# Life on Another Planet-Just Around the Corner?

In late April [2007], a group of European scientists made an announcement that created quite a stir in the mainstream media. For the first time, a planet which could potentially support life has been discovered outside of our solar system. One newspaper headline read "Scientists find potentially habitable planet—Discovery a big step in search for life in universe"{1}. Such an announcement raises important questions:

> *Is this newly discovered planet really a likely host for life?*
>
> *Does this discovery imply that the earth is not unique is its ability to support complex life as promoted by most proponents of Intelligent Design?*
>
> *If this planet does (or did) host life, would that detract from or support our belief in a transcendent creator?*

By considering these questions, we realize that this discovery provides more support for the theory of Intelligent Design than for Darwinism.

## A Potentially Habitable Planet?

This planet orbits the red dwarf star, Gliese 581 and has been designated as 581 c. It cannot be seen from earth. It was detected by examining the effect its gravity had on the light emanating from its star. Based on that data, these scientists projected that this planet may have temperatures between 32 and 104 degrees. With this temperature range and at 1.5 to 2 times the diameter of earth, it might be able to hold liquid water. In addition, its red dwarf star appears to be quite old and stable, suggesting that its planets may have been around

for billions of years. Thus, some of the characteristics necessary for a naturalistic explanation of life may be associated with this planet.

However, a habitable planet requires much more than "just add water"{2} plus time. Further analysis of Gliese 581 c indicates that it probably has many characteristics unfavorable to life. Examples include:

> *It does not rotate around its axis, meaning one side is always in the sun while the other side remains in constant darkness. Some scientists are now suggesting that its surface temperatures will be much hotter than the original estimates.*
>
> *Since it orbits a red star with lower levels of electromagnetic radiation than our sun, this greatly limits the effectiveness of photosynthetic reactions.*

## Uniqueness of Earth

On the Reasons To Believe Web site{3}, astrophysicist Hugh Ross has posted several articles identifying characteristics of our galaxy and earth that are necessary for life. In one paper{4}, he estimates the probability of the universe having a planet like earth exhibiting all 322 characteristics identified as critical for life. A high level analysis of the list in his paper indicates that Gliese 581 c may satisfy 112 of these characteristics (primarily because it exists in the same universe and galaxy as earth). Gliese 581 c is the first out of 220 planets identified outside our solar system that exists in the habitable temperature zone.{5} That leaves at least 210 questions unanswered such as:

> *Does it have a large enough moon to create tidal patterns?*
>
> *Does it have just the right size, protecting planets to reduce the number of asteroid hits?*

*Does it have the right thickness of crust?*

*Does it have the right atmosphere?*

*Does it have the right mixture of minerals?*

Using the probability estimates for each remaining characteristic, a conservative estimate for the probability that this planet could support life is 1 in $10^{199}$ (1 with 199 zeros after it). Please remember that this extremely low probability (essentially zero) is simply to have a planet that is habitable. It does not include the similarly minuscule probability of even the simplest life forms arising from inorganic matter. As renowned astrophysicist Stephen Hawking stated, "I expect there will be planets like Earth, but whether they have life is another question. We haven't been visited by little green men yet."{6} Since we can be virtually certain that this planet does not support any life, we may not want to spend the effort to travel to it—especially, when with current technology, it would take over 400,000 years to reach this planet.

## Life on another planet—What would it mean?

Would finding life on another planet be a victory for Darwinism and proponents of naturalistic evolution as the sole force behind life as we know it? Quite the contrary! Given the extremely small probability of finding another habitable planet in our universe, multiplied by the equally small probability of life generating spontaneously on a habitable planet, finding life on another planet would have to be considered a miracle.

In other words, finding even the simplest life forms on another planet would greatly increase the scientific evidence for intelligent design. Only a transcendent intelligent

designer would be able to overcome those long odds to create life in multiple places in the universe. The theological implications of such a discovery would depend upon the nature of the life forms and will be left for future ponderings.

## Bottom Line

The discovery of Gliese 581 c is an interesting event in astronomy which, if anything, further supports our view that the earth is very likely unique in its ability to support complex life. If life is ever discovered on another planet, it will further strengthen the position of intelligent design as the best theory to explain the evidence.

**Notes**

1. *Dallas Morning News*, April 24, 2007.

2. Jay Richards, Acton Institute, formerly with The Discovery Institute, the institutional home of the Intelligent Design movement.

3. www.reasons.org

4. Hugh Ross, "Probability for Life on Earth, 2004 April Update", Reasons to Believe, 2004.

5. It is interesting to note that Ross's paper allocated a probability of 1 in 1,000 to that same factor, which is the same order of magnitude as 1 out of 220. So if we used 1 out of 220 instead, the calculated probability would be less than 1 in $10^{198}$.

6. *Dallas Morning News*, April 24, 2007.

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# Redeeming Darwin: The Intelligent Design Controversy

*Dr. Bohlin, as a Christian scientist, looks at the unwarranted opposition to intelligent design and sees a group of neo-Darwinists struggling to maintain the orthodoxy of their position as the evidence stacks up against them. In this article, he summarizes what's happening in academia and the lack of sound scientific basis for their attacks agains intelligent design proponents.*

## What's All the Fuss?

There's a strange phenomenon popping up around the country. Scientists are stepping out of their laboratories and speaking to the media about something that has them quite concerned. It's not the threat of a new flu pandemic; it's not the threat of nuclear weapons proliferation, or even the possible threat of global warming. It's something called Intelligent Design.

In this article we will explore what has so many people upset about Intelligent Design. To do that we will need to establish just what ID is and what the major complaints are about evolution that may be answered by a theory like ID. We will take a closer look at some of the most common examples of ID from astronomy and biology. Then we will take a closer look at the cultural confusion and reaction to this rather simple hypothesis.

So what are scientists and journalists saying? A *Baltimore Sun* reporter put it this way: "In the border war between science and faith, the doctrine of 'intelligent design' is a sly subterfuge—a marzipan confection of an idea presented in the shape of something more substantial."{1}

In other words, Intelligent Design is little more than a sugar cookie promising more than it can deliver.

A science journal editorial said this: "The attack on Darwinism by supporters of Intelligent Design is a straightforward attack on science itself. Intelligent Design is not science because it proposes a supernatural designer as explanation for evolutionary change."{2}

Uh-oh! Science and the supernatural indeed rarely go well together, at least over the last 150 years. But is that what ID actually says? We'll explore that a little later but for now let's find out what's really at stake in this debate over evolution and Intelligent Design.

One college textbook said this: "Evolution is a scientific fact. That is, the descent of all species, with modification, from common ancestors is a hypothesis that in the last 150 years or so has been supported by so much evidence, and has so successfully resisted all challenges, that it has become a fact."{3}

Let's look at a few reasons why some scientists are skeptical of the confidence shown by so many other scientists about Darwinian evolution.{4}

## Is There Scientific Proof for Evolution?

Evolution is always portrayed as a slow gradual process. Organisms are portrayed as so well adapted to their environment that they could only afford to change very slowly. But one of the most dramatic events in earth history is something called the Cambrian explosion. The Cambrian is a period of earth history that many earth scientists and paleontologists estimate to have begun over 540 million years ago.{5}

Instead of slow steady evolutionary change, we see a sudden burst of change. The subtitle to a *Time* magazine article put

it this way: “New discoveries show that life as we know it began in an amazing biological frenzy that changed the planet almost overnight.”{6}

For most of the previous 3 billion years of earth history only single-celled organisms were found. “For billions of years, simple creatures like plankton, bacteria and algae ruled the earth. Then, suddenly, life got very complicated.”{7}

So the appearance of most of the major categories of animals happened in a very short period of time, some say less than five million years, when it should have taken tens and maybe even hundreds of millions of years. One geologist who helped pinpoint the very short time frame of the Cambrian explosion expressed this challenge: “We now know how fast fast is. And what I like to ask my biologist friends is, how fast can evolution get before they start feeling uncomfortable?”{8}

The evolutionary process that biologists study in nature today is far slower than what is found in the Cambrian explosion. This is evidence that doesn’t fit the theory. Yet the Cambrian explosion is left out of most textbooks.

Another problem for evolution is its dependence on mutations to bring about major changes in organisms. But for all our studies of mutations we haven’t seen much change. The late French evolutionist, Pierre Paul Grasse, said, “What is the use of their unceasing mutations? . . . a swing to the right, a swing to the left, but no final evolutionary effect.”{9}

Mutations only produce alternate forms of what already exists. New functions don’t suddenly arise by mutations.

## Evidence for Intelligent Design, Part One

Intelligent Design is an intellectual movement that challenges Darwinism and its dependence on random/chaotic processes coupled with selection. If people are not alerted to the fact that Darwinism is less than sufficient, then other theories

are wasting their time. They will never get a fair hearing.

Intelligent Design is also a scientific research program that investigates the effects of intelligent causes, which are effects of high specificity coupled with extremely small probabilities.

Now that was a mouthful. What do I mean by high specificity coupled with small probability? Think of the lottery. Someone always wins the lottery despite the long odds. So improbable things do indeed happen.

But let's make this specific. Let's say your sister wins the lottery. Now that is someone you specifically know; but again someone always wins the lottery so the fact that it's your sister doesn't warrant any special attention.

Now let's make things a bit *less* probable and much *more* specific. Let's say your sister wins the lottery not once but three weeks in a row. Now what are you thinking? Like most people you're thinking something is not right. The same person doesn't win the lottery three weeks in a row.

You suspect cheating. You suspect Intelligent Design. Someone with a clever mind is somehow manipulating the lottery.

In astronomy, it has been assumed for several decades that our earth is not likely to be very special. As huge as the universe is, with billions of galaxies, each with billions of stars, surely there are thousands if not millions of planets like ours that are suitable for life.

But lately, more and more planetary astronomers, astrophysicists, cosmologists, and philosophers are realizing that earth is actually quite unique. The recipe for earth is more than just a planet plus mild temperatures plus water.

Our earth is 93,000,000 miles from the sun. Five percent closer and we would be a hothouse like Venus with no chance

for life. If we were twenty percent farther away, we would be a frozen wasteland like Mars. We're just right. Liquid water is necessary for life and our earth has an abundance all year long.

## Evidence for Intelligent Design, Part Two

It's really quite amazing to realize that biologists universally recognize the design of living things. Oxford biologist and atheist Richard Dawkins said on page one of his book *The Blind Watchmaker*: "Biology is the study of complicated things that give the appearance of having been designed for a purpose."{10}

Now notice he said, "give the appearance of having been designed for a purpose." Living things certainly look designed, but according to Dawkins, it's an illusion. He spends the rest of his book trying to show how mutation and natural selection, the "blind watchmaker," has created this illusion.

But he does admit things look designed. Well, if it looks designed, maybe it is.

Michael Behe introduced the concept of irreducible complexity in his book *Darwin's Black Box*. Something is irreducibly complex if it is composed of two or more *necessary* parts. Remove one part and function is not just impaired but destroyed. His well-known example is a mousetrap.

A mousetrap is composed of five integral parts: the platform to which everything is attached, the hammer which does the dirty work, the spring which provides the force, the holding bar to keep the hammer in tension, and finally the catch to keep the holding bar in tenuous position. Remove any one of these parts and the mousetrap is not just less efficient; it ceases to function at all. All five parts are necessary. You can't build a mousetrap by natural selection by adding one

piece at a time because it has no function to select until all five parts are together.

Behe showed that the cell, Darwin's "Black Box," is filled with irreducibly complex molecular machines that could not be built by natural selection. In Darwin's time, scientists could only see the cell under very low power microscopes that told little about what was going on inside. It was a black box. Over the last fifty to sixty years, the cell has been revealing its secrets. We have discovered a maze of complexity and information.

If it looks designed, maybe it is!

## ID, Science, Education, and Creation

The legitimacy of Intelligent Design as science was at the heart of a recent federal court case, pitting a group of parents and students against the school board from Dover, Pennsylvania. The Dover School Board adopted a policy that mandated a statement be read before all biology classes, indicating that evolution was a theory that needed critical evaluation and that intelligent design was a rival theory that students could seek information about from the library.

Judge Jones not only struck down the policy as unconstitutional, he went further to declare that ID is not science and was motivated purely by religion since it was just a repackaged creationism. His written opinion was scathing. This of course delighted proponents of evolution and many have declared that ID now is dead.

Judge Jones claimed that ID simply is not science and is religiously motivated; therefore it should not even be mentioned in a high school science classroom.

The first question that should occur to you is, Why does a federal judge with no training in science use his courtroom as a means of determining what is and is not science? This

problem has been referred to as the demarcation problem. How do we demarcate science from non-science? People putting down ID often refer to it as "pseudo-science" or simply "unscientific." But philosopher of science Larry Laudan writes, "If we would stand up and be counted on the side of reason, we ought to drop terms like 'pseudo-science' and 'unscientific' from our vocabulary; they are just hollow phrases which do only emotive work for us."{11}

Judge Jones claims that ID has been refuted by mainstream scientists. He cites the work of Kenneth Miller in particular. This is rather strange indeed. For ID to be refuted means that it has been tested by science and found wanting. If it is testable scientifically to the degree that it can be refuted, then it is science after all. This logical contradiction does not seem to occur to Judge Jones.

ID uses empirical data to demonstrate the plausibility of a design inference. It's as scientific as Darwinism.

**Notes**

1. Baltimore *Sun*, August 13, 2006.
2. *Cell*, January 13, 2006.
3. Douglas Futuyma, *Evolution* (Sinauer Assoc., Sunderland, Mass., 2005), xv.
4. To learn more about Intelligent Design and Evolution visit our website, probe.org, or call us at 1-800-899-PROB, for information about our new DVD based small group curriculum, "Redeeming Darwin: The Intelligent Design Controversy." Once again we have teemed up with EvanTell to produce a small group curriculum designed to inform the church about Intelligent Design and how to use a conversation about this controversial topic to share the gospel.
5. Meyer, Stephen C., Marcus Ross, Paul Nelson and Paul Chien, 2003, *The Cambrian explosion: Biology's Big Bang in Darwinism, Design, and Public Education*, John Angus Campbell and Stephen C. Meyer, eds., East Lansing, Michigan: Michigan State

University Press, pp. 323-402.
6. *Time*, December 4, 1995 (cover).
7. Ibid., 67.
8. Samuel Bowring, *Time*, 1995, 70.
9. Pierre-Paul Grassé quoted in *The Natural Limits to Biological Change*, Lane P. Lester and Raymond G. Bohlin, Richardson, Texas: Probe Books 1984., p. 88.
10. Dawkins, Richard, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe without Design*, Nerw York, New York: Norton, 1986.
11. Larry Laudan, (1983) "The demise of the demarcation problem," in Michael Ruse (ed.) *But Is It Science?*, Amherst, Prometheus, 337-350.

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# Darwinism and Truth

## Darwinism and the Fact/Value Split

Nancy Pearcey writes in her book *Total Truth* that Christians must counter the effects of our secular culture and mindset by developing a consistent and comprehensive biblical worldview.{1} In the middle chapters of her book, she demonstrates how Christians should do this with the question of origins.

Earlier in her book she notes that our society has divided truth into two categories. She calls this the sacred /secular split or the private/public split or the fact/value split. They are different ways of saying the same thing. Religion and moral values are subjective and shoved into the upper story where private opinions and values reside. And in the lower

story are hard, verifiable facts and scientific knowledge.

There is another key point to this split. The two spheres should not intersect. In other words, it would be bad manners and a violation of logic to allow your personal and private choices and values to intersect with your public life. As the popular saying goes, that would be "shoving your religion down someone's throat."

Ray Bohlin's review of Pearcey's book provides further explanation for how this idea plays out in society.{2}

Darwinists accept this split and have even tried to convince Christians that in this way religion is safe from the claims and conclusions of Darwinian evolution. But a brief glance at the best seller list shows that evolutionists regularly invade this upper story of values with their harsh criticism.

In *The God Delusion*, Richard Dawkins says that religious belief is psychotic, and arguments for the existence of God are nonsense. Sam Harris echoes that sentiment in his bestselling book, *Letter to a Christian Nation*. Daniel Dennett, in his book *Breaking the Spell*, believes that religion must be subjected to scientific evaluation.

Nancy Pearcey shows that Darwinism leads to naturalism. And this is a naturalistic view of knowledge where "theological dogmas and philosophical absolutes were at worst totally fraudulent and at best merely symbolic of deep human aspirations."{3} In other words, if Darwinian evolution is true, then religion and philosophical absolutes are not true. Truth, honesty, integrity, morality are not true but actually fraudulent concepts and ideas. If we hold to them at all, they were merely symbolic but not really true in any sense.

Daniel Dennett, in his book *Darwin's Dangerous Idea,* says that Darwinism is a "universal acid" which is his allusion to a children's riddle about an acid that is so corrosive that it eats through everything including the flask that holds it. In

other words, Darwinism is too corrosive to be contained. It eats through every academic field of study and destroys ethics, morality, truth, and absolutes. When it is finished, Darwinism "eats through just about every traditional concept and leaves in its wake a revolutionized world-view."{4}

## Darwinism and Naturalism

Pearcey writes that "Darwinism functions as the scientific support for an overarching naturalistic worldview."{5} Today scientists usually assume that scientific investigation requires naturalism. But that was not always the case.

When the scientific revolution began (and for the next three hundred years), science and Christianity were considered to be compatible with one another. In fact, most scientists had some form of Christian faith, and they perceived the world of diversity and complexity through a theistic framework. Pearcey points out that Copernicus, Galileo, Kepler, Newton, and others sought to understand the world and use their gifts to honor God and serve humanity.

By the nineteenth century, secular trends began to change their perspective. This culminated with the publication of *The Origin of Species* by Charles Darwin. His theory of evolution provided the needed foundation for naturalism to explain the world without God. From that point on, social commentators began to talk about the "war between science and religion."

By the twentieth century, G. K. Chesterton was warning that Darwinian evolution and naturalism was becoming the dominant "creed" in education and the other public arenas of Western culture. He said it "began with Evolution and has ended in Eugenics." Ultimately, it "is really our established Church."{6}

Today, it is easy to see how scientists believe that naturalism and science are essentially the same thing. They

often slip from physics to metaphysics. In other words, they leave the boundaries of science and begin to make philosophical statements about the nature of the universe. While scientists can tell us how the universe operates, they cannot tell us if there is anything outside of the universe.

But that didn't stop astronomer Carl Sagan in the PBS program "Cosmos." The first words you hear from him are: "The Cosmos is all that is or ever was or ever will be."{7} In other words, the universe (or Cosmos) is all there is: no God, no heaven.

Now, Carl Sagan's comment is not a scientific statement. It's a philosophical statement. And it set the ground rules for the rest of the program. Nature is all there is. In many ways it sounds like a creed. It is as if Carl Sagan was attempting to modify the *Gloria Patri*: "As it was in the beginning, is now, and ever will be."

Do those ideas end up in our children's books? Nancy Pearcey tells the story of picking up a science book for her son, *The Bears' Nature Guide*, which featured the Berenstain Bears. The Bear family goes on a nature walk. Turn a few pages in the book and you will see a sunrise with these words in capital letters: "Nature . . . is all that IS, or WAS, or EVER WILL BE!"{8} Sounds like a heavy dose of Carl Sagan's naturalism packaged for young children courtesy of the Berenstain Bears.

If you are looking for a resource to counter this Darwinian and naturalistic indoctrination, let me recommend Probe's DVD series on "Redeeming Darwin." It will give you the intellectual ammunition you need.

In *Total Truth*, Nancy Pearcey discusses many of the so-called "icons of evolution" that Jonathan Wells documents in his book by that title.{9} These examples show up in nearly every high school and college biology textbook. But these examples which are used to "prove" evolution are either fraudulent or fail to

prove evolution.

Let's start with a piece of evidence for evolution that was found where Charles Darwin first got his inspiration for his theory of evolution: the Galapagos Islands. The islands can be found off the coast of South America. On those islands are finches, which have come to be known as Darwin's finches. It's hard to find a biology textbook that doesn't tell the story of these finches.

One study found that during a period of drought, the average beak size of these finches increased slightly. The reason cited for this is that during these dry periods, the most available seeds are larger and tougher to crack than at other times. So birds with larger beaks do better in conditions of drought.

I spent an afternoon looking at specimens of Darwin's finches when I was in graduate school at Yale University and should point out that the changes in beak thickness is minimal and thus measured in tens of millimeters (thickness of a thumbnail). Moreover, the changes seem to be cyclical. When the rains returns, the original size seeds appear and the average beak size returns to normal.

This is not evolution. It is an interesting cyclical pattern in natural history. But it's not evolution. Nevertheless, one science writer enthusiastically proclaimed that this is evolution happening "before [our] very eyes."{10}

If this is evolution occurring then we should be seeing macro changes that would allow these finches to evolve into another species. But this cyclical pattern shows just the opposite. These minor changes in beak size and thickness actually allow them to remain finches under changing environmental conditions. It does not show them evolving into another species.

So what has been the response from the scientific

establishment? The National Academy of Sciences put out a booklet on evolution for teachers. The booklet did not even mention that the average beak size returned to normal after drought. Instead the booklet makes unwarranted speculation about what might happen if these changes were to continue indefinitely for a few hundred years. "If droughts occur about once every ten years on the islands, a new species of finch might arise in only 200 years."{11}

Is this an accurate conclusion based upon the facts of natural history? It seems to be a clear example of misleading teachers (who in turn will unintentionally mislead their students). The booklet teaches that the beak sizes in Darwin's finches are directional and evolutionary rather than cyclical and reversible.

A column in the *Wall Street Journal* made this point. "When our leading scientists have to resort to the sort of distortion that would land a stock promoter in jail," Phillip Johnson said, "you know they are in trouble."{12}

Ray Bohlin's review of Jonathan Well's book, *Icons of Evolution*, provides further detail on some of these examples.{13}

## Peppered Moths

One example that appears in most biology textbooks is the story of the peppered moths in England. The moths appear in two forms: dark gray and light gray. During the Industrial Revolution, the factories produced pollution that darkened the tree trunks. This made it easier for birds to catch and eat the lighter colored moths. Later, when pollution was cleaned up, the tree trunks were lighter and it made it easier for the birds to catch the darker colored moths.

On its face, all this example proves is that the ratio of dark colored and light colored moths changed over time. In many

ways, this is nothing more than another example of cyclical changes that we just discussed concerning Darwin's finches.

But there is much more to the story. Peppered moths don't actually perch on tree trunks. Actually they are quite torpid during the daylight hours and rest in the upper canopy of the trees.

If you have ever been in a biology class you have seen pictures of these moths on the tree trunks. You might even have seen a film that was made decades ago of birds landing on the trees and catching moths. It turns out that in order to create the photos and the film scientists put the moths in a freezer to immobilize them and then glued them to the tree trunks.

How did this example become such an enduring icon of evolution? Scientists accepted it for many years uncritically because they wanted to believe it and needed a visual example to show evolution. The peppered moth story fit the bill and quickly became "an irrefutable article of faith."{14}

Now there are journal articles, and even books, that document the scientific scandal surrounding the story of the peppered moths. One leading evolutionist noted that the story was a "prize horse in our stable of examples." He goes on to say that when he learned the truth, it was like learning "that it was my father and not Santa Claus who brought the presents on Christmas Eve."{15}

But what is so amazing is that this example still shows up with regularity in biology textbooks, even though most scientists and textbook writers know the story is untrue. One reporter even interviewed a textbook writer who admitted that he knew the photos were faked but used them in the biology textbook anyway. "The advantage of this example," he argued, "is that it is extremely visual." He went on to add that "we want to get across the idea of selective adaptation. Later on,

they can look at the work critically."{16}

The examples of the falsified "icons of evolution" demonstrate the extremes to which many Darwinists will go to "prove" the theory of evolution. They keep an incorrect example in the textbooks simply because it is visual and supports the theory of evolution and worldview of naturalism.

## Fraudulent Embryos

Nearly every textbook has pictures of developing vertebrate embryos lined up across the page to demonstrate an evolutionary history being replayed in the womb. These pictures are placed there to show common ancestry and thus prove evolution. During this day, Charles Darwin called the similarity of vertebrate embryos "by far the strongest single class of facts in favor of" his theory of evolution.{17}

In biology class many of us learned the phrase "ontogeny recapitulates phylogeny." That means that these developing embryos go through similar stages that replay the stages of evolution. So this supposedly was embryological proof of evolution.

But it turns out that the pictures were and are an elaborate hoax. German scientist Ernst Haeckel drew them in order to prove evolution. He deliberately drew the embryos more similar than they really are.

What is so incredible about this hoax is that is was known more than a century ago. Scientists knew the drawings were incorrect, and his colleagues accused him of fraud. An embryologist, writing in the journal *Science*, called Haeckel's drawings "one of the most famous fakes in biology."{18}

Now you would think that a hoax uncovered more than a hundred years ago would certainly not make it into high school and college biology textbooks. But if you assumed that, you would

be wrong. Many textbooks continue to reprint drawings labeled as a hoax a century ago.

So why do Darwinists continue to believe in the theory of evolution and even use examples to "prove" evolution that are not true. It may be due to a bias in their worldview. The only theories that they believe are acceptable are those that are developed within a naturalistic framework.

Richard Dawkins noted: "*Even if there were no actual evidence* in favor of the Darwinian theory . . . we would still be justified in preferring it over rival theories."{19} Think about that statement for a moment. Even if there were no evidence for evolution, Darwinists would still believe it because it is naturalistic.

Another professor made an even more incredible statement. He said: "Even if all the data point to an intelligent designer, such an hypothesis is excluded from science because it is not naturalistic."{20} Now think about that. Even if the evidence points to intelligent design rather than to evolution, it is excluded from consideration because it is not naturalistic.

As you can see from these two quotes (as well as from some of the other material presented here), the commitment to evolution is more philosophical than scientific. Nancy Pearcey concludes that "the issue is not fundamentally a matter of evidence at all, but of a prior philosophical commitment."{21}

Again, let me also recommend Probe's DVD series on "Redeeming Darwin" that is available through Probe's website www.probe.org.

**Notes**

1. Nancy Pearcey, *Total Truth: Liberating Christianity from Its Cultural Captivity* (Wheaton, Ill.: Crossway Books, 2004).
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5. Pearcey, *Total Truth*, 207.
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7. Carl Sagan, *Cosmos* (NY: Random House, 1980), 4.
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18. Michael Richardson, quoted in Pennisi, "Haeckel's Embryos: Fraud rediscovered," *Science* 277 (5 September 1997), 1435.
19. Richard Dawkins, *The Blind Watchmaker* (NY: Norton, 1986), 287, emphasis in original.
20. S.C. Todd, "A view from Kansas on that evolution debate," *Nature*, 30 September 1999, 423.
21. Pearcey, *Total Truth*, 169.

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# Is Intelligent Design Dead?

## What Is Intelligent Design?

On December 20, 2005, Judge Jones handed down his decision in the lawsuit brought by several citizens from Dover, Pennsylvania, who objected to a new policy adopted by the Dover School Board. This policy mandated a statement be read before all biology classes indicating that evolution was a theory that needed critical evaluation and that Intelligent Design was a rival theory that students could seek information about from the library.

Judge Jones not only struck down the policy as unconstitutional; he went further to declare that ID is not science and was purely motivated by religion since it was just a repackaged creationism. His written opinion was scathing. This of course delighted proponents of evolution and many have declared that ID now is dead.

In what follows I will examine this "death certificate" and declare it null and void. ID is alive and well, and the coming months and years will demonstrate convincingly the health of ID. But first, let's make sure we know what ID really is.

The media often simply portray ID in a negative context. One student reporter from Southern Methodist University recently put it this way: "Essentially ID is a theory that proposes that there are parts to a cell that are simply too complex to have been evolved." He adds as an afterthought the idea "that rather they have been altered by some sort of 'designer.'"{1}

But ID is truly more than just a critique of evolution. The Discovery Institute's Web site describes ID this way: "The theory of intelligent design holds that certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection."{2}

It's interesting to realize that many evolutionists recognize that living things in particular *look* as if they have been designed. British evolutionist Richard Dawkins said, "Biology is the study of complicated things that give the appearance of having been designed for a purpose."{3} Many in the ID community simply reply, "If it looks designed, maybe it is!" So ID is simply an attempt to quantify scientifically what most people clearly recognize: the design of the universe and of living things.

The major contention with evolution is the claim that mutation and natural selection can account for everything we see in living things. ID accepts that evolutionary processes do account for some change in organisms over time. But ID says certain structures, like the bacterial flagellum that closely resembles a human designed rotary motor, are better explained through an intelligent cause.

In particular, the universal genetic code has all the distinguishing characteristics of coded information or language. Our experience tells us that language only comes from a mind. If so, then the genetic code also likely came from a mind.

## Is ID Science?

Judge Jones made several errors in his reasoning. The recent book from the Discovery Institute, *Traipsing Into Evolution,* answers Judge Jones on several levels.{4} I will focus on three areas: first, how a federal judge can tell us what

science is and is not when philosophers of science continue to struggle with this; second, Judge Jones' claim that ID has been refuted by scientists; and third, Judge Jones' claims that ID has not been accepted by the scientific community. For these and other reasons, Judge Jones claimed that ID simply is not science and is religiously motivated; therefore it should not even be mentioned in a high school science classroom.

The first question that should occur to you is, Why does a federal judge with no training in science use his courtroom as a means of determining what is and is not science? This problem has been referred to as the "demarcation problem." How do we demarcate science from non-science? Philosopher of science Larry Laudan writes, "If we would stand up and be counted on the side of reason, we ought to drop terms like 'pseudo-science' and 'unscientific' from our vocabulary; they are just hollow phrases which do only emotive work for us."{5}

In addition, philosopher Del Ratzch argues that there are very real possible payoffs for science in considering ID.{6} Judge Jones knew of these positions but chose to ignore them.

Judge Jones claims that ID has been refuted by mainstream scientists. He cites the work of Kenneth Miller in particular. This is rather strange indeed. For ID to be refuted means that it has been tested by science and found wanting. If it is testable scientifically to the degree that it can be refuted, then it is science after all. This logical contradiction does not seem to occur to Judge Jones.

The judge ruled further that ID cannot be science because it is not accepted by the scientific community. But science is not a popularity contest. New and controversial theories are never accepted by a majority of scientists at the beginning, but that doesn't make them unscientific. The Discovery Institute now lists over six hundred scientists from around the world who are willing to sign a list saying they are skeptical of Darwinism. Surely that counts for something.

ID uses empirical data to demonstrate the plausibility of a design inference. It's as scientific as Darwinism.

## Is ID Just Reinvented Creationism?

Several parents challenged a directive by the Dover School Board allowing the mention of Intelligent Design in the science classrooms of this district. Judge Jones ruled the directive unconstitutional. One of his reasons was that ID is just reinvented creationism which the Supreme Court has already ruled is substantially a religious doctrine and not appropriate as science.

One of the texts that the Dover school board members made available was the supplemental text *Of Pandas and People.*{7} Having subpoenaed early drafts of the book from the late '80s, the ACLU tried to show that *Pandas* only began using the phrase "Intelligent Design" after the Supreme Court struck down the Louisiana creation law. Therefore Judge Jones ruled that ID is in fact just creationism with a new label.

While it is true that the Supreme Court decision did indeed affect editorial decisions in *Pandas*, it's not for the reasons Judge Jones assumed. The authors and editors of *Pandas* knew their ideas were not the same as creationism and were wrestling with what to call it. Once the Supreme Court ruled that "creationism" meant a literal six day creation, the authors of *Pandas* knew they needed to use a different term.{8}

In addition, the term Intelligent Design had been floating around for several years before *Pandas* was in print. Lane Lester and I used the term in our book *The Natural Limits to Biological Change* in 1984, three years before the Supreme Court decision in *Edwards vs. Aguillard* struck down the Louisiana creationism law. We said, "The simple point is that intelligent design is discernibly different from natural design. In natural design, the apparent order is internally

derived from the properties of the components; in creative design, the apparent order is externally imposed and confers new properties of organization not inherent in the components themselves."{9}

Furthermore, none of the leading scientists of the Intelligent Design movement were ever a part of the creationist movement. People like Phil Johnson, Michael Behe, William Dembski, Charles Thaxton, and Steve Meyer never considered themselves to be part of this group. Their ideas were always similar but definitely not the same.

Some creationist groups today even go to great lengths to distance themselves from the ID movement because ID essentially maintains that the Designer cannot be known from the science alone. Therefore, because of ID's attempts to stop short of naming the Designer, some creationist groups will sell some ID books but not endorse their program. This would be very strange indeed if ID is just relabeled creationism.

Once again, Judge Jones got it wrong.

## Traipsing Into the Dover Court Decision

In their excellent discussion of the Dover decision, the authors of *Traipsing into Evolution* attack six accusations against Intelligent Design used by Judge Jones.{10}

On page sixty-two of the Dover decision Judge Jones said, "ID violates the centuries-old ground rules of science by invoking and permitting supernatural causation."{11} The main problem for Judge Jones is that ID scientists said repeatedly prior to the trial and in direct testimony during the trial that the science of ID is not able to identify the Designer. It was expressly pointed out to Judge Jones during the trial that the type and identity of the intelligent agent supposed by ID is only identified by religious and philosophical argumentation. That does not mean that design itself cannot be detected

scientifically. Indeed, if we ever receive an obviously intelligent message from outer space, we will most certainly be able to determine it has an intelligent cause even though we may have no idea who or what sent it.{12}

Judge Jones also states that "the argument of irreducible complexity, central to ID, employs the same flawed and illogical contrived dualism that doomed creation science in the 1980s." What Judge Jones is referring to is his notion that ID is just a negative argument about Darwinism. If Darwinism can be shown to be false, then ID wins.

But this grossly misrepresents ID. Michael Behe's formulation of irreducible complexity asserts that Darwinian evolution does not predict irreducibly complex machines in the cell where Intelligent Design expressly does predict such machines. So there is definitely a negative component to irreducible complexity. But Darwin himself said that "If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down."{13} Darwin invited a negative critique.

But there is also a clear positive case for irreducible complexity. When we come across a machine, we intuitively understand it to be intelligently caused, whether we think it functions effectively or not. Intelligent agents can and do produce machines. The concept of irreducible complexity is one way to determine what a machine is.

Judge Jones' third complaint against Intelligent Design was that the attacks on evolution by ID advocates have all been refuted by the scientific community. Judge Jones ignored the fact that at the time of the decision, over five hundred scientists had signed a statement acknowledging their dissent from Darwinism. That list now stands at over six hundred.{14} Certainly some scientists have challenged Behe, Dembski, and others. But their criticisms have been answered effectively

both online and in print.{15}

Judge Jones' fourth accusation was that Intelligent Design had failed to gain acceptance in the scientific community. But this is clearly a matter of opinion. As I mentioned previously, over six hundred scientists now express their dissent from Darwin, and most of those also support Intelligent Design, many of them at mainline universities.

No doubt there has been and continues to be strident opposition to Intelligent Design in the scientific community, especially among biologists. But there is always resistance in science to new ideas. And much of the opposition is for philosophical reasons, not scientific ones. Many Darwinists such as Will Provine from Cornell and Richard Dawkins from Oxford are very up front that their adherence to evolution and their disdain for Intelligent Design is over the issue of a Designer by any name. The science is just a backdrop.

Judge Jones' fifth complaint against Intelligent Design was that proponents of ID have not published in the scientific peer-reviewed literature. This is simply not true. De Wolf et al., in their book *Traipsing Into Evolution,* document in Appendix B a list of thirteen different peer-reviewed articles and books by ID scientists advocating different aspects of the theory. This is admittedly a small number, but that is because there is clear evidence, documented in the same book, of editors having to shy away from ID papers and responses for fear of intimidation by the scientific community. One editor who followed established procedure in getting an ID article reviewed and published was nearly run out of his institution for the offense.

Finally, Judge Jones declared that ID has not been the subject of testing and research. Indeed, any scientific theory needs to be testable in some form or it is not likely to be of some use. But ID microbiologist Scott Minnich testified right in

Judge Jones' courtroom that in his laboratory at the University of Idaho he has demonstrated the irreducible complexity of the bacterial flagellum. Minnich also testified to other research he was familiar with which also was testing principles from ID.{16}

As I have summarized, Judge Jones failed to make a reasonable and fair evaluation of the evidence. Intelligent Design is far from dead. Rather, such a poor decision in the Dover case may actually serve ID well as it self-destructs in the years to come.

**Notes**

1. Brian Wellman, April 26, 2006, Merits of intelligent design, evolution debated, www.smudailycampus.com/vnews/display.v/ART/2006/04/26/444ef833078bc
2. The Web site of the Discovery Institute's Center for Science and Culture, www.discovery.org/csc/topQuestions.php.
3. Richard Dawkins, *The Blind Watchmaker* (New York: W. W. Norton, 1986), 1.
4. David De Wolf, John West, Casey Luskin, and Jonathan Witt, *Traipsing Into Evolution: Intelligent Design and the Kitzmiller vs. Dover Decision* (Seattle, WA: Discovery Institute Press, 2006), 25-57.
5. Larry Laudan, "The demise of the demarcation problem," in Michael Ruse (ed.), *But Is It Science?,* (Amherst, MA: Prometheus, 1983), 337-350.
6. Del Ratzch, *Nature, Design, and Science: The Status of Design in Natural Science* (Albany, NY: State University Press of New York, 2001), 147.
7. Percival Davis and Dean H. Kenyon, *Of Pandas and People: The Central Question of Biological Origins* (Dallas, TX: Haughton Publishing Co., 1989), 166 pp.
8. DeWolf *et al.,* 22.
9. Lane P. Lester and Raymond G. Bohlin, *The Natural Limits to Biological Change* (Richardson, TX: Probe Books, 1984),

153-154.
10. DeWolf *et al.*, 29-45.
11. *Kitzmiller et al. v. Dover Area School Board*, No. 04cv2688, 2005 WL 3465563, *26 (M.D. Pa. Dec. 20, 2005).
12. I don't expect we ever will hear from any extraterrestrials. Earth appears to be more and more unique with every passing day. See my article "Are We Alone in the Universe?" at www.probe.org/are-we-alone-in-the-universe-2/.
13. Charles Darwin, *On the Origin of Species by Means of Natural Selection or the Preservation of Favoured Races in the Struggle for Life* (New York: New American Library [A Mentor Book], 1958), 171 (this is a reprint of the 1872 sixth edition).
14. From the Web site of the Center for Science and Culture, www.dissentfromdarwin.org/ accessed October 11, 2006. The statement reads; "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."
15. William Dembski, *The Design Revolution: Answering the Toughest Questions About Intelligent Design* (Downers Grove, IL: InterVarsity Press, 2004), 334 pp.
16. De Wolf *et al.*, 56.

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# The Privileged Planet

## An Unwanted Premiere!

In June 2005 I was in Washington D.C. for a most unusual premiere. A film based on the 2004 book called *The Privileged Planet*{1} was being introduced to an invitation only group of

about 200 at the Smithsonian Institution's National Museum of Natural History.

The Smithsonian was approached several months earlier about allowing their Baird Auditorium to be used for this special showing. They asked to see the film. Several people on the museum payroll viewed the film and said great, let's show it. The inquiring organization was The Discovery Institute, the leading organization promoting Intelligent Design in the U.S. and abroad. Discovery was given instructions on how to use the Smithsonian logo on the invitation, was asked for a donation of $16,000, and told the premiere was a go.

However, when the invitations went out in late May, the Smithsonian was instantly barraged by calls and emails from disgruntled Darwinians demanding that the premiere be canceled. How dare the prestigious Smithsonian give aid and support to the Intelligent Design Movement by allowing this film on its premises? Never mind that the film has nothing to do with biological evolution and natural selection. People (even some who likely hadn't seen the film or read the book) were on a rampage.

It didn't take long for the Smithsonian to withdraw its co-sponsorship of the event although they said they would honor their commitment to allow the film to be shown. In a letter to Discovery they said, "Upon further review, the Museum has determined that the content of the film is not consistent with the mission of the Smithsonian Institution's scientific research."{2} Initially, the Smithsonian said Discovery would not be required to make the "donation," but eventually kept $5,000 for expenses incurred.

As a Fellow of the Discovery Institute's Center for Science and Culture I was issued an invitation, and as the storm of controversy raged in *The Washington Post* and *New York Times*, I decided to get myself to Washington for this controversial and special event.

The premiere itself was a bit of an anticlimax after all the fuss. Several local scientists, national TV and newspaper media, a Congressman from Texas, and other local dignitaries were treated to a special showing and question and answer period with the authors, Gonzalez and Richards. The reception was held two floors up in the Hall of Geology, Gems, and Minerals.

Most in attendance were quite impressed . . . and mystified! They were impressed with the quality and premise of the film and mystified how a purely scientific film could be so misrepresented. In what follows, we'll explore the thesis of the book and film and see what all the fuss is about. For now, just remember science is pursued by *people*, and everyone has a worldview that can alter dramatically how science is perceived and what counts as science.

## Is the Moon Just for Signs and Seasons?

When I was in the seventh grade, I remember standing in my best friend's backyard with a box over my head in broad daylight. On one end of the box was a small pinhole. On the inside of the box, against the opposite side of the box from the pinhole, was a small piece of aluminum foil. The pinhole, when facing the sun, made a small circle, maybe one-half inch in diameter, on the aluminum foil wall. As the partial solar eclipse progressed, I could watch the progress of the moon shadowing the sun inside the box. I was fascinated that I could safely watch the partial solar eclipse with such a simple device.

You could watch partial solar eclipses on every planet in our solar system with a moon. But earth is the only planet where a full or total solar eclipse can be seen. It turns out that our moon is $1/400^{th}$ the size of the sun. But the sun is 400 times farther away from earth than the moon. So when the moon comes between the sun and the earth a small portion of earth

experiences a total solar eclipse, meaning the sun is fully blocked out by the moon.

When a total solar eclipse occurs, the sun is fully blocked out by the moon darkening the earth and providing a unique glimpse of the sun's atmosphere or corona. Normally the sun's corona is overwhelmed by the sun's brightness, but in an eclipse the moon so completely shuts out the sun that the corona shines brightly for a few minutes. It is then that scientists can measure the light spectrum of the corona which reveals what is burning inside the sun. Otherwise we would not be able to measure the elemental makeup of the sun. So the fact that earth experiences a total eclipse of the sun makes our planet unique in the solar system with respect to what we can learn about what goes on in the sun's interior.

If that was all that was unique about our moon, we could write it off as a curious coincidence. But the size, shape, and orbit of our moon do more for human life than just give us a glimpse of the sun's atmosphere every so often. Without the moon, life as we know it on earth would be impossible.

It turns out that our moon is just the right size and distance from the earth that, in conjunction with the gravity of the sun, it causes substantial diurnal [daily] tides which mix the waters of the oceans, evening out their temperature and stirring their nutrients. With no moon, or a few smaller moons, the tides would lessen greatly in intensity, therefore reducing this mixing effect. Life would be limited to the upper few feet of the oceans, and complex life would be hard pressed to survive.

## Is Earth's Atmosphere Just for Breathing?

The book and film, *The Privileged Planet*, reveal many other earth systems as well that combine to make earth unique for life and scientific discovery.

Take a deep breath. Now exhale! No, this is not the latest Probe Ministries exercise routine. If you did what I just recommended on any other planet in the solar system, you'd be dead right now.

Our atmosphere of mostly nitrogen, oxygen, and just the right amount of water and carbon dioxide provides so much more than breathable air. We so easily take it for granted every time we breathe. Earth's closest planetary cousins, Venus and Mars, have atmospheres dominated by carbon dioxide. Venus's atmosphere is so thick you can't see through it, and it creates surface temperatures as high as 900 degrees Fahrenheit. Mars' thin carbon dioxide atmosphere contributes to such cold temperatures that carbon dioxide freezes at the poles.

Guillermo Gonzalez and Jay Richards, in their book *The Privileged Planet*, tell you more than you thought possible about the unique parameters of our atmosphere in allowing life and scientific discovery. Nitrogen, for example, is necessary for life as a critical component of the building blocks of DNA and proteins. Our atmosphere of seventy percent nitrogen also allows for a transparent atmosphere that allows light as we face the sun and dark nights that allow us to see the stars.

Oxygen, of course, is necessary for animal life, and our atmosphere contains just enough to support life and not so much as to poison life. Oxygen is also a transparent gas, keeping our atmosphere transparent for observation of our dark night skies.

Water as well is necessary for life, but water in our atmosphere, along with nitrogen, oxygen, and carbon dioxide, creates an atmosphere that is breathable but also is the best atmosphere to transmit light in the visible spectrum. Water also creates clouds over about two thirds of the earth at any one time. Clouds help control our temperature by reflecting some of the sun's energy back out into space.

Without water in our atmosphere, we never would see a rainbow. Rainbows prompted scientists of the seventeenth century to search for an explanation of the rainbow's beauty and mystery. This search eventually resulted in understanding the solar spectrum and the effect of prisms in bending light of different wavelengths.

Carbon dioxide is life's major source of carbon, that versatile and stable element absolutely necessary for life of any kind. If earth were just five percent closer to the sun, however, we would end up much like Venus: nothing but carbon dioxide resulting in a runaway greenhouse effect and totally uninhabitable planet.

Once again, earth is shown to be just right—just right for life and just right for scientific observers. What an amazing coincidence!

More and more, scientists are coming to realize that the earth is not just some insignificant pale blue dot orbiting around an insignificant star. Our planet seems designed not just for life, but for scientific discovery as well.

## So the Earth Has Oceans, Crust, Mantle, and Core. So What?

The starship Enterprise from *Star Trek* used a nifty force field deployed around the ship to protect it from oncoming photon torpedoes. During an attack, those on the bridge were always concerned with how the "shield" was holding. There was great consternation if energy levels dipped low enough to make the shield ineffective.

Our planet earth has a similar protective shield. Earth possesses a magnetic field around it that shields us from the harmful solar wind. Our atmosphere would be slowly stripped away without our magnetic field. This magnetic shield is generated because the earth is just the right size to maintain

a hot liquid iron core. The heat from this core convects through the mantle, creating plate tectonics and electricity. The electricity generates our magnetic field. But you have to have the right size planet with a molten metallic core and a crust that weakens somewhat due to chemical reactions with water so it will bend and not break. All this benefits life.

The size of earth is important for other reasons. A smaller planet would lose its atmosphere much too readily, and its interior would cool too quickly, eliminating the protective magnetic field. A more massive earth would retain too much of harmful gases such as methane. On a more massive planet, the thicker atmosphere would make breathing much more difficult.

Earth's voluminous quantities of water are also extremely necessary for life and even for technological life. Water helps regulate our atmosphere and, of course, provides the perfect soluble medium for life. Water is perhaps the most unique molecule in the universe with its unique solvent properties coupled with the fact that ice floats instead of sinks like all other solid/liquid pairs. This unique feature means that when temperatures are cold enough for water to freeze, only the top layer freezes and life can go on below the ice. If ice sank, then all liquid water would eventually freeze and life would be extinguished in some environments every winter.

In order for earth to maintain its watery oceans it needs to be the right distance from the sun. As noted earlier, if the earth were just five percent closer to the sun we would end up like Venus with thick hot clouds of carbon dioxide for an atmosphere. If we were just twenty percent farther away we would end up like Mars, a frozen wasteland. The heat coming from our just right liquid core also helps maintain our watery home.

All in all earth is a remarkable place for its size, distance from the sun, elemental make-up, size and closeness of the

moon, presence of water, stable liquid iron core that generates a magnetic field, and so many other features. The suspicion of design and purpose quickly arises.

## Has the Earth Been Designed for Multiple Purposes?

In many circles of academia, the idea that our earth is both designed for life and for scientific discovery is both surprising and resented. For years the notion that we are just an insignificant planet circling an ordinary star, otherwise known as the Copernican Principle, has dominated the physical sciences.

But discovery after discovery has altered that view, and has brought many kicking and screaming to a design perspective. Simon Conway Morris, a paleontologist from England, is quoted on the dust jacket of *The Privileged Planet* as saying:

> In a book of magnificent sweep and daring, Guillermo Gonzalez and Jay Richards drive home the argument that the old cliché of no place like home is eerily true of Earth. Not only that, but if the scientific method were to emerge anywhere, Earth is about as suitable as you can get. Gonzalez and Richards have flung down the gauntlet. Let the debate begin; it is a question that involves us all.

The book and film of the same name have been wildly successful and controversial. At the Washington premiere I discussed earlier, scientists and legislators agreed that the thesis the authors propose is deserving of wide discussion.

A father brought his eight-year old son to a showing of the film we sponsored at Probe Ministries. I privately thought he would be too young. They had to leave before the film was done, but they purchased the DVD before they left and finished viewing it at home. As soon as Mom walked in the door, the eight-year old promptly began to explain the intricacies of

solar eclipses, the size of the moon relative to the sun, and how these factors were not only a boon for life but also for scientific discovery.

The film does an excellent job of taking sometimes complex scientific concepts and communicating them in a way that most anybody can appreciate. This film deserves as wide a distribution as possible.

But because much of the scientific community remains locked in a purely naturalistic worldview, the perspective of purpose and design will continue to be resisted. However, parents and educators can readily use this excellent resource to simply investigate the facts and help to eventually gain Intelligent Design a much deserved place at the roundtable of scientific inquiry.

One other comment from the dust jacket says it well:

> Not only have Guillermo Gonzalez and Jay Richards written a book with a remarkable thesis, they have constructed their argument on an abundance of evidence and with a cautiousness of statement that make their volume even more remarkable. In my opinion, *The Privileged Planet* deserves very special attention.

**Notes**

1. Guillermo Gonzalez and Jay Richards, *The Privileged Planet* (Washington D.C.: Regnery Publishing, Inc., 2004).
2. June 1, 2005 entry on Discovery Institute's blog at www.evolutionnews.org/2005/06/.

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# The Case for a Creator

It has been the popular belief for decades that science and Christianity are light years apart. However, as our knowledge of cosmology, astronomy, physics, biochemistry, and DNA has continued to grow, this supposed gap has all but disappeared. Lee Strobel, award-winning journalist and former atheist, explores these and many other compelling evidences in his latest book, *The Case for a Creator*. In this article we will discuss just a handful of these evidences, as presented in his book, and find out how science itself is steadily nailing the lid on atheisms coffin.{1} Lets begin with the argument from cosmology.

## Cosmology

Cosmology is the study of the origin of the universe. In investigating this field of study, Lee Strobel interviews philosopher and theologian, Dr. William Lane Craig. Craig describes in great detail what he calls “one of the most plausible arguments for God’s existence, the Kalam cosmological argument.{2} This argument has three simple steps: Whatever begins to exist has a cause. The universe began to exist. Therefore, the universe has a cause.

Craig then explains that when he first began to defend the Kalam argument he anticipated that the first step of the argument, whatever begins to exist has a cause, would be almost universally accepted. It was the second point, the universe began to exist, which he believed would be more controversial. However, so much evidence has accumulated, Craig explained, that atheists are finding it difficult to deny that the universe had a beginning. So theyve begun to attack the first premise instead.{3}

One such attack was presented in the April 2002 issue of *Discover* magazine. In an article entitled Guths Grand Guess,

the author describes how quantum theory allows for thingsa dog, a house, a planetto be materialized out of a quantum vacuum. One professor is quoted as saying, Our universe is simply one of those things which happens from time to time.{4} Could such an audacious claim be valid?

Craig debunks this claim by making two very important points. First, These subatomic particles the article talks about are called virtual particles. They are theoretical entities and its not even clear that they actually exist as opposed to being merely theoretical constructs.{5} Secondly, however, these particles, if they are real, do not come out of nothing. The quantum vacuum is not what most people envision when they think of a vacuum that is, absolutely nothing. On the contrary, its a sea of fluctuating energy. This begs the question, So where does this energy come from? It must have a cause. So even quantum theory fails to explain the origin of the universe without a Creator. Rather, as Craig explains, the first cause of the universe is the transcendent personal Creator{6} of the Bible which states that In the beginning God created the heavens and the earth.

## Anthropic Principle

What is called the *anthropic principle* essentially states that all seemingly arbitrary and unrelated constants in physics have one strange thing in common these are precisely the values you need if you want to have a universe capable of producing life.{7} To explore the particulars of this, Strobel interviews Robin Collins, who has doctorates in both physics and philosophy.

Collins, who has written several books on this subject, is asked to describe one of his favorite examples. He proceeds to illustrate the fine-tuned properties of gravity. He does so by comparing the range of possible gravitational force strengths with an old-fashioned linear radio dial that spans the entire

width of the known universe. He says,

> *Imagine that you want to move the dial from where its currently set. Even if you were to move it by only one inch, the impact on life in the universe would be catastrophic. . . .*
>
> *That small adjustment of the dial would increase gravity by a billion-fold. . . .*
>
> *Animals anywhere near the size of human beings would be crushed. . . . As astrophysicist Martin Rees said, In an imaginary strong gravity world, even insects would need thick legs to support them, and no animals could get much larger. In fact, a planet with a gravitational pull of a thousand times that of the Earth would have a diameter of only forty feet, which wouldnt be enough to sustain an ecosystem. . . .*
>
> *As you can see, compared to the total range of force strengths in nature, gravity has an incomprehensibly narrow range of life to exist.{8}*

Collins goes on to discuss several other constants which show a remarkable degree of fine-tuning such as the mass difference between neutrons and protons, electromagnetic forces, strong nuclear forces, and the cosmological constant. In fact, one expert has said that there are more than thirty separate physical or cosmological parameters that require precise calibration in order to produce a life-sustaining universe.{9}

It is this amazing degree of fine-tuning within physics which Collins believes is by far the most persuasive current argument of the existence of God.{10} The deeper we dig, Collins concludes, we see that God is more subtle and more ingenious and more creative than we ever thought possible. And I think that's the way God created the universe for usto be full of surprises."{11}

## Astronomy

It had been said for years that there's nothing unusual about Earth. It's an average, unassuming rock that's spinning mindlessly around an unremarkable star in a run-of-the-mill galaxya lonely speck in the great enveloping cosmic dark, as the late Carl Sagan put it.{12} However, this is no longer thought to be the case. Even secular scientists are talking about the astounding convergence of numerous unexpected "coincidences" that make intelligent life possible on Earth, and in all likelihood, nowhere else in the universe.

In exploring these recent discoveries, Lee Strobel meets with Dr. Guillermo Gonzalez and Dr. Jay Wesley Richards, coauthors of the book *The Privileged Planet*. After hashing out a long list of unique characteristics of our own galaxy, our sun, and our planet, they then began to discuss another amazing coincidence: a whole new dimension of evidence that suggests this astounding world was created, in part, so we could have the adventure of exploring it.{13}

One of the more interesting examples given is that of a solar eclipse. Perfect solar eclipses have allowed scientists to do things such as determine specific properties of stars and confirm predictions associated with Einsteins theory of relativity. Such things would be extremely difficult to explore if it werent for total eclipses. However, such eclipses are unique to Earth within our solar system. Of the nine planets and over sixty moons, only Earth provides the optimal scenario for viewing an eclipse. This is possible because our moon, which is 400 times smaller than our Sun, happens to also be exactly 400 times closer. This allows for just the right conditions for a perfect solar eclipse.

What intrigues Gonzalez is that the very time and place where perfect solar eclipses appear in our universe also corresponds to the one time and place where there are observers to see them.{14} Richards adds, What is mysterious is that the same

conditions that give us a habitable planet also make our location so wonderful for scientific measurement and discovery. So we say there's a correlation between habitability and measurability.{15}

Indeed, this is exactly what we would expect if an all-loving, all-powerful God created the universe not only to sustain man but also, and most importantly, that man could find Him through it.

## Information

In 1871, Darwin suggested in a personal letter that life may have originated spontaneously in some warm little pond, with all sorts [of chemicals] present.{16} However, in his day the immense complexity of living cells was virtually unknown. Today thats not the case. Modern science has revealed that cells are extremely complex and that this complexity is governed by the information packed structures of DNA. This raises the question, Where did this information come from?

To answer this question Strobel enlists the help of Dr. Stephen Meyer, who has degrees in physics, geology, history, and philosophy. During the course of their discussion, Meyer elaborates on various explanations as to the origin of information in the first living cell. After describing the virtual impossibility of simple random chance over time producing such information, and acknowledging the fact that virtually all origin-of-life experts have utterly rejected such an approach,{17} Strobel focuses Meyer in on a more recent attempt at an explanation, that which at times has been called *biochemical predestination*.

Meyer says the idea is that the development of life was inevitable because the amino acids in proteins and the bases, or letters, in the DNA alphabet had self-ordering capacities that accounted for the origin of the information in these

molecules.{18} He then goes on to explain why this notion just isnt true.

First, he notes that the kind of self-ordering we see in nature, such as that in salt crystals, is repetitive; a particular sequence is simply repeated over and over again. It would be like handing a person an instruction book for how to build an automobile, Meyer explains, but all the book said was the-the-the-the-the. You couldnt hope to convey all the necessary information with that one-word vocabulary.{19}

Secondly, and more importantly, he points out that science has demonstrated the complete absence of any attraction between the four letters of the DNA code themselves. So theres nothing chemically that forces them into any particular sequence, Meyer states. The sequencing has to come from outside the system.{20}

For Strobel, as well as many scientists, the conclusion is compelling: An intelligent entity has quite literally spelled out evidence of His existence through the four chemical letters in the genetic code. Its almost as if the Creator autographed every cell.{21}

## Consciousness

Webster defines consciousness as the quality or state of being aware especially of something within oneself.{22} According to Darwinists, the physical world is all there is. Consciousness, therefore, is nothing more than a byproduct of the properties of chemicals. As far back as 1871, evolutionists believed that the mind is a function of matter, when that matter has attained a certain degree of organization.{23} Is this really true? Is the mind simply, as MITs Marvin Minsky put it, a computer made of meat?{24} Or is the Bible correct in its assertion that men and women are comprised of both material and immaterial components?

To address this question, Strobel interviews Dr. J. P. Moreland, who has degrees in chemistry and theology, and a Ph.D. in philosophy. One of the most compelling arguments presented by Moreland during this interview was the positive experimental evidence that consciousness and the self are more than simply a physical byproduct of the brain. For example, Moreland said, neurosurgeon Wilder Penfield electrically stimulated the brains of epilepsy patients and found he could cause them to move their arms or legs, turn their heads or eyes, talk, or swallow. Invariably the patient would respond by saying, I didn't do that. You did. According to Penfield, the patient thinks of himself as having an existence separate from his body. No matter how much Penfield probed the cerebral cortex, he said, There is no place . . . where electrical stimulation will cause a patient to [think]. Thats because [thought] originates in the conscious self, not the brain.{25}

As Strobel notes in agreement, it is evidence like this which has led one pair of scientists to conclude that physics, neuroscience, and humanistic psychology all converge on the same principle: mind is not reducible to matter. . . . The vain expectation that matter might someday account for mind . . . is like the alchemist's dream of producing gold from lead.{26}

## Conclusion

It is evidences like these, as well as the many others presented by Lee Strobel, which has continued to persuade scientists in every field of study that there must be a Designer. Naturalistic explanations are not sufficient to explain the beauty, complexity, and design that we observe both around us and within us. Strobel, indeed, presents an amazingly strong case for a Creator.

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# Dr. Ray Bohlin Responds to Attacks on Intelligent Design

To the editor of *Newsweek*:

Jonathan Alter must have thoroughly enjoyed writing this incredibly polemical piece, taking full advantage of every stereotype, argument from authority, straw man, and unsupported assertion his space would allow. He craftily gives credit to scientific sounding arguments against evolutionary theory while claiming they have all been discredited without mentioning the well-reasoned answers to these criticisms. As an example he cites Ken Miller's criticism of ID without mentioning that Miller himself has been respectfully answered, critiqued and refuted.

If simply rehashing the old science vs. religion argument is the best the media and the general science community can do, the battle is over. I have been making a scientific case against Darwinism and for Intelligent Design for over thirty years. As one credentialed in science, a Discovery Institute Fellow and one of the first 100 signers (now over 400) to their statement of scientific skepticism about Darwinism, I can tell you that our ranks are swelling and our case getting stronger all the time. Pieces like Alter's only show us and Newsweek's readers, the bankruptcy of the Darwinian paradigm.

Raymond G. Bohlin, Ph.D.
President, Probe Ministries

I would like to make some additional comments here.

1. Alter magically proclaims that "One of the reasons we have fewer science majors is the pernicious right-wing notion that conventional biology is vaguely atheistic." How does he know that? Of course he just states it as a bald assertion, expecting us to just believe it because he says so. His claim

might be true, but he is clearly trying to blame doubts about evolution for the U.S.'s perceived sputtering in science. Need a whipping boy? Try "right-wing fundamentalists." Some will believe that every time.

2. He says that offering ID as "an alternative to evolution in ninth-grade biology is a cruel joke." Nowhere has anybody made such a request. Even in Dover, PA, the disclaimer by the school board simply offers ID as something students might explore. It is not officially offered in the classroom as a competing theory. Discovery Institute itself maintains that ID is not ready for such treatment.

3. In the same paragraph, Alter says "ID walks like science and talks like science but, so far, performs in the lab worse than medieval alchemy." I guess that was supposed to sting. What Alter doesn't realize is that in molecular and cell biology, in particular, the language of design is everywhere in describing the workings of the incredible molecular machines inside the cell. They just claim that natural selection produced them with no real attempts to explain how. And as a mechanistic theory, evolution should be able to. So in reality, ID is used all the time in biological research, even by evolutionists, you just can't call it that if you want your work to be published.

4. Alter drags the ever present Kenneth Miller into his discussion. He mentions, parenthetically, that Miller attends Mass every week. So what? It's a double standard to allow Miller's attendance at church serve to further his credibility when my association with a Christian ministry has been used to discredit my testimony and somehow claim that my scientific reasoning is now suspect. Nobody ever mentions Miller's possible conflict of interest in his defense of evolution and criticism of ID. Kenneth Miller is coauthor of a well-known high school biology textbook that strongly promotes evolution as the grand unifying principle of biology. If evolution is dethroned, he loses money and his reputation. How come his

reasoning isn’t compromised?

5. Alter claims that science and religion are not at odds over evolution. Fine. But science is at odds with the Darwinian mechanism and there have always been doubts. As I said in my letter to the editor, the scientific case for ID only grows stronger and the debate is here to stay. Let them keep making the science vs. religion argument and the more thoughtful and reasonable among us will see through the smoke screen and will give ID a chance. That’s all we ask.

6. Alter makes it seem that the appeal to science standards and school boards is a last ditch effort when all else has failed. In reality, these are true grassroots efforts by people who have read the books and want the truth taught to their children. Many have been frustrated for years that their kids are exposed to an evolutionary filibuster in school and are encouraged that there is a growing scientific revolt in support of their concerns. The *Time* article mentions that 30% of surveyed biology teachers felt pressure to give evolution a short treatment by concerned parents. What about the greater than 50% of students (far more vulnerable to pressure than adult teachers) who have felt bullied by evolution for decades?

7. All this negative publicity is actually a good thing in the long run. As long as the silly arguments are answered, we gain new adherents with every wise-cracking, arrogant article. Why? Because reasonable people see through all the fuss eventually and realize that something funny is going on. After that they read Behe, Dembski, Meyer, Gonzalez, Richards, Nelson, Wells, Thaxton, Bradley, and other ID leaders and it all begins to come together. May our tribe increase!

**See Also:**

- Mere Creation: Science, Faith and Intelligent Design
- Dr. Bill Dembski's response to Steven Pinker's Assault on ID in *Time* on his blog, "Uncommon Descent"

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# The Impotence of Darwinism: A Christian Scientist Looks at the Evidence

*Dr. Ray Bohlin looks at some of the tenets of Darwinism and finds them lacking support in the real world. Speaking from a biblical worldview perspective, he finds that the gaps and inconsistencies in current Darwinian thinking should demand that different theories be examined and evaluated.*

 *This article is also available in Spanish.*

## Darwinism, Design, and Illusions

Darwinian evolution has been described as a universal acid that eats through everything it touches.{1} What Daniel Dennett meant was that evolution as an idea, what he called "Darwin's dangerous idea," is an all-encompassing worldview. Darwinism forms the basis of the way many people think and act. It touches everything.



What Darwin proposed in 1859 was simply that all organisms are related by common descent. This process of descent or evolution was carried out by natural selection acting on variation found in populations. There was no guidance, no purpose, and no design in nature. The modern Neo-Darwinian variety of evolution identifies the source of variation as genetic mutation, changes in the DNA structure of organisms. Therefore, evolution is described as the common descent of all organisms by mutation and natural selection, and is assumed to be able to explain everything we see in the biological realm.

This explanatory power is what Dennett refers to as "Darwin's dangerous idea." Darwinism assumes there is no plan or purpose to life. Therefore, everything we see in the life history of an organism, including human beings, derives in some way from evolution, meaning mutation and natural selection. This includes our ways of thinking and the ways we behave. Even religion is said to have arisen as a survival mechanism to promote group unity that aids individual survival and reproduction.

Since evolution has become the cornerstone of the dominant worldview of our time—scientific naturalism—those who hold to it would be expected to take notice when somebody says it's wrong! A growing number of scientists and philosophers are saying with greater confidence that Darwinism, as a mode of explaining all of life, is failing and failing badly. Much of the criticism can be found in the cornerstone of evolution, mutation and natural selection and the evidence for its pervasiveness in natural history. One of the biggest stumbling blocks is evolution's repudiation of any form of design or purpose in nature. Even the staunch Darwinist and evolutionary naturalist, Britain's Richard Dawkins, admits, "Biology is the study of complicated things that give the appearance of having been designed for a purpose."{2}

No one denies that biological structures and organisms look

designed; the argument is over what has caused this design. Is it due to a natural process that gives the appearance of design as Dawkins believes? Or is it actually designed with true purpose woven into the true fabric of life? Darwinian evolution claims to have the explanatory power and the evidence to fully explain life's apparent design. Let's explore the evidence.

## The Misuse of Artificial Selection

It is assumed by most that evolution makes possible almost unlimited biological change. However, a few simple observations will tell us that there are indeed limits to change. Certainly the ubiquitous presence of convergence suggests that biological change is not limitless since certain solutions are arrived at again and again. There appear to be only so many ways that organisms can propel themselves: through water, over land or through the air. The wings of insects, birds and bats, though not ancestrally related, all show certain design similarities. At the very least, various physical parameters constrain biological change and adaptation. So there are certainly physical constraints, but what about biological constraints?

Darwin relied heavily on his analogy to *artificial* selection as evidence of *natural* selection. Darwin became a skilled breeder of pigeons, and he clearly recognized that just about any identifiable trait could be accentuated or diminished, whether the color scheme of feathers, length of the tail, or size of the bird itself. Darwin reasoned that natural selection could accomplish the same thing. It would just need more time.

But artificial selection has proven just the opposite. For essentially every trait, although it is usually harboring some variability, there has always been a limit. Whether the organisms or selected traits are roses, dogs, pigeons, horses,

cattle, protein content in corn, or the sugar content in beets, selection is certainly possible. But all selected qualities eventually fizzle out. Chickens don't produce cylindrical eggs. We can't produce a plum the size of a pea or a grapefruit. There are limits to how far we can go. Some people grow as tall as seven feet, and some grow no taller than three; but none are over twelve feet or under two. There are limits to change.

But perhaps the most telling argument against the usefulness of artificial selection as a model for natural selection is the actual process of selection. Although Darwin called it *artificial* selection, a better term would have been *intentional* selection. The phrase "artificial selection" makes it sound simple and undirected. Yet every breeder, whether of plants or animals is always looking for something in particular. The selection process is always designed to a particular end.

If you want a dog that hunts better, you breed your best hunters hoping to accentuate the trait. If you desire roses of a particular color, you choose roses of similar color hoping to arrive at the desired shade. In other words, you plan and manipulate the process. Natural selection can do no such thing. Natural selection can only rely on what variation comes along. Trying to compare a directed to an undirected process offers no clues at all.

Most evolutionists I share this with usually object that we do have good examples of natural selection to document its reality. Let's look at a few well-known examples.

## The Real Power of Natural Selection

It should have been instructive when we had to wait for the 1950s, almost 100 years after the publication of *Origin of Species*, for a documentable case of natural selection, the

famous Peppered Moth (*Biston betularia*). The story begins with the observation that, before the industrial revolution, moth collections of Great Britain contained the peppered variety, a light colored but speckled moth. With the rise of industrial pollution, a dark form or melanic variety became more prevalent. As environmental controls were enacted, pollution levels decreased and the peppered variety made a strong comeback.

It seemed that as pollution increased, the lichens on trees died off and the bark became blackened. The previously camouflaged peppered variety was now conspicuous and the previously conspicuous melanic form was now camouflaged. Birds could more readily see the conspicuous variety and the two forms changed frequency depending on their surrounding conditions. This was natural selection at work.

There were always a few problems with this standard story. What did it really show? First, the melanic form was always in the population, just at very low frequencies. So we start with two varieties of the peppered moth and we still have two forms. The frequencies change but nothing new has been added to the population. Second, we really don't know the genetics of industrial melanism in these moths. We don't have a detailed explanation of how the two forms are generated. And third, in some populations, the frequencies of the two moths changed whether there was a corresponding change in the tree bark or not. The only consistent factor is pollution.{3} The most well-known example of evolution in action reduces to a mere footnote. Regarding this change in the Peppered Moth story, evolutionary biologist Jerry Coyne lamented that "From time to time evolutionists re-examine a classic experimental study and find, to their horror, that it is flawed or downright wrong."{4}

Even Darwin's Finches from the Galapagos Islands off the coast of Ecuador tell us little of large scale evolution. The thirteen species of finches on the Galapagos show subtle

variation in the size and shape of their beaks based on the primary food source of the particular species of finch. Jonathan Wiener's *Beak of the Finch*{5} nicely summarizes the decades of work by ornithologists Peter and Rosemary Grant. While the finches do show change over time in response to environmental factors (hence, natural selection), the change is reversible! The ground finches (six species) do interbreed in the wild, and the size and shape of their beaks will vary slightly depending if the year is wet or dry (varying the size seeds produced) and revert back when the conditions reverse. There is no directional change. It is even possible that the thirteen species are more like six to seven species since hybrids form so readily, especially among the ground finches, and survive quite well. Once again, where is the real evolution?

There are many other documented examples of natural selection operating in the wild. But they all show that, while limited change is possible, there are limits to change. No one as far as I know questions the reality of natural selection. The real issue is that examples such as the Peppered Moth and Darwin's Finches tell us nothing about evolution.

## Mutations Do Not Produce Real Change

While most evolutionists will acknowledge that there are limits to change, they insist that natural selection is not sufficient without a continual source of variation. In the Neo-Darwinian Synthesis, mutations of all sorts fill that role. These mutations fall into two main categories: mutations to structural genes and mutations to developmental genes. I will define structural genes as those which code for a protein which performs a maintenance, metabolic, support, or specialized function in the cell. Developmental genes influence specific tasks in embryological development, and therefore can change the morphology or actual appearance of an organism.

Most evolutionary studies have focused on mutations in structural genes. But in order for large scale changes to happen, mutations in developmental genes must be explored. Says Scott Gilbert:

> *"To study large changes in evolution, biologists needed to look for changes in the regulatory genes that make the embryo, not just in the structural genes that provide fitness within populations."*{6}

We'll come back to these developmental mutations a little later.

Most examples we have of mutations generating supposed evolutionary change involve structural genes. The most common example of these kinds of mutations producing significant evolutionary change involves microbial antibiotic resistance. Since the introduction of penicillin during World War II, the use of antibiotics has mushroomed. Much to everyone's surprise, bacteria have the uncanny ability to become resistant to these antibiotics. This has been trumpeted far and wide as real evidence that nature's struggle for existence results in genetic change—evolution.

But microbial antibiotic resistance comes in many forms that aren't so dramatic. Sometimes the genetic mutation simply allows the antibiotic to be pumped out of the cell faster than normal or taken into the cell more slowly. Other times the antibiotic is deactivated inside the cell by a closely related enzyme already present. In other cases, the molecule inside the cell that is the target of the antibiotic is ever so slightly modified so the antibiotic no longer affects it. All of these mechanisms occur naturally and the mutations simply intensify an ability the cell already has. No new genetic information is added.{7}

In addition, genetically programmed antibiotic resistance is passed from one bacteria to another by special DNA molecules

called plasmids. These are circular pieces of DNA that have only a few genes. Bacteria readily exchange plasmids as a matter of course, even across species lines. Therefore, rarely is a new mutation required when bacteria "become" resistant. They probably received the genes from another bacterium.

Most bacteria also suffer a metabolic cost to achieve antibiotic resistance. That is, they grow more slowly than wild-type bacteria, even when the antibiotic is not present. And we have never observed a bacterium changing from a single-celled organism to a multicellular form by mutation. You just get a slightly different bacterium of the same species. The great French evolutionist Pierre Paul-Grassé, when speaking about the mutations of bacteria said,

> *"What is the use of their unceasing mutations if they do not change? In sum the mutations of bacteria and viruses are merely hereditary fluctuations around a median position; a swing to the right, a swing to the left, but no final evolutionary effect."*[{8}]

What I have been describing so far is what is often referred to as microevolution. Evolutionists have basically assumed that the well-documented processes of microevolution eventually produce macroevolutionary changes given enough time. But this has been coming under greater scrutiny lately, even by evolutionists. There appears to be a real discontinuity between microevolution and the kind of change necessary to turn an amoeba-like organism into a fish, even over hundreds of millions of years.

Below is just a quick sampling of comments and musings from the current literature.

> "One of the oldest problems in evolutionary biology remains largely unsolved. . . . historically, the neo-Darwinian synthesizers stressed the predominance of micromutations in evolution, whereas others noted the similarities between

> some dramatic mutations and evolutionary transitions to argue for macromutationism."{9}
>
> "A long-standing issue in evolutionary biology is whether the processes observable in extant populations and species (microevolution) are sufficient to account for the larger-scale changes evident over longer periods of life's history (macroevolution)."{10}
>
> "A persistent debate in evolutionary biology is one over the continuity of microevolution and macroevolution—whether macroevolutionary trends are governed by the principles of microevolution."{11}

While each of the above authors does not question evolution directly, they are questioning whether what we have been studying all these years, microevolution, has anything to do with the more important question of what leads to macroevolution. And if microevolution is not the process, then what is?

## Natural Selection Does Not Produce New Body Plans

The fundamental question which needs addressing is, How have we come to have sponges, starfish, cockroaches, butterflies, eels, frogs, woodpeckers, and humans from single cell beginnings with no design, purpose or plan? All the above listed organisms have very different body plans. A body plan simply describes how an organism is put together. So can we discover just how all these different body plans can arise by mutation and natural selection? This is a far bigger and more difficult problem than antibiotic resistance, a mere biochemical change. Now we have to consider just how morphological change comes about.

The problem of macroevolution requires developmental

mutations. Simply changing a protein here and there won't do it. We somehow have to change how the organism is built. Structural genes tend to have little effect on the development of a body plan. But the genes that control development and ultimately influence the body plan tend to find their expression quite early in development. But this is a problem because the developing embryo is quite sensitive to early developmental mutations. Wallace Arthur wrote:

> "Those genes that control key early developmental processes are involved in the establishment of the basic body plan. Mutations in these genes will usually be extremely disadvantageous, and it is conceivable that they are always so."{12}

But these are the mutations needed for altering body plans. However, evolutionists for decades have been studying the wrong mutations. Those dealing with structural genes, microevolution, only deal with how organisms survive as they are, it doesn't tell us how they got to be the way they are. Optiz and Raft note that

> "The Modern Synthesis is a remarkable achievement. However, starting in the 1970's, many biologists began questioning its adequacy in explaining evolution. . . . Microevolution looks at adaptations that concern only the survival of the fittest, not the arrival of the fittest."{13}

Wallace Arthur:

> "In a developmentally explicit approach it is clear that many late changes can not accumulate to give an early one. Thus if taxonomically distant organisms differ right back to their early embryogenesis, as is often the case, the mutations involved in their evolutionary divergence did not involve the same genes as those involved in the typical speciation event."{14}

To sum up the current dilemma, significant morphological

change requires early developmental mutations. But these mutations are nearly universally disadvantageous. And microevolution, despite its presence in textbooks as proof of evolution, actually tells us precious little about the evolutionary process. If these developmental mutations that can offer an actual benefit are so rare, then macroevolution would be expected to be a slow and difficult, yet bumpy process. Indeed, Darwin expected that "As natural selection acts solely by accumulating slight, successive, favorable variations, it can produce no great or sudden modifications; it can only act in short and slow steps."

The origin of body plans is wrapped up in the evidence of paleontology, the fossils and developmental biology. What does the fossil record have to say about the origin of basic body plans? When we look for fossils indicating Darwin's expected slow gradual process we are greatly disappointed. The Cambrian Explosion continues to mystify and intrigue. The Cambrian Explosion occurred around 543 million years ago according to paleontologists. In the space of just a few million years, nearly all the animal phyla make their first appearance.

> "The term 'explosion' should not be taken too literally, but in terms of evolution it is still very dramatic. What it means is rapid diversification of animal life. 'Rapid' in this case means a few million years, rather than the tens or even hundreds of millions of years that are more typical . . .{15}

Prior to the Cambrian, (550-485 million years ago), during the Vendian (620-550 million years ago) we find fossil evidence for simple sponges, perhaps some cnidarians and the enigmatic Ediacaran assemblage. For the most part we find only single cell organisms such as bacteria, cyanobacteria, algae, and protozoan. Suddenly, in the Cambrian explosion (545-535 million years ago) we find sponges, cnidarians, platyhelminthes, ctenophores, mollusks, annelids, chordates (even a primitive fish), and echinoderms.

While many animal phyla are not present in the Cambrian, they are mostly phyla of few members and unlikely to be fossilized in these conditions. James Valentine goes further in saying that "The diversity of body plans indicated by combining all of these Early Cambrian remains is very great. Judging from the phylogenetic tree of life, all living phyla (animal) were probably present by the close of the explosion interval."{16} Later Valentine assures us that the fossil record of the explosion period is as good as or better than an average section of the geologic column.{17} So we just can't resort to the notion that the fossil record is just too incomplete.

In the Cambrian Explosion we have the first appearance of most animal body plans. This sudden appearance is without evidence of ancestry in the previous periods. This explosion of body plans requires a quantum increase of biological information. New genetic information and regulation is required.{18} Mutations at the earliest stages of embryological development are required and they must come in almost rapid fire sequence. Some have suggested that perhaps the genetic regulation of body plans was just more flexible, making for more experimentation. But we find some of the same organisms in the strata from China to Canada and throughout the period of the explosion. These organisms do not show evidence of greater flexibility of form.

The type of mutation is definitely a problem, but so is the rate of mutation. Susumo Ohno points out that "it still takes 10 million years to undergo 1% change in DNA base sequences. . . . [The] emergence of nearly all the extant phyla of the Kingdom Animalia within the time span of 6-10 million years can't possibly be explained by mutational divergence of individual gene functions."{19}

Darwinism would also require early similarities between organisms with slow diversification. Phyla should only become recognizable after perhaps hundreds of millions of years of descent with modification. Yet the great diversity appears

first with gradual drifting afterward, the opposite of what evolution would predict. Again some suggest that the genetic structure of early organisms was less constrained today, allowing early developmental mutations with less severe results. But there would still be some developmental trajectory that would exist so the selective advantage of the mutation would have to outweigh the disruption of an already established developmental pathway.

But each of these speculations is unobservable and untestable. It's quite possible that developmental constraints may be even more rigid with fewer genes. But even if the constraints were weaker, then there should be more variability in morphology of species over space and time. But as I said earlier, the Cambrian fauna are easily recognizable from the early Cambrian deposits in China and Greenland to the middle Cambrian deposits of the Burgess Shale. There is no testable or observational basis for hypothesizing less stringent developmental constraints.

This stunning burst of body plans in the early Cambrian and the lack of significant new body plans since the Cambrian indicate a limit to change. Evolutionary developmental biologist Rudolf Raff told *Time* magazine over ten years ago that "There must be limits to change. After all, we've had these same old body plans for half a billion years."{20} Indeed, perhaps these limits to change are far more pervasive and genetically determined than Raff even suspects.

Along the way, functional organisms must form the intermediate forms. But even the functionality of these intermediate organisms transforming from one body plan to another has long puzzled even the most dedicated evolutionists. S. J. Gould, the late Harvard paleontologist, asked,

> "But how can a series of reasonable intermediates be constructed? . . . The dung-mimicking insect is well protected, but can there be any edge in looking only 5

percent like a turd?”{21}

With his usual flair, Gould asks a penetrating question. Most have no problem with natural selection taking a nearly completed design and making it just a little bit more effective. Where the trouble really starts is trying to create a whole new design from old parts. Evolution has still not answered this critical question. I fully believe that evolution is incapable of answering this question with anything more than “I think it can.” However, unlike the little train that could, it will take far more than willpower to come up with the evidence.

In this brief discussion I haven’t even mentioned the challenges of Michael Behe’s irreducible complexity,{22} William Dembski’s specified complexity,{23} and a host of other evolutionary problems and difficulties. This truly is a theory in crisis.

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# The Controversy over Evolution in Biology Textbooks

## Texas, Textbooks and Evolution

Public school textbooks are big business in Texas. Texas is the second largest purchaser of textbooks behind California. Texas also employs an extensive review process which involves input from the public. Independent school districts in the state of Texas can purchase whatever textbooks they prefer. But if they want state assistance in the purchase of textbooks, they'd better pick those texts that are recommended by the State Board of Education.

Publishers know that whatever books Texas approves, other states will adopt as well. Therefore the decisions by the Texas State Board of Education regarding textbooks influence what many students across the country will be reading over the next few years. Publishers pay very close attention to what goes on in Texas.

Evolution has been a contentious issue before the State Board for decades. A few years ago, they passed a resolution that said textbooks were to be free from factual errors and that the information in the texts should allow students to "analyze, review, and critique scientific explanations, including scientific hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information."

This certainly sounds scientific and fair. I mean, who doesn't

want both sides of scientific controversies presented? Any "scientist to be" needs to be able to analyze, review, and critique scientific explanations. Scientists rarely want to just take someone's word for something. Scientists tend to be skeptical in nature. That's a good thing. Students ought to be encouraged and trained to think this way.

That is, they ought to be trained to think this way about everything in science, except evolution. Evolution has become the unassailable myth of modern science. No dissension allowed. No controversies accepted. No challenges tolerated. Evolution is a fact and anybody who doesn't think so is ignorant, dishonest, or religiously motivated.

But for some reason, skepticism about evolution and Darwinian evolution in particular just won't go away. The dissenters are also growing in number and levels of education. So when the Texas State Board of Education announced its two public hearings in the summer of 2003, the battle lines were clearly drawn. Skeptics of Darwinism came loaded with careful examinations of the textbooks up for adoption, pointing out inaccuracies, falsehoods, and skimmed-over controversies. No one came to include creation or intelligent design into the textbooks.

Defenders of evolution came loaded with little else besides crude attempts to discredit their critics and scary words of warning about attempts to get religion into the science textbooks.

## What's Wrong with the Textbooks As They Are?

If you have occasion to pick up a high school biology textbook, you quickly realize that the process of writing it must be a daunting task. The amount of detailed information they contain today over a wide range of biological phenomena is truly staggering.

The reality that they contain errors or out of date material can be easily understood. You would think that authors and publishers would welcome those who spot these problem areas and take the time and effort to point them out. For the most part this is indeed the case. Except when the errors concern the presentation of evolutionary theory. Pointing out factual errors, exaggerated claims or poor logic in the presentation of evolution suddenly becomes suspect. One's motives should be questioned. Evolution is a fact, after all, and surely no one thinks that evolution as presented in textbooks should be altered in any way.

I'm being facetious, of course. Evolution should be open to scrutiny as much as any other area of biology, but it isn't. Some mistakes in biology textbooks have persisted for decades, despite efforts to point them out and seek their removal or correction.

A classic example involves the Miller-Urey experiment. In 1953, Harold Urey and Stanley Miller published the results of an experiment that was meant to simulate the production of biochemicals necessary for life from gasses that were thought to be in earth's early atmosphere. Among a host of meaningless organic compounds, Miller and Urey found a few amino acids, the building blocks of proteins.

The experiment caused quite a sensation and launched the origin of life field with a bang. Over the years, however, numerous problems showed up that invalidated the experiment. Chief among these problems was the determination that the atmosphere they used—ammonia, methane, water vapor, and hydrogen gasses—did not represent the early atmosphere. These hydrogen rich gasses were replaced with carbon dioxide, carbon monoxide, nitrogen, and water vapor. When these gasses are used, the experiment is a dismal failure. Trace amounts of the simplest amino acid, glycine, sometimes appears, but not enough to get excited about.

All this has been known since the late 70s. But over thirty years later, textbooks represent the Miller/Urey experiment as if it still represents a realistic simulation. Why? Because it's the only experiment that works. And there needs to be a naturalistic story of where life could have come from.

Other problems remain in the infamous and fraudulent embryo drawings of Ernst Haeckel, the newly discovered problems with the peppered moth story, the startling evolutionary problem of the Cambrian explosion, and many others. Some of evolutionists' most cherished examples of evolutionary principles have fallen on hard times.

## A Public Hearing in Texas in July 2003

The Texas State Board of Education is a powerful group of people. Every six years they evaluate textbooks for use in the Texas public schools, and many private schools and public schools from other states follow their lead. Part of the reason for this is the extensive review process the board employs.

Not only do the fifteen elected Board members review the texts, but a committee of educators from the Texas Education Agency also reviews them, and the public is invited to state its opinions as well. The Board reviews textbooks every year but they cycle through several categories every six years. The year 2003 was the year for biology textbooks.

I attended the first public hearing on July 9th in Austin, Texas. Citizens of Texas who wish to testify need to sign up about two weeks prior to the hearing. Each testifier is allotted three minutes, which is closely timed, and then a few board members may ask a few questions.

Three minutes isn't very long. It's about the length of one of our daily radio programs. So whatever you need to say, you'd better say it concisely and quickly. I briefly presented my

scientific credentials and addressed problems with the Miller-Urey experiment, the Cambrian explosion, and the mutation/natural selection mechanism of evolution.

I kept my remarks strictly along factual lines and discussed the evidence, with no mention of a Creator or Intelligent Design. But before the meeting even started I knew I was in for a long afternoon. At noon, one hour before the meeting, a group from The National Center for Science Education (NCSE) gave a press conference warning the media to expect another attempt from pseudo-scientists to try to include creationism into the textbooks.

Actually of the forty or so people signed-up to testify, only three of us were there to criticize evolution and no one was there to argue for creation. In the minutes before the meeting there was suddenly a horde of media looking for me and asking for interviews. Thanks to the NCSE I was provided with opportunities for nearly a dozen interviews, mostly TV. I was able to explain our side of the story and correct the NCSE's distorted paranoia.

The defenders of evolution came to say that evolution ought to be left alone: don't cave in to the pressure! But who was exerting the pressure? There were only three of us and over thirty of them. We came with scientific criticisms. They offered little else besides blatant misrepresentations and character assassinations.{1} These testimonies primarily set the stage for the September hearing.

## A Second Public Hearing in September 2003

A major player in the entire hearing process was the Discovery Institute (www.discovery.org), a public policy institute out of Seattle, Washington. Discovery sponsors a Center for Science and Culture that provides limited funding for skeptics of Darwinism and proponents of Intelligent Design. I have received two limited fellowships from Discovery to help write

a new edition of my book with Lane Lester, *The Natural Limits to Biological Change.* It was Discovery that contacted me about possibly testifying at the July 9th hearing.

Because of the intense media coverage of that hearing, the folks at Discovery spent a great deal of time addressing the media, correcting their errors and explaining the real story. As the September 10th hearing approached, Discovery sent out press releases and sent a team to Texas to hold press conferences and potentially testify before the State Board of Education.

Because of all the media attention, that ranks of testifiers swelled to unmanageable portions. Over 150 people signed up to testify and they all expected their three minutes. You do the math! This was going to be a long meeting. Most of those associated with the Discovery Institute and a Texas-based organization, Texans for Better Science Education (www.strengthsandweaknesses.org), gained the early testimony slots when the board members were most alert. The meeting dragged on until 1 a.m., a full twelve hours.

Once again, those of us criticizing the textbooks came prepared with specific criticisms of the textbooks and the other side simply wanted to say that we had no place at the table of discussion and should be ignored because we are pseudo-scientists and religious fundamentalists.

Most distressing of all was a pastor from a large Southern Baptist Church in Austin who came to tell the Board that evolution was of science and creation was of Genesis and faith and that the two had nothing to do with each other. He went on to add that he and everyone else knew that the dissenters from evolution were only there to protect their religious beliefs. He received a thunderous round of applause from the theistic evolutionists, agnostics and a theists in the crowd.

How sad that this brother in Christ was so deceived and even

pretended to know why I was really there, having never spoken to me, nor had we even ever met. This broke my heart, as did other pastors who came to help but only showed their lack of knowledge about evolution and ended up hurting more than they helped.

While many evolutionists embarrassed themselves by exhibiting a childish paranoia, so did many Christians who just really didn't understand the issues. I'd love to do a Probe Ministries Mind Games Conference in all these churches—they need it.

## Was Anything Accomplished?

There was heavy media interest from July through early November when the Texas State Board of Education made their final decision. Special interests from both evolutionists and those dissenting from evolution were involved.

Those who wanted to strictly follow Texas guidelines to teach evolution, but remove factual errors and include both strengths and weaknesses of evolution hoped to vote on each textbook individually. But the more liberal majority decided to vote on adopting the Texas Education Agency's recommendation to approve all eleven textbooks. This motion passed by a vote of 11-4. Only two textbooks had made sufficient changes to be judged "conforming."{2} The other nine would have been judged "non-conforming," which would have still made them eligible to be purchased with state funds. Only a book judged "rejected" would not be purchased by the state.

This was a small setback. But some significant changes were made. The fraudulent Haeckel drawings of vertebrate embryos, suggesting far more evidence for evolution than actually exists, have been virtually removed entirely. The fraud has been known for over 100 years. Two textbooks (Holt and Glencoe) have now inserted acknowledgments that the Miller-

Urey origin of life experiment was based on ideas about the earth's early atmosphere no longer accepted by scientists. Another textbook has qualified an earlier claim made about evolutionary intermediates. The original textbook claimed that "since Darwin's time, many of these intermediates have been found." The revised text now reads: "Since Darwin's time, some of these intermediates have been found, while others have not." {3}

The journal *Science* matter-of-factly reported, "In response, some textbook publishers made minor changes, including replacing embryo drawings with photos and dropping the term 'gill slits.' One also eliminated the assertion that Darwin's theory is the 'essence of biology.'"{4}

While many of these changes are small, the public perception of the debate seems to be changing as evidenced by this statement from a *Dallas Morning News* editorial from November 5th:

> *"This ought to be easy; science is supposed to deal solely in facts. But the teaching of evolution is so entangled with politics that warring factions can't even agree on the facts. (What did the flawed Miller-Urey "origin of life" experiment prove, if anything, for example?) This is an injustice to the people of the state, who have a right to expect their children's biology textbooks to be a straightforward presentation of the most up-to-date scientific information, facts not privileged from a religious or anti-religious perspective."*

Other errors and problems still remain.{5} But this has been a good start.

**Notes**

1. Sample testifier statements:

- *Steven Schafersman, President of Texas Citizens for Science: "I am aware that the Discovery Institute, a creationist organization out of Seattle, Washington, has become involved in the Texas education process just as they did recently in Kansas and Ohio. They have prepared written testimony about the books submitted here and apparently deputized a member of a Texas creationist organization, Probe Ministries, to speak on their behalf." (Hey, that's me!)*
- *Ms. Amanda Walker: "So what we are really doing here is talking about using the political process to override the science process to suit creationists whose theories can't stand up in the global scientific community"*
- *Dr. David Hillis, Professor of Biology, UT Austin: "The objections to evolution in textbooks that you have heard are not about science or facts. They are about pushing a religious and political agenda."*
- *Ms. Kelly Wagner: "If you consider at all adding intelligent design to any of these textbooks, I would like you, again, this is a very, very personal question. I would like you to think, am I furthering medical research? Or am I contributing to Kelly Wagner's early death?" Ms. Wagner felt that "weakening" evolution in the high school biology textbooks would compromise medical research and therefore that research on her heart condition could be compromised.*

2. Most likely these would have been the Holt Biology book and the Glencoe Biology book, both of which made numerous constructive changes.

3. Holt Biology, p. 283

4. Constance Holden, "Texas resolves war over biology texts,"

*Science* Vol. 302(Nov.14, 2003):1130.

5. Use this website from Discovery for full report on the Texas debate. http://www.discovery.org/csc/texas/.

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# The Galapagos Islands: The Bohlins' Visit

The Galapagos Islands, off the coast of Ecuador, are where Charles Darwin received the inspiration for the theory of evolution. In observing the islands' ecosystem and how its bird and reptile inhabitants compared to similar South American cousins, Darwin assembled what has become the driving philosophy of science.

In May 2003, Dr. Ray and Sue Bohlin visited the Galapagos Islands with a different perspective, focusing on intelligent design and the natural limits to biological change. Here is their report.

1 – Why Visit the Galapagos Islands?

2 – Thursday PM: Bartolome

3 – Friday AM: Punta Espinosa

4 – Friday PM: Tagus Cove

5 – Saturday AM: Punta Moreno

6 – Saturday PM: Urbina Bay

7 – Sunday AM: Darwin Research Station

8 – Sunday PM: Santa Cruz Highlands

9 – Monday AM: Beach Visit

10 – Galapagos Wrap Up: ICR Lecture, What It All Means