making living things on earth.⁴⁷

“Scientists apparently did find miniscule, trace amounts of a few of the chemicals used in living things. However, these can be produced by naturally occurring chemical reactions which do *not* involve living things.⁴⁸ Since no life has ever been actually found outside of earth, it is far more reasonable to think that these simple organic compounds, including a few amino acids, were produced by one of the well-known non-biological chemical reactions.”

“So they did find some amino acids!” Xiao Wang exclaimed.

“I have read that they did, including a few used in living things. Significantly, the amino acids were the usual mixtures of left and right handed forms, showing that they did not come *from* living things and would have been useless for forming life as we know it on earth.⁴⁹ G We should also remember that amino acids alone are about as far away from

^G Some have claimed a slight excess of the left-handed form of a non-biologic amino acid, but this may have been due to contamination [continued on next page...]

life as a dictionary full of characters by itself is far away from writing out The Analects of Confucius. Amino acids don't do anything by themselves—except fall apart!”

Professor Ho continued. “They really didn't find much. They didn't even find any peptides.⁵⁰ Two or more amino acids linked together is called a peptide. Peptides are still a long, long way from even forming a single protein. No peptides were found in the meteorites—much less proteins!

“Trying to push the problem of the origin of life off into outer space doesn't solve anything. The world famous astronomer Sir Fred Hoyle demonstrated that a couple of decades ago.

...[atheist] Sir Fred Hoyle is one of the world's most famous astronomers. ...he and a friend of his, Professor Chandra Wickramasinghe, also a well-known astronomer, and an evolutionist who was also an atheist, became interested in the problem of the origin of life. Assuming the earth was five billion years old, they calculated the probability of life evolving on the earth sometime during that five billion years. The probability turned out to be one chance out of the number *one* followed by 40,000 zeros. Of course, that meant that there was no possibility at all, so they turned to outer space, and conjectured that there are possibly 100 billion galaxies in the universe, and perhaps 100 billion stars in each galaxy. They made the assumption that every star in the universe had a planet like earth, and that the universe is 20 billion years old, and *THEN* calculated the probability that life evolved somewhere.

For evolutionists, the answer was grim. The chances were so low that, for all practical purposes, there was no probability that life had evolved anywhere in the entire universe. Sir Fred Hoyle said that the probability of evolution is equal to the probability that a tornado, sweeping through a junkyard, would assemble a Boeing 747!⁵¹

As we saw before, the universe isn't big enough or old enough to have produced even a single specific protein by chance. Shooting the problem off to the stars doesn't solve anything!”

Life from space: By design?

Xiao Wang grasped at one last possibility. “Well maybe it wasn't by chance! Maybe space aliens designed and sent life to the earth.”

Professor Ho nodded. “That's become a very popular suggestion in recent years. Even some famous scientists are suggesting it. One of the first was Francis Crick, the co-discoverer of the structure of DNA. He is an atheist and an evolutionist. But even he felt forced to admit:

An honest man, armed with all the knowledge available to us now, could only state that in some sense, the origin of life appears at the moment to be almost a miracle, so many are the conditions which would have had to have been satisfied to get it going.⁵²

Crick was in a real quandary. On the one hand, he himself knew that there was no real chance that life began by accident on earth. On the other hand, his preconceived religious beliefs—his atheism—would not let him even consider whether or not there was a supernatural creator. So in 1973 he proposed what he called ‘directed panspermia,’ the hypothesis that space aliens sent life to earth.”

Professor Ho smiled broadly at Xiao Wang and Xiao Li. “It's almost impossible for someone in your generation to realize what that felt like in 1973. At that time, if someone suggested a foolish idea about the cause of something, people would contemptuously compare it to believing in ‘little green men from Mars.’ Serious belief in space aliens was considered crazy by most people at that time. If Crick had not been such a famous scientist, he would have been openly ridiculed for his suggestion. Even years later, his co-author, Leslie Orgel, felt compelled to say they were half-joking:

Orgel says...directed panspermia was ‘sort of a joke.’ But he notes it had a serious intent: to point out the inadequacy of all explanations of terrestrial genesis.⁵³

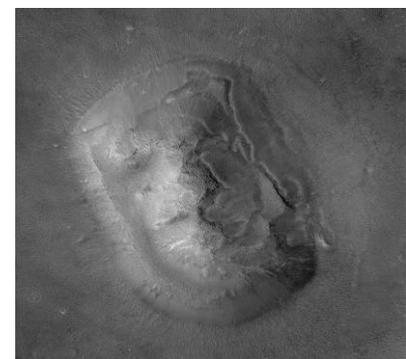
But now the idea has gone from ‘sort of a joke’ to a widely held hypothesis.”

“That's because now we have lots of evidence,” Xiao Wang confidently asserted.

“No, we have exactly the same amount of evidence for it as they did in 1973: absolutely none. The change didn't come from new evidence. It was a change in the philosophical and religious mindset of scientists and people in



1976 Viking I satellite picture of ‘face’ on Mars. Note 1.



2001 Global Surveyor satellite close up picture of same ‘face.’ Note 1.

tion or laboratory procedures. It has by no means been proven that even a *slight* ratio difference exists, and it is certain that the amino acids were still mixed left and right handed, unlike all living things on earth.

general.”

“But haven’t lots of people actually *seen* space aliens?” countered Xiao Wang.

Professor Ho pursed his lips and shook his head. “There are lots of reports, but none of them are verifiable. It’s always something that happened ‘over there’ and ‘then,’ never here and now. These aliens are supposed to be physical and constantly appearing on earth, but we can never track them down.”

“Well, can you *prove* that they don’t exist?”

“That kind of question can never really be answered. Let me ask you a similar question, Xiao Wang. Can you *prove* that the moon isn’t made of green cheese?”

“Of course. We’ve already been there and picked up rocks and dust.”

“Ah, but that’s just the surface!” replied Professor Ho. “Underneath a thin rocky crust, it’s all green cheese down to the core! It’s just that we’ve never dug down far enough to see it.”

“But we know the density of the moon from its size and gravitational pull. It’s the density of rocks and minerals, not cheese!”

“The cheese is mixed with bits of extra heavy stuff. The average density just happens to come out equal to rocks and minerals.”

“That’s ridiculous!”

“Can you absolutely *prove* me wrong?” Professor Ho asked pointedly.

“Maybe not, but there’s no good evidence for believing the moon is made of green cheese!”

“Precisely,” agreed Professor Ho. “And, by the same token, even though I can’t *absolutely prove* there are no space aliens, there is no good evidence *for* believing they exist! It’s not a question of proving they don’t exist. It’s a question of evidence *for* their existence. There is no evidence, so we shouldn’t believe it.”

“Well, maybe we just haven’t looked long enough.”

“Scientists have actually been looking very hard for decades. But they haven’t come up with anything.” Professor Ho flipped open another journal and read:

Space-life enthusiasts like to say that ‘absence of evidence is not evidence of absence.’ True, but they have never been able to answer the famous question posed by Nobel-Prize-winning physicist Enrico Fermi half a century ago concerning all the other alleged civilizations in the universe: ‘Well then, where is everybody?’ SETI, the Search for Extraterrestrial Intelligence, which now uses equipment that scans 28 million radio frequencies per second, has failed to obtain a single ‘intelligent’ signal from outer space in the past 40 years.⁵⁴

Professor Ho looked up at the boys over the top of his glasses. “That quote was written in the year 2000, and nothing has changed. Of course there are lots of radio signals in outer space from natural sources—millions of them—but they don’t contain information that would be a sign of intelligent life. It’s not that we haven’t looked. Why should we believe that they are there?”

“Well,” said Xiao Wang hopefully, “maybe someday we *will* pick up a signal from outer space—one that contains complex patterns, information.”

“What would you conclude if we did?” Professor asked.

“That it must have been produced by an alien intelligence.”

“So you agree that information encoded in radio waves would be a sign of intelligent activity?”

“Certainly.”

“Then how about information encoded in chemicals?”

“Like what?”

“Like DNA—immensely complex information encoded in chemicals. Is that a sign of intelligent activity? Of a designer? Of a creator?”

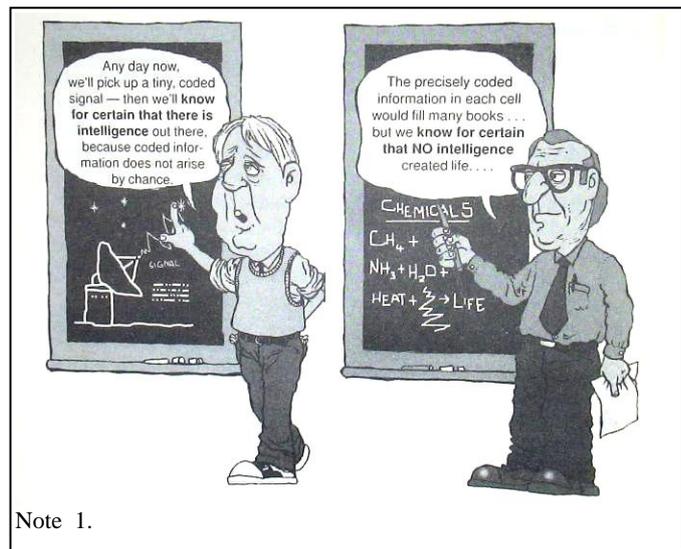
Xiao Wang felt silent. His lips tensed into a straight line. “There’s information there,” he said slowly.

“Can we agree, then,” Professor Ho continued, “that life did not happen by chance but was intelligently designed?”

“I guess so,” Xiao Wang conceded reluctantly.

Professor Ho continued. “Here, by the way, you can see the dishonesty of the late 20th century SETI atheists. On the one hand, they told us that the complex information encoded in DNA did *not* give evidence of intelligent design. At the same time, they claimed that finding information in a radio signal from outer space *would* be proof of intelligent life outside of earth!”

Xiao Wang had another objection. “O.K., but even if I admit life was designed, why not by space aliens instead of by your God? We can’t see *Him* either!”



Imagined space aliens: Part of this universe? Then they’re subject to its laws. From outside the universe? That’s part

of what it means to God.

“I can easily show you why space aliens cannot have been the ultimate ‘creators.’” Professor Ho replied. “Let me ask you a question. If space aliens existed, what would they look like?”

“I don’t know. Maybe their bodies would be completely different from ours. Maybe they wouldn’t even have bodies. Maybe they’re energy forms or interdimensional beings.”

Professor Ho raised his eyebrows slightly. “May I ask what ‘interdimensional beings’ might be?”

Xiao Wang dropped his eyes. “I’m not sure really. I saw it...in a science fiction movie.”

“I see,” Professor Ho replied rather dryly. “Well, regardless of whether we imagine them as existing based on as yet undiscovered properties of matter, I think one thing is still clear: you conceive of them as being part of the physical universe. Is that right?”

“Yes...” Xiao Wang replied cautiously.

“Alright then. When we speak of ‘space aliens’ we assume they have some kind of mass-energy existence, at whatever level. In other words, they’re part of the universe. So, as part of the universe, they would be subject to all the usual natural laws that govern the universe. Would you agree?”

“I suppose so...but maybe there are laws we don’t know about yet!”

“True,” Professor Ho replied patiently, “but that would seem to be beside the point. They’d be subject to all the laws we do know about!”

“Reasonable,” admitted Xiao Wang.

“Very well. These hypothetical ‘aliens’ would be part of the universe and subject to its laws. Now a second question. These aliens whom you think might have sent life to earth: would you think of them as more advanced in their intelligence and technology than humans, or less?”

“Certainly more. We don’t have the technology yet to travel across the galaxy and seed life onto other planets. They would have to be more advanced than us.”

“So they’re smarter than us, but they’re part of this universe. Do you think that their brains, or whatever they thought with, would be as complicated as ours?”

“At least, probably more complex.”

“So they would have brains, or something like it, which are made of very complexly organized matter or energy. Now my final question. According to all we know of physics and probability, could a structure as complex as the human brain, or even more complex, be formed by chance motions of atoms or energy waves over time? Could such a thing evolve by chance even once in the history of the universe?”

Xiao Wang thought for a moment. “You’re back to your amino acids lining up to form a protein argument.”

“No, to something even more impossible: atoms and molecules, or photons and magnetic waves, lining up by themselves to form some kind of brain! That would be far more complex than a single protein! The same laws of physics, chemistry and probability that make it impossible to get the complex structures of living things by chance on earth make it impossible to evolve complex, intelligent beings by chance anywhere else in the universe.”

“But maybe their form of life is very different!”

“That doesn’t matter. The laws of physics are the same everywhere. Rocks can’t think, not here on earth, nor out in the Horse Head Nebula; they don’t have the necessary complexity. If there were intelligent alien life based on mass and energy, it would have to be so complicated that it would never be able to arise by chance, regardless of its exact form. Complex structures which can process information don’t form by chance.”

“How can you be so sure?”

“Do you remember the number of electrons in the universe? It’s about 10^{80} . You divide them into groups, then you multiply by 10^{18} seconds—”

“O.K., O.K.,” Xiao Wang conceded, “I remember!”

Xiao Wang wrinkled his brow and thought hard for a moment. He wasn’t ready just yet to give up on aliens as an explanation for life. “Well, maybe they’re from outside the universe. Not from another universe—I know you’ll say another physical universe should have some physical evidence before we believe in it; more green cheese! But maybe the aliens are just completely above and beyond this or any other physical universe, yet still able to intervene in it. A *totally* different life form!”

Professor Ho tied, but he couldn’t keep a touch of irony out of his voice as he smilingly replied: “Indeed! An entity completely immaterial, transcending our universe, and yet able to intervene in it and create life. Tell me, Xiao Wang, what’s the usual word in English for a being from outside the universe who has supernatural creative power?”

Xiao Wang thought for a moment, then scowled unconsciously and remained silent.

Xiao Li laughed and answered for him: “God!”

Professor Ho nodded gently and agreed, “Yes, God. And it’s amazing to me how many people who claim to be scientific wrap up all the characteristics of God and then paste the word ‘space alien’ over them. It’s as if they can’t deny that there must be a transcendent being, a Creator—but they don’t want to have to obey Him or worship Him. So they call Him an ‘alien.’”

“I don’t believe there really are space aliens,” Professor Ho said, “and I don’t believe they sent life to earth. But if there were aliens in this universe and they had started our life, it wouldn’t have solved the problem of the origin of life. We’d just be asking: ‘Who made the space aliens?’ And we’d still only have one logical answer: a supernatural Creator outside of space and time.”

Xiao Wang was nodding slightly—unconsciously—reluctantly. “I see why you say that there must be a designer or

a creator. Perhaps I'm a 'minimal theist' now. But I still have a lot of questions. Where do dinosaurs fit in? And ape men, like Peking Man? And worse than that, if there's a God, why is there so much misery and suffering in this world?"

"Absolutely," agreed Professor Ho. "Those questions must all be answered. We've cut off the chains of the 'evolution by chance' myth, but we're still in the materialist jail cell! We need to get that iron door open: 'If there's a good and all powerful God, why is there so much suffering in the world?'"

"That's exactly my question!"

"If you can come again, I'll be happy to discuss it with you in detail."

"I'll be back!" Xiao Wang nodded.

Appendix 1-1: Multiple universes and green cheese.

Recently the proposal has been made that the overwhelmingly impossible odds of life appearing in our universe might be overcome if there are an infinite (or extremely large) number of other material universes existing. Usually these are thought of as being parallel to ours and thus unobservable even in theory.⁵⁵ Sometimes it is suggested that we might be able to interact with them somehow.

This proposition is completely irrational and unscientific. It is based on absolutely no observational evidence whatsoever, nor is it a naturally arising theoretical prediction of physics. If the universes are 'parallel' and never touch, how could we ever observe them or any effects from them? If there are an infinite number, how could you count them and know it? What cannot be observed and quantified is not science.

But even if we imagine there is a finite number of other universes, and it is theoretically possible to observe them in some way, we still have no reason to believe in their existence because no such thing has ever been observed. We might just as well believe the moon is made of green cheese—even though we can't find it!

What has this idea so captured the minds of cosmologists and the general public? Better put, why was it ever conceived of in the first place? One need only read the popular descriptions to realize what the motive for this fantasy is. The multiple universe daydream is explicitly claimed to be a potential solution to the increasingly obvious impossibility of life evolving by chance anywhere in the entire universe, even in a purported 20 billion years. Despite denials in textbooks and the popular press, this fact is making atheistic evolutionists increasingly uncomfortable. Needless to say, they aren't willing to draw the logical conclusion that there must be a God outside the universe who created it. So they 'solve' their probability problem by imagining such a large (or infinite) number of universes that one like our really could be expected to happen by chance sooner or later.

There is no evidence whatsoever for the existence of any other universes. Assertions which have no evidence should not be believed.

¹ Pictures come from:

Replica of Siloam Inscription: CC-BY Tamar Hayardeni en.wikipedia.org/wiki/File:Siloam11.jpg

Miller's Device: Answers in Genesis ppt images collection.

The amino acid sequence of the cytochrome c molecule: Wile, Dr. Jay L. and Marilyn F. Durnell. Exploring Creation with Biology, 2nd Ed. Apologia Educational Ministries, Inc. 2005. Pg. 150 Figure 5.8 "The simplest protein of life, ribonuclease" Illustration by Megan Whitaker.

Diagram of a flagellum: PUB-DOM zh.wikipedia.org/wiki/File:Miller-Urey_experiment-zh.svg .bmp

Some species of the dog: answersingenesis.org/articles/aid/v3/n1/zonkeys-ligers-wholphins

Finch species on the Galapagos Islands: stephenbluecreations.com/creation-science/galapagos-finches/

Hypothetical gene combinations for different beak sizes: use with permission creation.com/galapagos-birds 1

Peppered moth: 普通高中课程标准实验教科书生物 2 必修, 人民教育出版社, 2004 年 5 月第一版: 117 页

The evolution process of giraffes: img.jyeoo.net/quiz/images/201012/67/32b48a2d.png

Giraffe bending: PUB-DOM zh-yue.wikipedia.org/wiki/File:Giraffe_head_at_ground.png

Giraffe and zebra: Courtesy of Sascha Uding, www.arternative-design.com

Beetles with deformed wings: 普通高中课程标准实验教科书生物 2 必修, 人民教育出版社, 2004 年 5 月第一版: 116 页

Dinosaur fossil record diagram: Powerpoint presentation by Dr. Donald Batten, Creation Ministries International. Diagram based on: Sereno, Paul C. "The evolution of dinosaurs." *Science*, 284:2137-2147, 1999.

1976 Viking I satellite picture of 'face' on Mars: jpl.nasa.gov/mgs/cydonia2.html

2001 Global Surveyor satellite close up picture of same 'face.': nasa.gov/multimedia/imagegallery/image_feature_60.html

Cartoon: use with permission *Revised & Expanded Answers Book* p.32

² Remine, Walter J. *The Biotic Message: Evolution Versus Message Theory*. St. Paul Science, 1993. Pg. 72.

³ 全日制普通高级中学教科书(必修)生物第一册, 人民教育出版社, 2003 年 6 月第一版: 73 页

⁴ Thaxton, Charles B., Walter L. Bradley and Roger L. Olsen. *The Mystery of Life's Origin: Reassessing Current Theories*. Philosophical Library Inc. (Lewis and Stanley), 1984. Pg. 102.

⁵ Note 4, Pg. 102-104.

⁶ Wilder Smith, A. E. *The Natural Sciences Know Nothing of Evolution*. Master Books, 1981. Pg. 17-33.

⁷ Gish, Duane T. *The Amazing Story of Creation: From Science and the Bible*. Master Books, 1996. Pg. 31-34.

⁸ Note 7, Pg. 34.

⁹ Flew, Anthony with Roy Abraham Varghese. *There Is a God: How the World's Most Notorious Atheist Changed His Mind*. Harper Collins, 2007. Pg. 75 and 78.

- ¹⁰ Associated Press. "There is a God, leading atheist concludes. Philosopher says scientific evidence changed his mind" 6:04 p.m. ET Dec. 9, 2004. msnbc.msn.com/id/6688917/
- ¹¹ Behe, Michael J. Darwin's Black Box: The Biochemical Challenge to Evolution. Free Press, 1998. Pg. 70, 72.
- ¹² Denton, Michael. Evolution: A Theory in Crisis, 3rd Rev. Ed. Adler & Adler, 1986. Pg. 330
- ¹³ Note 11 Pg. 72, 73.
- ¹⁴ Wieland, Carl. "The Moth Files: An UPDATE on the Peppered Moth fiasco." *Creation* 25(1) December 2002:14–15. creation.com/the-moth-files
- ¹⁵ Wieland, Carl. "More about moths: A recent attempt to restore the reputation of the peppered moth as an evolutionary icon falls flat." Published: 5 January 2008(GMT+10) creation.com/more-about-moths
- ¹⁶ Bergman, Jerry. "The giraffe's neck: another icon of evolution falls." *TJ* 16(1) 2002:120-127. creation.com/images/pdfs/tj/j16_1/j16_1_120-127.pdf
- ¹⁷ Gould, Stephen J. Bully for Brontosaurus: Reflections in Natural History, Norton, New York, 1991. Pg. 166.
- ¹⁸ Anderson, Kevin. "Is Bacterial Resistance to Antibiotics an Appropriate Example of Evolutionary Change?" *Creation Research Society Quarterly* 41(4) March 2005:318-326.
- ¹⁹ Bergman, Jerry. "Does the acquisition of antibiotic and pesticide resistance provide evidence for evolution?" *TJ* 17(1) 2003:26-32. creation.com/images/pdfs/tj/j17_1/j17_1_26-32.pdf
- ²⁰ Sarfati, Jonathan. "Is antibiotic resistance really due to increase in information?" 22 October 2001; reposted and updated 11 November 2006. creation.com/is-antibiotic-resistance-really-due-to-increase-in-information
- ²¹ Gish, Duane T. Creation Scientists Answer Their Critics, Institute for Creation Research, 1993. Pg. 111-146.
- ²² Gould, Stephen J. *Natural History* 86 (1977):14, quoted in Note 21, Pg. 380.
- ²³ Valentine, J.W. in L.R. Godfrey, Ed. What Darwin Began, Allyn and Bacon, Inc. Boston 1985, pg. 263, quoted in Note 21, Pg. 378.
- ²⁴ Werner, Carl and Debbie Werner, Evolution: The Grand Experiment: The Quest for an Answer. New Leaf Press, 2007. Pg. 223, 251. (Note that this estimate comes from museum curators who are themselves evolutionists.)
- ²⁵ Note 12 Pg. 210-212.
- ²⁶ Hai, Ming. What Scientists Say about Evolution. AFC, Inc., May 1999. Pg. 41-42.
- ²⁷ Gould, Stephen J. and Niles Eldredge. "Punctuated equilibria; the tempo and mode of evolution reconsidered" *Paleobiology* 3:147 (April 1977), quoted in Note 21, Pg. 380.
- ²⁸ Gish, Duane T. Evolution: The Fossils Still Say No. Institute for Creation Research, 1995. Pg. 137. Chinese version at creationism.com/chinese_cs/ChinGishFossilsSayNo
- ²⁹ Bergman, Jerry. "The Evolution of Feathers: A Major Problem for Darwinism." *TJ* 17(1) 2003:33-41. Pg. 37. creation.com/the-evolution-of-feathers-a-major-problem-for-darwinism
- ³⁰ Menton, David. "Bird Evolution Flies out the Window." *Creation* 16:4 (Sep-Nov 1994):16-19.
- ³¹ Note 28 Pg. 138.
- ³² Note 29.
- ³³ Doyle, Shaun. "Feathery flight of fancy: alleged 'protofeathers' fail under close scrutiny" *Journal of Creation* 21(3) (December 2007):11–12. Available online at: creation.com/feathery-flight-of-fancy
- ³⁴ Sarfati, Jonathan. "*Anchiornis huxleyi*: new four-winged feathered dino?" Published: 6 October 2009(GMT+10). creation.com/anchiornis-huxleyi-new-four-winged-feathered-dino
- ³⁵ Bergman, Jerry and Kevin Wirth. Slaughter of the Dissidents: The Shocking Truth about Killing the Careers of Darwin Doubters. Leafcutter Press, 2011.
- ³⁶ Author's personal conversations in 2010 with Dr. Behe and one of his Lehigh University colleagues.
- ³⁷ Bahls, Christine. "Ernst Mayr, Darwin's Disciple" *The Scientist* 17(22) Nov. 17, 2003. Available online at classic.the-scientist.com/article/display/14252/
- ³⁸ Lewontin, Richard. "Billions and Billions of Demons." *The New York Review* January 9, 1997 Pg.31. Full text available online at drjbloom.com/Public/20files/Lewontin_Review.htm. Partial at nybooks.com/articles/archives/1997/jan/09/billions-and-billions-of-demons
- ³⁹ Note 11 Pg. 240.
- ⁴⁰ Grigg, Russell. "Darwinism: It Was All in the Family." *Creation* 26(1) Dec-Feb 2003-2004 Pg. 16-18. Available online at creation.com.
- ⁴¹ Note 12, Pg.37-40; Taylor, Ian, In the Minds of Men pg.5-12; James-Griffiths, Paul "Evolution: An Ancient Pagan Idea" *Creation* 30(4) Sep-Nov 2008 p34-36; Griggs, Russell "A Brief History of Design" *Creation* 22(2) Mar2000 p50-53
- ⁴² The Autobiography of Charles Darwin, (with original omissions restored, edited with appendix and notes by his grand-daughter Nora Barlow), Collins, London 1958. 'Religious Belief', pp. 85–96; quoted in Grigg, Russell "Darwin's arguments against God: How Darwin rejected the doctrines of Christianity" creation.com/darwins-arguments-against-god.
- ⁴³ Grigg, Russell. "Did Darwin Recant?" *Creation* 18(1) (December 1995):36–37. Available online at creation.com/did-charles-darwin-recant.
- ⁴⁴ Sarfati, Jonathan. "Life on Mars? Separating fact from fiction." *Creation* 19(1) (December 1996):18–20.
- ⁴⁵ Grigg, Russell. "Did life come from outer space?" *Creation ex nihilo* 22(4) (September 2000):40–43. Available online at creation.com.
- ⁴⁶ 生物学八年级下册, 49 页。北京: 人民教育出版社 2002。
- ⁴⁷ Sarfati, Jonathan. "Sugars from space? Do they prove evolution?" *TJ* (now *Journal of Creation*) 16(1) (April 2002):9–11. Available online at creation.com.
- ⁴⁸ Note 47.
- ⁴⁹ Sarfati, Jonathan. "Did life's building blocks come from outer space? Amino acids from interstellar simulation experiments?" *Journal of Creation* 16(2) (August 2002):17–20. Available online at creation.com.
- ⁵⁰ Note 49.
- ⁵¹ Note 7 Pg. 31-35.
- ⁵² Crick, Francis, Life Itself: Its Origin and Nature. Simon and Schuster: 1981, p.88; quoted in Note 2, p.91.

⁵³ Horgan, J. "In the Beginning..." *Scientific American* Feb. 1991, p125; quoted in Note 2, p.91.

⁵⁴ Note 45.

⁵⁵ See, for example: Ellis, George. "Does the Multiverse Really Exist?" *Scientific American* 305(2) (August 2011) Pg. 38-43.