

LIFE IN OUTER SPACE: JUST ADD WATER?

by Ross S. Olson MD

Although there is intense interest in this topic in the scientific community, I think that nearly everyone, except those who claim to have been abducted by aliens, agree that there is no evidence for life, much less intelligent life, on any other planet, moon, asteroid or comet. A lot of money has been spent looking. An early Mars probe, the Viking Lander, looked for carbon based molecules and found only a molecule of the cleaning fluid used to sterilize it before take-off, at least proving that the detector worked. There was a flurry of excitement when a later mission found evidence of rapid chemical activity when nutrients were dropped onto the Martian soil, initially thought to be due to metabolism by living creatures. But it turned out to be reactions with superoxides formed in the harsh conditions of the planet's surface. A meteorite found in Antarctica (known as ALH84001) was thought by its composition to be from Mars, possibly chipped off the surface by an asteroid impact and sent this way. It contained a strange microscopic object some thought to be a fossilized bacteria. But it was far too small to be a bacteria and the Martian origin is a real stretch.

Radio Telescopes have been scanning the universe for decades looking for signs of coded messages from distant stars or galaxies, a project known as SETI or Search for Extra Terrestrial Intelligence. Despite media hype and support by the late Carl Sagan on his Public Television program **Cosmos**, nothing has been found. But the idea is now quite common that where there is liquid water, there is likely to be life. The possibility, however, is apparently convincing enough to our leaders to shake loose billions of dollars for exploration of the solar system with the prime purpose being a search for life. Where does this notion come from? Well, water is necessary for life as we know it, liquid water at that. And on earth, essentially wherever liquid water is found, there is also life. For example, there are bacteria in Lake Vostok, a body of liquid water under hundreds of meters of ice in Antarctica, kept from freezing by geothermal heat and intense pressure. There are also strange bacteria that metabolize hydrogen sulfide near deep ocean hydrothermal vents that spew out 600 degree F water, kept liquid by the immense pressure.

But is a necessary condition also automatically a sufficient condition for something to occur. It is necessary to purchase a Lottery ticket in order to win the Lottery, but just buying one is no guarantee – and by the way, I don't recommend it. But the feeling of many scientists is that because life "spontaneously arose" here and survives in all sorts of environmental extremes, then it must have arisen elsewhere as well.

Therefore, this becomes a question of evolution, which is a very big topic and it will obviously not be possible to thoroughly cover it in a single short talk. What I do hope to accomplish, however, is to raise questions and stimulate thought. I hope to make everyone skeptical of those who say that evolution is a proven fact.

It is obvious to those who study history that people often have incorrect ideas. In fact, at any given time, even the great majority of people may be mistaken on a particular topic. And to anyone familiar with human nature, it will not be a shock to realize that when the majority is powerful, dissenting views may also be suppressed. What is popular may not be true, and truth may not be popular.

Therefore, to know the truth, we need to have an open mind, which includes a willingness to say, "Could I be wrong on this topic?" Knowing that it is difficult to even look at the relevant data from this perspective, one must also ask, "If I were wrong, could I be convinced?" Finally, given the reality of social pressure, a final question might be, "If I were convinced, would I be willing to change?"

Let me begin with some definitions. By "evolution" I mean the notion that we and all living things come from non-living things, and have developed by completely natural means without any outside direction or power. This concept meshes with the idea that non-living things, including the whole time-space continuum, have also occurred naturally. Together, this forms the basis for philosophical naturalism, the theory that there is no need for a Creator since everything can be explained by other means.

Some evolutionists may now protest that the origin of life (abiogenesis) is a completely separate question and they prefer to begin with pre-existing life and simply talk about its gradual change by mutation and natural selection. There are two kinds of people who say this. Some believe God created the first life and let it evolve into everything we see today. There are all sorts of scientific and theological problems with that idea that I will only touch on briefly. Others who take this tack do not believe in God but think they have a good case for evolution of organisms from simple to complex. There are many pure scientific problems with that belief.

The examples that evolutionists use to prove evolution tend to be trivial, such as the breeds of dogs or bacterial resistance to antibiotics. The former is simply the unmasking of information already present in the original dog ancestor. Actually there is loss of information and the "purebred" dogs are actually less fit than their mongrel cousins. Bacteria develop resistance usually by losing a structure or function attacked by the antibiotic and are overall less fit than the wild type of organism. Occasionally resistance is a preexisting ability present in a minority of the population or borrowed by a process called lateral transfer from another species of bacteria and selected for survival in the presence of the antibiotic.

In no case can examples be given of the spontaneous development of new information, such as that needed for flight or intelligence. Rather than showing how there can be "bacteria to biologist" evolution, the examples invariably show loss of information and deterioration. But the particularly disingenuous part of evolutionists most popular tack is the contention that they do not need to have a theory of the origin of life and can just say, "I don't know." Well, they can and indeed should say that they don't know. But since there are only two possibilities for the origin of life, a natural mechanism or a supernatural mechanism, then without any evidence for the first, they need to admit that their working hypothesis is the second. This they are unwilling to even consider.

Yet, in considering whether there is life in space, they are asking the question, "Did life spontaneously arise outside of earth?" If something crawls up and makes faces into their cameras on some alien world, they are not going to say, "Look at that. God made life on that planet, too."

Let me illustrate how thinking on this issue involves much more than scientific objectivity and hard cold rationality. I was a theistic evolutionist going through my medical training. I was told and believed that science had proved evolution and only a few Neanderthals and other mental defectives or superstitious gullible people doubted it. Although for quite a while it shook my faith because it seemed to make God unnecessary, I finally decided that God must have set up the universe so it spontaneously organized itself. This view is sometimes called the "fully competent creation" and is considered by its backers to be a magnificent demonstration of God's power. It seemed to me that if that were the case, God must have done something special in the case of man to give him "the image of God" but that otherwise it was all automatic and imbedded in the basic constituents of the universe.

I continued to hold this position, mostly because I had never really looked at the data in detail, even as a missionary in Hong Kong with the Evangelical Free Church. While there, my brother, who is a science teacher, sent me two books by Biochemist A. E. Wilder-Smith who showed that order does not arise spontaneously. Dr. Wilder-Smith also included pictures of "polystrate fossils," tree trunks 50 feet tall, fossilized standing up, that obviously could not have been covered at the rate hypothesized by uniformitarian geology because they would have rotted long before they were covered.

It took me a year to even read them because I was emotionally revolted by what seemed to be so far out of the scientific mainstream. Dr. Wilder-Smith showed that the whole idea of a code requires intelligence and the information carried by a code does not arise spontaneously. Long periods of time do not help because time degrades information. Random changes in a complex system do not improve it but deteriorate or completely destroy it

Natural processes produce order, but it is of a different sort from the effects of intelligence. The sorting of pebbles and sand on the beach is easily explained by the action of wind and waves. The piling up of cut stones, cementing them together and forming them into a house with windows and doors, is the result of planning and work and is not innate in the nature of the materials or the natural forces acting on them.

We can tell the difference and would not normally confuse a rock pile with a beach house. Nor would we attribute the presence of a house to the action of the wind and waves, but would assume that someone built it, even if we did not see the builder or know who it was. I think this would be true even if we had never seen a house before.

Attempts to explain away this distinction generally appeal to long ages of time and say that eventually, the unlikely becomes inevitable and the impossible becomes likely. In real life, however, we all know that time will not help to produce this kind of order. Given many years of exposure to the forces of nature, a beach house will not transform itself into a 400-room castle, nor will a rock pile become a beach house. No, in time, both the castle and the house will be reduced to a rock pile and will blend in with all the other rocks along the beach.

In the case of living things, the degree of order is so incredibly complex that the chance of it coming about by natural means is essentially zero. I was astounded and wondered why this point of view had never come up in my science classes.

I first became an intelligent design advocate and then slowly began to see that there was also a powerful case for a young earth. In fact, the fossil record is much more consistent with rapid burial in a worldwide flood than in slow sedimentation over millions of years of a land mass that slowly rises and falls. For one thing, fossils don't form unless the creature is covered before it rots. Clams all over the world are fossilized closed. There are 50 foot tree trunks that surely would not wait to be covered up at 1 millimeter a year. There are many "out of place" fossils and in the grand canyon such as pollen in the pre-Cambrian layer where no such plants should have existed. Also, there are 200 million "missing" years and the layers are blended at their interface, as if for those 200 million years absolutely nothing happened, neither deposition nor erosion, and the bottom lay stayed soft waiting for the next.

Let me try to explain a bit further how complex life really is and how unreasonable it is to believe it came together and improved itself by natural processes. For those familiar with molecular biology, the next few thoughts will be understandable. For those who are not, I only ask that you just try to appreciate how intricate and interrelated the factors have to be for it all to work properly. Sir Fred Hoyle put it this way, "For life to occur by natural processes would be like a Boeing 747 assembling itself by means of an explosion in the junk yard."

The simplest living cell must have many functioning parts to be alive -- that is to respond to its environment, to extract energy, to protect itself, and to reproduce. There must be coded information, usually stored in long molecules called DNA. This information must be retrieved and transferred when necessary to perform a function. This is generally done within cells by the manufacture of protein molecules, which catalyze chemical reactions and guide construction of structural parts of the cell.

All this must be organized in space for it to work. An auto parts store may have all the pieces needed to build a car, but until they are put together, you cannot drive it. Even one minor problem with the construction, such as a disconnected wire, may make the whole thing inoperable, and random changes in the parts or connections are not going to make it better.

For those who think that "maybe we just got lucky," let me put a few numbers behind those ideas. Proteins are the basic building blocks for the function of living cells, and are essentially long chains of individual amino-acid molecules. They fold and assume various globular shapes, depending on which amino acids occupy which positions and on templates the coding for which is still poorly understood. (If they fold wrongly, harmful or fatal prions are formed, such as the one that causes "mad cow disease.") Their function is determined by the shape, atomic affinity and electrical charge at various points on their surfaces.

There are 20 different amino acids which are used by living systems to make proteins. A few of these amino acids may occur naturally, but they exist in a mixture of "d" and "l" ("L") forms, right handed and left handed, which are like mirror images of each other. Only the "l" forms are used in living systems.

A protein molecule of 100 component parts would be a small part of a living cell. There would have to be, it is estimated, at least 230 very specific proteins, some as large as 10,000 amino-acids long, each coded by a gene, to complete the most simple, basic living cell. There would also have to be the coded information in the DNA for manufacturing that protein and the mechanisms for retrieving and transferring the information when the cell needed the function which that protein performed.

For the sake of illustration, let us look at the probability of putting that small protein molecule together from a "primordial soup" of individual amino acids, setting aside other difficulties such as the fact that long chains tend to fall apart. Let us also temporarily forget about the need to select only "l" forms, and the problem that amino acids, even if they do occur in nature, tend to deteriorate over time.

Since the chance of selecting the correct amino acid for the first position from an equal mixture of 20 possibilities is about one in 20 ($1/20$), and the chance of selecting the second position correctly is also $1/20$, the chance of getting both correctly is $(1/20)^2$ or $1/400$. Therefore, the chance of getting all 100 positions correct is $(1/20)^{100}$ which is $(1/10)^{130}$ or 10^{-130} . On the average, therefore, 10^{130} different chains of 100 amino acids would have to be tried before it is likely that one of them would be the correct configuration to do that particular job for the cell.

This is an incredible number which we can only begin to understand. The probability of this protein coming together is far beyond the bounds of possibility. There are only about 10^{47} molecules of water in all the oceans lakes and rivers of the whole earth and there are only about 10^{80} atoms in the entire universe and about 10^{18} seconds in 30 billion years. Therefore, even allowing evolutionists longer than they think they have, we will run out of time and matter before even getting close to the order of magnitude needed to make it probable.

But suppose, what if someplace in the universe, some chain of molecules got lucky on this one protein? Still, the DNA for controlling that protein would need to "just happen" as well. Then, in order to have life, the other 229 different proteins and their DNA would also have to be put together by chance, some of them 10,000-amino-acids long.

And this is just to produce the simplest living cell. What about improving it by random changes into all the life forms that exist, each with its own incredible complexity? For instance, we human beings have more than one billion bytes of information (one gigabyte) in each cell, forming thousands of genes, each coding the information for making a specific protein. The human brain contains a hundred-billion neurons and a hundred-trillion connections, more complex than the internet.

"Well," you might say, "If it is so obvious, why do so many fail to see it?" That is a reasonable question and moves us from the physics to the psychology of evolution.

When I returned from Hong Kong to Minnesota for a year of further training, I looked up some of my professors. The Christian advisor to the Christian Medical Society Student Chapter was a theistic evolutionist. I showed him this data and asked what he thought of it. He said it did not impress him. But I asked again how he answered it and he repeated the same answer. I got a mental picture of a person standing on the freeway with a Mack truck bearing down on him saying, "It doesn't impress me." He then gave me an application form for American Scientific Affiliation, an organization of theistic evolutionists, essentially using the junior high tactic of saying, "everybody is doing it."

I have since discovered that those who do not accept evolution are often given failing grades in science classes. Their degrees may be denied. Their papers may be withheld from publication. Tenure may be refused. They will be rejected and ostracized by their peers. Therefore, it becomes a matter of professional survival to accept evolution. If it is accepted irrationally, it will be defended irrationally. Nevertheless, it may be defended passionately since otherwise, a person would have to acknowledge his dishonesty or lack of courage.

Then another professor made passing reference to evolution in a lecture on hypertension, saying that the kidney evolved in an environment of low salt and when the sodium levels rise, it cannot compensate and by hormonal means raises the blood pressure. After the lecture I asked him if the kidney evolved into this amazing machine that keeps so many things in balance, knowing what to keep and what to toss, why could it not make a minor adjustment? He said that it was the time frame. I said that there was other evidence against evolution and asked if he would like to look at it. Without a moment's hesitation he said, "No!" in a tone that implied that it was a stupid question. Either naively because I did not see the storm brewing or with uncharacteristic courage, I continued by saying that I could leave him some books and papers. He stopped me in mid sentence with, "I know where you are headed with this. You are going to talk about God and Jesus and I have no place for them in my life!" Then turning, he shot back over his shoulder, "And I don't think you can talk about this on a public university campus."

I was flabbergasted. Here was a faculty member of a major medical school who was unwilling to even talk about what may be the most important scientific question possible, namely "Where did we come from." He was not responding intellectually but emotionally. As Theologian John Warwick Montgomery once said, "When you get on a train of thought, check your ticket." The idea is to see where a certain way of thinking is taking us. This professor did, and refused to get on board. Naturally, it did not change the truth, only his chance of learning it.

I realized that on the topic of evolution, I had not been educated but indoctrinated. And I also saw clearly that the Christian in academic science, making his living in a hostile intellectual environment had apparently taken on "protective coloration" saying essentially, "I believe just like all you other guys do, but I say God did it." (This is no threat to the secular scientific community because they can say, "That's fine for you if you need a crutch, but we don't see the need.") Then having made that decision without supporting data, the compromising Christian would be forced to defend it emotionally and without evidence.

I was radicalized, realizing that there were very smart, highly educated people who were completely out to lunch on this issue. There were even warm hearted spiritually alive Christians who were sincerely wrong, and even thought they were protecting the gospel from potential rejection by non-Christians on scientific grounds. Yet in the process they were eroding the authority of Scripture -- if God did it that way, why didn't He just tell us? To say that early man was primitive begs the question

by assuming evolution. Adam and Eve were created perfect with powerful intelligence according to the Scripture. Early man invented all sorts of technology and art very quickly.

Also, if God used a wasteful, destructive, cruel method of creating -- struggle for existence, competition for resources, predation, and death -- then as He said, "It is very good," Adam and Eve stood on top of thousands of feet of fossilized remains of that sordid history. And if that is the case, then physical death did not result from human sin but is God's method of creation. Is that the picture of the God who is personally and intimately involved in the lives of His people? Is a God who takes billions of years to create consistent with the God who will wrap up history in the twinkling of an eye? Is ruthless competition and survival of the fittest consistent with Jesus teaching and example of self-sacrifice and exhortation to care for "the least of these"? If death before sin is true, why did Jesus die physically on the cross and rise again to conquer death and take the penalty for our sins at the same time?

Noted paleontologist, the late Stephen Gould of Harvard, once said something like this, "Evolution is a fact, because we are here." I asked some young children what was wrong with this statement and one replied, "He thinks there is no God." Is it not amazing that Dr. Gould's graduate students either cannot see or dare not state that simple flaw?

There are some basic philosophical problems with the evolutionary position, but they enter in a circuitous manner. First, the scope of science is limited to natural explanations. That is a reasonable limitation to set, so that we do not postulate miracles or magic as the explanation for everything. For example, did the eclipse of the sun end because we beat our drums or was there another factor operating?

By being persistent, natural explanations can be found to many, if not most, phenomena. But can we say, then, that there must be a natural explanation for everything? Science cannot prove that miracles do not exist. It can only admit its inability to deal with them. Yet many scientists confuse the scope of science with the totality of reality.

Actually, there are many assumptions made by the scientist before he even starts to look at data. Firstly, he assumes that he, himself, exists. Now, of course, that is a good place to start. Conversely, if you start with the assumption that you do not exist, why bother with anything?

Also, however, a scientist must assume: that the world exists and that his senses give accurate data about it; that he can manipulate that data with his mind and come up with true conclusions; that he can communicate true information with other people who are seeing the same world; and that the whole universe will not suddenly change tomorrow so that apples fall up instead of down.

It is interesting in this regard to note that science has flourished under a Biblical/Christian world view, which sees the Universe as a rational creation of a rational God. It is also assumed from this view that God made us rational beings capable, to a certain extent, of learning about His creation. It is further assumed that because it is His nature to be unchanging, He will not capriciously change everything; yet that He also occasionally intervenes miraculously.

From the naturalistic point of view, the human brain is just an accidental organ, whose evolutionary purpose is supposedly for improved survival. It was designed and programmed by chance and there is no guarantee that it can come up with truth any more than randomly generated letters will come up with meaningful ideas.

There is also no real mechanism for free will in a naturalistic world. The way the brain works, sensory input activates electrical-chemical pathways -- predetermined by the present random state of the brain and the pathways taken by previous impulses -- and produces a response. In other words, past

experience and present happenstance determine what comes out. The person cannot help what he thinks or says. It was just the molecules bouncing around.

When the evolutionist says he knows his brain evolved, he really has to admit that he could not help but say that. His brain is giving him essentially randomly processed data. Thus, he cannot trust the mind that led him to the conclusion. Anybody confused?

On the other hand, when the evidence for creation is acknowledged, and the psychological and philosophical reasons for its rejection are unmasked, one is free to look objectively at all the data. It is then possible to even see a credible case for a young universe and to discover that the scientific information contained in the Bible is both accurate and reliable.

More important, the case against evolution removes the illusion that atheism is intellectually respectable and throws one back to the most important decision any person ever makes: specifically, realizing that there is indeed an incredibly intelligent and powerful Creator Who made us and everything else, how will we respond to Him?

Reason only brings us so far, for we see a creation that is not only intricately designed and beautiful, we also see evil and suffering. Only the revelation God Himself provided and accredited with miracles and prophecies, the Bible, can fill in those gaps in our understanding.

The Biblical Creationist believes that the existence of God is not only true but terribly important and that the only loving thing to do is to spread the news. This includes the good news as well as the bad news, because it is the bad news that makes the good news so good. We were given free will by our Creator so that we might choose to love and serve Him. But we have tragically chosen to go our own way, what the Bible calls sin. In the process, we have caused the whole of creation to fall into disarray and evil to fall even on innocent babies. Yet the Creator took the initiative to restore all things by becoming human, in Jesus Christ, and taking on Himself the penalty of our sin.

Individually, we can return to the state He intended by humbling ourselves before Him and accepting the forgiveness He offers. Eventually, the great Creator who spoke the whole universe into existence, will bring it to an end, and judge all things. He will re-create what was originally intended to be, but hold each person responsible for the choices made in response to the knowledge each has been given.

This is what it means when the Scripture says: "The wrath of God is being revealed from heaven against all the godlessness and wickedness of men who suppress the truth by their wickedness, since what may be known about God is plain to them, because God has made it plain to them. For since the creation of the world God's invisible qualities - his eternal power and divine nature - have been clearly seen, being understood from what has been made, so that men are without excuse. For although they knew God, they neither glorified him as God nor gave thanks to him, but their thinking became futile and their foolish hearts were darkened." (Romans 1:18-21)

Those are words that do not pass the tests of political correctness, sensitivity or tolerance. Yet they claim to be inspired by God Himself. And if that is true, they need to be taken very seriously indeed. The argument about origins is not a game. It is not even an academic exercise. It is a sober test of intellectual honesty and humility with eternal consequences. God has arranged it so that finding Him does not depend on intelligence or education, but on open spiritual eyes. Those who accept the evidence and acknowledge God as their rightful Lord include people from both ends of the intellectual spectrum. Likewise those who reject. It is also not a question that we should leave to "the experts" because we each will be held responsible for the decision that we make.

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