

Part 2: What To Think

Why Are There Different Stories From The Same Evidence?

Everyone has wondered how the universe formed. Some entertain thoughts of Biblical creation, while others don't. Recall that some people believe the things of God are foolishness so they will limit their thinking to unbiblical causes, while others will consider all causes (1 Cor. 2:12-15, or see page 6 of this paper). Cause and effect seem like a reasonable way to think. Even miracles are effects – very unusual ones – that can be caused by God, Satan or some unknown source. I find it fascinating that we all have the same evidence – the observable universe – but we don't all share the same belief in what or who or how or when this universe was caused.

One significant reason as to why there is disagreement is illustrated by the story of two men looking for a lost ring back on page 32. Recall that the man who lost the ring is looking for it under the streetlight (the only place where he has light to see by) thereby restricting his search area. The other man realizes that there are more places to look, and can expand his search. This second man illustrates the Christian who considers all things (the entire street in our story) and therefore has more to choose from. That is why *“he who is spiritual appraises all things.”*¹⁹⁰ This person is able to choose the biblical scenario while the other will not because he believes the biblical scenario is foolishness. Probably the single most common misconception people have is the notion that evolution better explains the evidence than creation. This misconception has been caused by presenting only the evolutionary interpretation of the evidence in schools and other places (brainwashers disease) and by the “you must be nuts to believe the Bible” mentality of most people. As we will see, the biblical explanation is more reasonable than the evolutionary explanation, assuming that the Bible is true.

Our first step is to assume something foundational to our topic; that the universe is an effect that had a cause. You may think that all effects have a cause but this is not so. If God is eternal, as we have seen from Scripture, then He wasn't caused. If something is caused, there must have been a time prior to the cause when that something did not exist. And since God is eternal, this period of time never existed. If the universe is eternal, like God, then looking for its cause is meaningless, so let's assume that the universe in which we live had a beginning.

Where Did Matter Come From?

We are taught that all matter is composed of atoms and those atoms have a tendency to combine in various ways to make molecules that makeup solids, liquids and gasses. Water is composed of two elements (hydrogen and oxygen)

¹⁹⁰ 1 Cor. 2:15, NASÖ5, emphasis mine.

stuck together in the ratio of two hydrogen atoms for each single oxygen atom, so the chemical formula is H₂O. Common table salt is composed of the elements sodium and chlorine that alternate one after the other to make a crystal of salt. Geologists refer to table salt by its mineral name “halite” while chemists call it “sodium chloride”. Over one hundred different elements have been discovered over the years. A chart called “The Periodic Chart of the Elements” that hangs on the wall of every science classroom usually represents them. Elements that react in a similar way are placed in the same column on the chart. For example, right below sodium in the chart is the element potassium. Since it is in the same column as sodium, it reacts like sodium and, when combined with chlorine, makes the mineral “sylvite” or “potassium chloride.” Like sodium chloride, this substance has alternating atoms but of potassium and chlorine, the same complexity of order that halite has. The potassium it contains gives this substance a bitter and salty taste. It is mixed with sodium chloride and sold as “low sodium salt” in stores. So why should we care? Because the matter we commonly deal with has two important characteristics: it is composed of atoms; and those atoms may be ordered. Glass is an example of a solid where the atoms are not ordered. In the case of living things, the order of the atoms is very complex.

Before we look more closely at the order of the atoms, let’s address the question of where they came from in the first place. Some would quickly reply “the big bang made them.” Let’s assume for now that the big bang occurred. Much has been written about the early history of the universe back to the moment of the “bang,” but relatively speaking, very little has been written about “before the bang.” Scientists are comfortable with atoms (and the particles that comprise them such as protons, neutrons and electrons) and with energy but when you ask them a question like “where is the cosmic chicken that laid the cosmic egg?” they don’t have much to say. Perhaps this is where science and religion and philosophy share the same domain. If there was a time when there was no mass and no energy, how was mass and energy caused? In other words, what caused the big bang?

“If we imagine the universe shrinking backward, like a film in reverse, the density of matter and energy rises toward infinity as we approach the moment of origin. Smoke pours from the computer, and space and time themselves dissolve into a quantum “foam”. ‘Our rulers and clocks break’, explained Dr. Andrei Linde, a cosmologist at Stanford University. ‘To ask what is before this moment is a self-contradiction’”¹⁹¹

There are several theories being considered by astronomers and physicists today – inflation, chaotic inflation, string, quantum – but all of them fail to answer our question, or they describe a universe that is eternal and therefore had no beginning.

¹⁹¹ Overbye, Dennis, *Before the Big Bang, There Was Nothing? What?* New York Times, May 22, 2001

This is how the Bible answers the question of where matter came from:

*“By faith we understand that the worlds were prepared by the **word of God**, so that what is seen was not made out of things which are visible.”¹⁹²*

*“By the **word of the LORD** the heavens were made, And by the breath of His mouth all their host.”¹⁹³*

*“For when they maintain this, it escapes their notice that by the **word of God** the heavens existed long ago and the earth was formed out of water and by water,”¹⁹⁴*

*“**All things** came into being through Him, and apart from Him **nothing** came into being that has come into being.”¹⁹⁵*

It can easily be deduced from Scripture that God simply spoke all matter into existence. This truth alone makes God far superior to any person, thing, energy or force. This is an obvious miracle. Do you recall the purpose of miracles?

*“that all the peoples of the earth may **know** that the hand of the **LORD** is mighty, so that you may **fear** the **LORD** your God forever.”¹⁹⁶*



Do you fear the One who created this universe? Consider the most impressive task ever done. How does speaking the universe into existence compare with that task? Recall that Jesus is the One who did this. Also recall that Jesus will be the judge of everyone at the end.

Recall that God is eternal but created the universe at a moment in time. There was a beginning to this universe and it began when God spoke it into existence. When that happened will be the topic of our last meeting.

Order Is Important

Consider this thought an experiment. If a live mouse is placed into a blender (with the cap on so that none of the mouse could leave) and the blender is then turned on for a minute, the mouse will not be the same – it is now out of order. Since nothing could leave the blender, every atom in the mouse must still be there. But even though all the atoms in the mouse are there, if they

¹⁹² Heb. 11:3, NAS⁹⁵, emphasis mine

¹⁹³ Psalm 33:6, NAS⁹⁵, emphasis mine

¹⁹⁴ 2 Peter 3:5, NAS⁹⁵, emphasis mine

¹⁹⁵ John 1:3, NAS⁹⁵, emphasis mine

¹⁹⁶ Joshua 4:24, NAS⁹⁵, emphasis mine

are not in the right order, the mouse will act differently, to say the least. So, order is an essential part of being a mouse. Just as a Boeing 747 has more than four million parts and none of them flies, they must be placed in the correct order for flight to occur, so planes must also be ordered to do what they do. The cells in our body have a nucleus containing a large molecule called DNA. The order of atoms in DNA molecules carries all the information needed to construct the organism. One human DNA molecule would be about three feet long if it was straightened out from its spiral shape. How much information is contained in human DNA? Consider this quote,

*“Physics books may be complicated, but...the objects and phenomena that a physics book describes are simpler than a single cell in the body of its author. And the author consists of trillions of those cells, many of them different from each other, organized with intricate architecture and precision-engineering into a working machine capable of writing a book...**Each nucleus...contains a digitally coded database larger, in information content, than all 30 volumes of the Encyclopedia Britannica put together. And this figure is for each cell, not all the cells of the body put together.**”¹⁹⁷*

How much paper would you need to write down the order of the atoms in halite? Only one sentence is needed, since it is simply sodium-chlorine in all three dimensions (length, height, width) of a salt crystal. Compare this amount of order with **30 volumes** of books!

If I write a letter, is the information in the ink? If it was only in the ink, I could simply spill some ink onto a piece of paper, let it dry and send it to you! The information in the letter is found in the **order** of the ink. The ink simply serves as the substance to be ordered to convey information. I could convey the information of “I love you” in written form, in magnetic form (an audio or video tape or computer drive), in spoken form, in the form of radio waves (a cell phone) or visual form by mouthing the words without speaking them!

In other words, **information is not tied to any particular element or method of transmission. In a sense information is independent of physical things.** Einstein viewed the nature and origin of information as one of the profound questions about the world as we know it. The point is that the information written in the DNA is not the product of DNA. The DNA is a chemical record of the information that could be recorded in many different ways. Therefore, a very important question to ask is how the information got there! Did God put it there or did this information (30 volumes worth) accumulate by evolution over many generations of natural selection?

¹⁹⁷ Dawkins, Richard, 1986, *The Blind Watchmaker*, Longman Pub. p.2-3.

Order In The Creation Scenario



Here is some food for thought. Since the type of matter used to store information is irrelevant, perhaps information exists apart from matter. The first verse in the book of John is *“In the beginning was the Word, and the Word was with God, and the Word was God.”* The Greek word translated as *Word* is “logos” which means not only something said but includes the thought as well (Strong’s 3056). Words and thoughts have information. Isn’t it interesting that information was in the beginning?

In the first chapter of Genesis, the phrase *“then God said”* followed by the creation of something appears eight times in the New American Standard Bible (emphasis mine).

Gen. 1:3 ¶ ***Then God said, “Let there be light”; and there was light.***

Gen. 1:6 ¶ ***Then God said, “Let there be an expanse in the midst of the waters, and let it separate the waters from the waters.”***

Gen. 1:9 ¶ ***Then God said, “Let the waters below the heavens be gathered into one place, and let the dry land appear”; and it was so.***

Gen. 1:11 ***Then God said, “Let the earth sprout vegetation: plants yielding seed, and fruit trees on the earth bearing fruit after their kind with seed in them”; and it was so.***

Gen. 1:14 ¶ ***Then God said, “Let there be lights in the expanse of the heavens to separate the day from the night, and let them be for signs and for seasons and for days and years;***

Gen. 1:20 ¶ ***Then God said, “Let the waters teem with swarms of living creatures, and let birds fly above the earth in the open expanse of the heavens.”***

Gen. 1:24 ¶ ***Then God said, “Let the earth bring forth living creatures after their kind: cattle and creeping things and beasts of the earth after their kind”; and it was so.***

Gen. 1:26 ¶ ***Then God said, “Let Us make man in Our image, according to Our likeness; and let them rule over the fish of the sea and over the birds of the sky and over the cattle and over all the earth, and over every creeping thing that creeps on the earth.”***

Since living things contain an enormous amount of information, and they were fully functional at the moment of creation, God must be the source of the information they contain. The biblical scenario does not involve long periods of time for natural selection to somehow increase the complexity of living things. Such thoughts are from the mind of men, not from the mind of God.

Read the following verses and decide who is speaking, what is he doing and when is he doing it?

Prov. 8:22 *“The LORD possessed me at the beginning of His way, Before His works of old.*

23 *“From everlasting I was established, From the beginning, from the earliest times of the earth.*

24 *“When there were no depths I was brought forth, When there were no springs abounding with water.*

25 *“Before the mountains were settled, Before the hills I was brought forth;*

26 *While He had not yet made the earth and the fields, Nor the first dust of the world.*

27 *“When He established the heavens, I was there, When He inscribed a circle on the face of the deep,*

28 *When He made firm the skies above, When the springs of the deep became fixed,*

29 *When He set for the sea its boundary So that the water would not transgress His command, When He marked out the foundations of the earth;*

30 *Then I was beside Him, as a master workman; And I was daily His delight, Rejoicing always before Him,*

31 *Rejoicing in the world, His earth, And having my delight in the sons of men.”*

We read a few verses before that:

Prov. 8:12 *“I, **wisdom**, dwell with prudence, And I find knowledge and discretion.*

13 *“The fear of the LORD is to hate evil; Pride and arrogance and the evil way And the perverted mouth, I hate.*

14 *“Counsel is mine and sound wisdom; I am understanding, power is mine.”*

Webster defines wisdom as

“the faculty of making the best use of knowledge, experience or understanding”

So we know that Jesus (the Creator) worked with wisdom while He created. If you were given the task of constructing something exceedingly complex, would you first seek wisdom? Would you make use of wisdom as you constructed?

The Biblical source of matter and its complexity is God.

Order In The Evolution Scenario

How much information can random chance produce? Could random chance produce the information found in living things? Let's do a simple demonstration to get a feel for this question.

Write the letters “COMPLEXITY” on ten small pieces of paper and place them in a hat and mix them up. Then draw them out of the hat one at a time and place them in the order drawn on the table. Do the letters spell COMPLEXITY? Not likely because the chances of doing so are 1 in 10 factorial (1 chance in $10 \times 9 \times 8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$) or 1 chance in 3,628,800. Would you care to imagine the probability of selecting letters to correctly spell all the words in 30 volumes of Encyclopedia Britannica?

But the evolutionary literature is quick to inform us that natural selection dramatically improves those odds. Imagine that each letter is a genetic characteristic like the shape of a bird’s beak. If this bird is able to get more food by virtue of its different beak then it is better able to survive and be more likely to pass those special beak genes onto the next generation compared with birds having normal beaks. Over many generations this process is supposed to be the way that evolution works: preserving the good traits while removing the bad ones. Read the article below in light of what we just did.

“To test the theory of life-history evolution, Ender Reznick and Heather Bryga of UC Riverside removed guppies from the Aripo River in Trinidad where the natural predators were cichlids, another species of fish that preys primarily on adults. They transplanted the guppies into a tributary of the Aripo River where there were previously no guppies and where the primary predators were killifish, which prey primarily on the young. After 11 years, corresponding to 30 to 60 generations of the guppies, they found that the transplanted guppies began to reproduce about nine days later on the average – at 76.1 days of life rather than 67.5. They also produced fewer progeny per brood and the young were slightly larger. To demonstrate that these changes were caused by inheritance rather than local conditions, the group captured fish at each site and bred them in the Riverside laboratory. They found that the fish continued the reproductive behavior exhibited in the wild, indicating it was genetic in origin and that predation was the most important factor.”¹⁹⁸



What kind of evolution is illustrated here? They began with guppies and ended with guppies. This demonstrates variation in guppies but not guppies changing enough to be reclassified as a different organism. What would be necessary to change guppies into something that would no longer be classified as a guppy? Would the environmental influences need to change? Would simply having enough generations produce enough of a change?

This is an example of microevolution where variation within the same kind of organism is observed. Biology textbooks usually use the peppered moth to illustrate this kind of evolution. When the trees in London became darker

¹⁹⁸ Lowly Guppy Helps Scientists Validate Evolutionary Theory, Los Angeles Times, July, 1990.

from pollution in the late 1800's, birds ate more of the lighter colored ones because they were more easily seen against the darkened trees. When the pollution problem lessened, the number of light colored moths increased. But, again, we started with moths and ended with moths. Studies of many generations of fruit flies show variation, but no one would question that the end result is still a fruit fly.

A biblical example of this kind of evolution (although humanly directed) is found in Genesis chapters 30-31 where Jacob tends the flocks owned by his father-in-law Laban. After separating the pure white goats and sheep from the others (these other colored goats and sheep were Jacob's wages for tending Laban's flock), Jacob was left in charge of the pure white flocks of Laban. A commonly held belief of the time was that the characteristics of the offspring were influenced by what the animals saw when they mated. So Jacob made something to encourage offspring that were not pure white, so that his wealth might increase.

“ Then Jacob took fresh rods of poplar and almond and plane trees, and peeled white stripes in them, exposing the white which was in the rods. He set the rods which he had peeled in front of the flocks in the gutters, even in the watering troughs, where the flocks came to drink; and they mated when they came to drink. So the flocks mated by the rods, and the flocks brought forth striped, speckled, and spotted. Jacob separated the lambs, and made the flocks face toward the striped and all the black in the flock of Laban; and he put his own herds apart, and did not put them with Laban's flock.”¹⁹⁹

He also succeeded in making his flock stronger and Laban's flock weaker.

“ Moreover, whenever the stronger of the flock were mating, Jacob would place the rods in the sight of the flock in the gutters, so that they might mate by the rods; but when the flock was feeble, he did not put them in; so the feebler were Laban's and the stronger Jacob's.”²⁰⁰

All this was done with God's blessing and may have been a miracle since nonwhite goats and sheep are caused by a recessive gene, the dominant gene causes white. Notice what Jacob saw in a dream.

*“ And it came about at the time when the flock were mating that I lifted up my eyes and saw in a dream, and behold, **the male goats which were mating were striped, speckled, and mottled.** “Then the angel of God said to me in the dream, 'Jacob,' and I said, 'Here I am.' “He said, 'Lift up now your eyes and see that **all the male goats which are mating are striped, speckled, and mottled;** for I have seen all that Laban has been doing to you.”²⁰¹*

¹⁹⁹ Gen. 30:37-40, NAS⁹⁵

²⁰⁰ Gen. 30:41-42, NAS⁹⁵

²⁰¹ Gen. 31:10-12, NAS⁹⁵, emphasis mine

Perhaps Jacob's success should be attributed to God, not the sticks, since God knew that all the males carried the recessive gene that presented itself generously so that Jacob's flock would grow in number, according to God's plan.

In our analogy of ordering letters, this process of natural selection could be illustrated by changing our process of selecting letters. Put all ten letters back into the hat and mix them up. Reach in and draw a letter. If it is a "C" then keep it but if it is not a "C" then return it to the hat. Eventually the "C" will be drawn. Do the same until the "O" appears, and then the same again until the "M" appears, and so on. Repeat this process and the word "COMPLEXITY" will appear. And it will appear much sooner than the way we drew them before because on the average it will take about 550 draws to get the word "COMPLEXITY." When the correct letter "C" is kept, that is analogous to the bird keeping the advantageous beak. The "O" could represent a different shape to wings, and the "M" to a longer tongue, etc. Eventually, all these advantageous traits result in a different animal – represented by the word "COMPLEXITY." Drawing letters and keeping each one, as we did the first time, would require, on the average, 30,628,800 separate draws (probability of 1 to 3,628,800 x 10 draws per word) to get "COMPLEXITY" whereas doing it the second way using natural selection would require, on the average, 550 separate draws. That means that natural selection improves our chances of getting the right result by about 55,700 times. At this point, natural selection looks pretty good. Consider this quote:

"Complex Adaptive Systems learn as they grow. Genetic mutations are chancy, but natural selection and the evolution of complexity are not. Natural selection preserves the gains and eradicates the mistakes. A monkey randomly typing will never produce Hamlet; but a monkey that learns, or a computersystem that holds all correctly sequenced letters and disregards the rest (a la natural selection), will peck out "TOBEORNOTTOBE" in a matter of minutes. Does this happen at the cellular level? It does! It happens at all levels..."²⁰²

Does Microevolution Lead To Macroevolution?

We have seen that microevolution is a reality and can be demonstrated. If we assume that God created "ex nihilo" (out of nothing as Heb. 11:3 states), is it possible that through natural selection or through human intervention (as we saw with Jacob), microevolution has occurred during the time from the creation until now? The answer must be yes. But can we extend the concept of microevolution to also result in macroevolution, where a different organism develops? If once upon a time there was only blue-green algae, and it evolved into humans, we are no longer talking about microevolution. "Fish to philosopher, molecules to man" involves dramatic changes. Some would wave their hands and say that all that is needed is enough time for microevolution to act.

²⁰² Dawkins, Richard, from a review of Michael Behe's book *Darwin's Black Box* in Skeptic Magazine, Vol. 4, No. 3, 1996, emphasis mine.

*“Time is in fact the hero of the plot. The time with which we have to deal is of the order of two billion years. What we regard as impossible on the basis of human experience is meaningless here. Given so much time, the “impossible” becomes possible, the possible probable, and the probable virtually certain. One has only to wait: time itself performs the miracles.”*²⁰³

If I run a 10 minute mile in January, and a 9 minute mile in February, and an 8 minute mile in March, and keep improving at the same rate each month thereafter, I will run the mile in zero minutes by October. You know that this statement cannot be true because you know that there is a limit to how fast I can run. Is there a limitation to how much microevolution can change an organism?

*“A wide spectrum of researchers – ranging from geologists and paleontologists, through ecologists and population geneticists, to embryologists and molecular biologists – gathered at Chicago’s Field Museum of Natural History under the conference title: Macroevolution. Their task was to consider the mechanisms that underlie the origin of species...**The central question of the Chicago conference was whether the mechanisms underlying microevolution can be extrapolated to explain the phenomena of macroevolution. At the risk of doing violence to the positions of some of the people at the meeting the answer can be given as a clear, NO.**”*²⁰⁴

Francisco Ayala (Associate Professor of Genetics at the University of California) was quoted at the conference as saying

*“...but I am now convinced from what the paleontologists say that small changes do not accumulate.”*²⁰⁵

Macroevolution has never been observed experimentally. It has only been inferred from the fossil record, which will be our next topic. Notice how this encyclopedia describes evolution.

*“Evolution is the process by which all living things have developed from primitive organisms through changes occurring over billions of years, a progression that includes the most advanced animals and plants...**Because evolutionary events in the past are not amenable to direct observation or experimental verification, the process of evolution over the course of earth’s history must be inferred.**”*²⁰⁶

This is a fair definition. In my opinion it should be in every school textbook, along with a discussion of what inference involves – that’s critical thinking!

²⁰³ Wald, George, 1954, *The Origin of Life*, Scientific American, p. 48.

²⁰⁴ *Evolutionary Theory Under Fire*, Science Vol. 210, November 21, 1980, p. 883, emphasis mine.

²⁰⁵ Ibid, p.884

²⁰⁶ Grolier Multimedia Encyclopedia, release 6, 1993, emphasis mine.

Natural Selection Plus Circular Reasoning Equals Macroevolution

Years ago biologists explained the process of sight in very general and uncertain terms. In fact most of the major processes were “black boxes”, a way of saying that “we really don’t know step by step on the molecular level how the process works.” But with the advent of molecular biology, the detailed steps involved with seeing something have been revealed. Part of the process causing sight goes like this:

“When light first strikes the retina a photon interacts with a molecule called 11-cis retinal, which rearranges within picoseconds to trans-retinal. (A picosecond is about the time it takes light to travel the breadth of a single human hair.) The change in the shape of the retinal molecule forces a change in the shape of the protein, rhodopsin, to which the retinal is tightly bound. The protein’s metamorphosis alters its behavior. Now called metarhodopsin II, The protein sticks to another protein, called transducin. Before bumping into metarhodopsin II, transducin had tightly bound a small molecule called GDP. But when transducin interacts with metarhodopsin II, the GDP falls off, and a molecule called GTP binds to transducin. (GTP is closely related to, but critically different from, GDP.)...[this continues for 4 more paragraphs]²⁰⁷

This is an example of a molecular mechanism that is irreducibly complex. This means that each part interacts with others and all parts are necessary for the end result to occur. No part is unnecessary or redundant. Imagine this situation: an organism without sight eventually develops sight (as described in the manner above) through natural selection. And to simplify the situation, let’s assume that sight requires only ten molecular steps (actually there are more than ten that are known). If each letter in the word COMPLEXITY now represents one of these molecular steps in the process of sight (no longer complete traits as before), then, in an average of 550 draws, sight should occur – right? However, why would any of the first nine letters COMPLEKIT (the first nine biochemical steps) stay in the population when they need the tenth one to cause sight?

In other words, unless you know beforehand what biochemical steps are necessary, and can keep all of them in the organism until the last one shows up, sight will not occur. Natural selection not only preserves the advantageous traits but also removes those that are not beneficial. Recall in the quote above, regarding the monkey who could type TOBEORNOTTOBE, there was a condition: “...***a monkey that learns, or a computer system that holds all correctly sequenced letters and disregards the rest.***” How can a monkey learn something that never existed before? And how would a computer know what letters to disregard and what letters to keep **unless the computer was programmed beforehand to check each letter against the actual Hamlet text?** This looks like circular reasoning

²⁰⁷ Behe, Michael, 1996, *Darwin’s Black Box The Biochemical Challenge to Evolution*, The Free Press, p. 18-21

to me: the end result must be known before natural selection can produce the same result. We will see circular reasoning again when we examine fossils. Now that you know what to look out for – **beware!** I have no doubt that God could cause those first steps to linger in the population until such time that the last one appears. But the Bible doesn't make even the slightest reference to such a thing, so we had best not say God does something that we don't have evidence to support.

Evolution would have us believe that the information comes from the ordering of atoms. Therefore matter composed of atoms grouped into molecules is in control of information. Information, under the evolutionary scenario, develops slowly, very slowly, requiring many generations to result in a new characteristic, such as sight. But in the creation scenario information is first and then atoms are ordered. The evolution and creation scenarios are opposite on this point. Notice this statement from Dr. Linde:

*“...as Dr. Linde points out, there is a chicken-and-egg-problem. Which came first: the universe, or the law governing it? Or, as he asks, **If there was no law, how did the universe appear?**”²⁰⁸*

That is a great question! And the Bible has a great answer, God is the source of all laws, all matter and all order to matter.



So what do you believe? Did matter originate in the beginning from God or from the cosmic chicken before the big bang? Does the complexity of matter testify to the handiwork of God or to random mutations, refined by natural selection? Which one makes more sense to you – atoms then information or information then atoms? It makes good sense that before a builder can build a house (arrange the pieces so that a house results), he needs a plan, blueprints, and information!

²⁰⁸ Overbye, Dennis, *Before the Big Bang, There Was What?* New York Times, May 22, 2001