

“Is Laminin All That Louie Giglio Says It Is?”

There are some crazy-popular YouTube [videos](#) featuring Louie Giglio about a cross-shaped molecule called Laminin that holds us together. What’s your take on it?

As a biologist myself I was intrigued when I heard about it and watched one of his YouTube videos. He really had to pump the crowd to get the reaction he wanted when he put it on screen. He almost always uses the crafted diagram, not an actual photograph, because the diagram shows the cross far better. Seemed a little forced to me.

Some observations:

1. The cross is not Jesus, so we are not held together by a symbol of Jesus. The cross is just the symbol of crucifixion, maybe.
2. Any adhesion molecule is going to need a way to interlock with another and this shape works well.
3. As mentioned above, when you see an electron micrograph (tiny tiny photo) the cross shape is not so clear. Textbooks will naturally lay it out differently.
4. Sorry, no goose bumps for me.

Respectfully,

Ray Bohlin, Ph.D.

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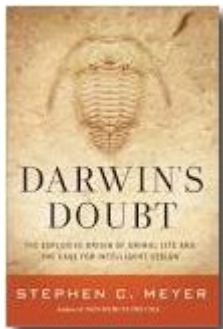
Darwin's Doubt

Dr. Ray Bohlin reviews Stephen Meyer's book Darwin's Doubt, showing that the sudden appearance of complex animal forms in the Cambrian cannot be explained by evolutionary mechanisms.

The Essence of the Cambrian Explosion



The fossil record of the Cambrian Period has been known as a problem for evolutionary theory since Darwin's *Origin of Species* in 1859. Darwin was aware of the sudden appearance of complex animal forms in the Cambrian from his own collecting in northeastern Wales. Complex animal forms such as trilobites seemed to appear with geological suddenness with no apparent ancestors in older rocks below them.



In his 2013 book, *Darwin's Doubt: The Explosive Origin of Animal Life and the Case for Intelligent Design*^[1], Stephen Meyer quotes Darwin from the *Origin of Species*: "To the question of why we do not find rich fossiliferous [fossil-bearing] deposits belonging to these assumed earliest periods prior to the Cambrian system, I can give no satisfactory answer. . . . The case at present must remain inexplicable; and may truly be urged as a valid argument against the views here entertained."^[2]

Meyer provides some of the historical context of this period and Darwin's disagreement with the eminent paleontologist of his day, Louis Agassiz of Harvard. Darwin's solution to his dilemma was to suggest that the fossil record is incomplete and that he fully expected that abundant fossils would be found to indicate the evolutionary origin of these Cambrian

animals. However, in the intervening century and a half, the problem has not been resolved. If anything, as we have gained more knowledge of animal life and development and found numerous deposits of periods just prior to the Cambrian, the problem is worse than Darwin perceived.

Early in the 20th century, a rich Cambrian deposit was found in the Canadian Rockies, the Burgess Shale. Entirely new organisms were found exquisitely preserved, many with soft-body parts well preserved. Then in the mid-1980s, an even earlier Cambrian deposit was found in Chengjiang, China. This deposit revealed an even richer diversity of organisms than the Burgess Shale, and even finer soft-body preservation—even down to eyes, intestines, sensory organs and stomach contents.

Later work in different parts of the world had timed the Cambrian explosion to a roughly 5-10 million year time frame around 530 million years ago [with the Cambrian period itself beginning 543 million years ago] in the evolutionary time frame. Though that's a very long time, even for evolution, it's practically instantaneous when discussing the origin of entirely new body plans. As Meyer faithfully recounts, Darwin's dream of an ever-increasing rise in complexity and diversity is shattered by the geologically abrupt appearance of both complexity and diversity.

What has been referred to as "Darwin's doubt" could be more aptly referred to as "Darwin's headache." In this article I will explore some of the additional problems this sudden explosion of animal body plans poses for evolution. While committed evolutionary materialists pretend to not be disturbed by these developments, those with open minds are questioning this long-held theory and giving new consideration to Intelligent Design.

Evolutionary Explanations of the Cambrian

Explosion

Even Darwin recognized the Cambrian as a puzzle for his theory. Darwin hoped that further exploration of fossil-bearing strata would reveal the ancestors of the Cambrian animals.

In the early 20th century, Harvard paleontologist, Charles Walcott, found a new Cambrian deposit in the Canadian Rockies, the Burgess Shale. The Burgess Shale contained new creatures never seen before and was able to preserve some soft-body parts, also never seen before. This proposed an even greater problem than Darwin knew. Older deposits were still not revealing the ancestors of the Cambrian, but now there was even more diversity and novelty than anyone had imagined. The discovery of a predator, the up-to-meter-long *Anomalocaris*, demonstrated there was a well-defined ecosystem with plant producers, plant consumers and carnivores.

The origin of the Cambrian fauna seemed to turn Darwin's theory on its head. Darwin expected all animal life forms to be descended from a single common ancestor through a lengthy process of descent with ever-so-slight modification. But these Cambrian novelties appeared quite suddenly with no ancestors. That is not evolution as Darwin envisioned it. Walcott suggested two reasons for the disparity. First, he suggested that the immediate Pre-Cambrian deposits containing the Cambrian ancestors were to be found on the ocean floor. Subsequent off-shore drilling for oil provided a unique opportunity to test this hypothesis. But most of the sea floor is much younger than the Cambrian. If there were Pre-Cambrian deposits, they no longer exist.

Walcott also tended to be a "lumper" in taxonomic terms. That means he fit fossils into already existing categories whether they fit well or not. This appeared to minimize the explosive part of the Cambrian. But additional field excavations in the Burgess Shale, as well as in different parts of the world,

revealed that many of these Cambrian creatures were unique and that their descendants are not known today—they are extinct. The novelty of Cambrian forms is more pronounced than ever.

The late Stephen J. Gould of Harvard famously described the uniqueness of these Cambrian creatures when he said; “Imagine an organism built of a hundred basic features, with twenty possible forms per feature. The grab bag contains a hundred compartments, with twenty different tokens in each. To make a new Burgess creature, the Great Token-Stringer takes one token at random from each compartment and strings them together. Voila, the creature works—and you have nearly as many successful experiments as a musical scale can build catchy tunes.”[\[3\]](#)

Fossils have been found in sediments older or below the Cambrian but these fossils do not appear to be ancestors of the Cambrian creatures. They were also quite unique and most are now extinct. The mystery remains.

Libraries of New Genetic Information Needed: Pronto!

All Darwin had to examine were the unique animals found in Cambrian deposits. He knew nothing of genetics and the need for new genetic information.

Paleontologist James Valentine has gone so far as to say that probably all the living animal phyla had their beginning in the Cambrian period, over 500 million years ago. We do find multi-celled animal fossils 20-30 million years before the Cambrian, but only sponges seem to resemble anything we find in these deposits.

A phylum is an upper level of classification. For instance, all vertebrates are in the same phylum. Insects, crustaceans, and spiders are also in the same phylum. The phylum represents organisms with a distinct body plan though there may be many

variations on that theme. In order to have all these new body plans or phyla appear in the Cambrian in a geological instant, you need a lot of new genes or genetic information. Different types of cells are needed. New genes are needed to grow new body plans out of a single-celled fertilized egg. With different cell types come different kinds of functions and cell types each needing specific gene products to give them their unique functions.

When protein sequence and gene sequence comparisons were begun in the late 70s, there was an expectation that comparing gene sequences would solve relational puzzles among living organisms but that by comparing genes from different phyla, it could be determined how phyla were related. The Cambrian fossils offer no such clues since most animal phyla appear at nearly the same time. But several decades of gene sequence comparison studies have revealed no consistent evolutionary scheme. As Meyer summarizes, "Many other studies have thrown their own widely varying numbers into the ring, placing the common ancestor of animals anywhere between 100 million years and 1.5 billion years before the Cambrian explosion." [\[4\]](#)

Meyer does a great job of articulating why there would need to be an information explosion along with the Cambrian explosion. Accounting for all this new information, in a relatively short period of time, by known processes is a herculean task. If evolution solely depends on a Darwinian model, then mutation and natural selection must be able to account for the explosive rise of new genes and regulatory gene networks during the Cambrian. Meyer spends several chapters working this through. Achieving the extreme specificity of proteins through the slow, plodding, processes of mutation and natural selection appears impossible.

In the next section I address an even greater difficulty of the Cambrian explosion. Darwinism has always needed a slow gradual accumulation of genetic change. However, with the relatively quick appearance of very different forms of animals

in the Cambrian, is Darwinism up to the task?

The Exasperating Problem of New Body Plans

Darwin understood nothing about how animal body plans are laid out and built in the early embryo.

Since Darwin's time we have learned a great deal. And none of what we have learned offers any help in deciphering how all these new body plans originated in such a short geological time period in the early Cambrian. The overall structure and shape of an organism is laid out early in embryonic development. Particular genes necessary for development are tightly controlled in when and how they are expressed. These genetic regulatory programs operate only in early development and they limit the possibilities of the final form of the organism.

Biologists use a classification term, phylum, to refer to the largest category of animals and plants. Humans belong to the Phylum Chordata, which includes all the vertebrates. Insects are in the Phylum Arthropoda, which includes crustaceans and spiders. These two phyla possess very different body plans, and the genetic programs to build these plans are very different in the earliest stages, even in the first few divisions of the fertilized egg. The Cambrian demonstrates that these very different body plans arise in less than ten million years of time geologically. Is that possible? All Darwinism has to work with as the source of genetic variation, are mutations.

In 1977, French evolutionist Pierre Paul Grassé noted that mutations don't provide any real evolutionary change. Mutations only seem to provide only a slightly different variety of what already existed.^[5] Twenty years later, a trio of developmental biologists noted that modern evolutionary theory explained well how the already fit survive and

reproduce. But just how organisms came to be that way, the modern theory seemed silent.[\[6\]](#) Evolutionary biologist Wallace Arthur explained that modern textbooks told the same stories about how finch beaks and the color of moths changed to suit their environment, but nowhere was it discussed how the organism as a whole came to be so integrally functional.[\[7\]](#)

These problems have been further addressed in recent years but nothing seems to propose any clear answers as to how new body plans could have appeared in such a short span of evolutionary time.

Steve Meyer summarizes his review of these difficulties in the light of the Cambrian saying, “The Cambrian explosion itself illustrates a profound engineering problem the fossil data does not address—the problem of building a new form of animal life by gradually transforming one tightly integrated system of genetic components and their products into another.”[\[8\]](#)

An Opportunity for Intelligent Design

I have documented how the sudden appearance of new forms in the Cambrian creates mysteries in terms of the fossils, genetics and developmental biology.

In chapter 18, Meyer turns his attention from the observation that modern evolutionary theories do not explain the sudden appearance of all the major animal groups in a short burst of geologic time, to what can explain the Cambrian Explosion. He carefully argues that Intelligent Design has all the causal power to bring about what is needed in the Cambrian.

Initially he summarizes the conclusions of two important evolutionary students of the Cambrian, Douglas Erwin and Eric Davidson. Together these scientists have listed a few of the observations any evolutionary cause must explain. First, whatever the cause of the Cambrian Explosion, it must be able to generate what is referred to as a top-down pattern. That

is, the broad general categories of animals appear before there is any refinement in these characters. Second, the cause must be capable of generating new biological forms relatively rapidly. Third, this cause must be capable of constructing, not just modifying, complex genetic regulatory circuits.

They also note, as Meyer reports, that no existing theory of evolutionary change can accomplish any of these necessary events.^{9} Davidson and Erwin are quite insistent that the processes operating in the early Cambrian were fundamentally different from anything operating in nature today. That's a tall order. But Meyer adds a few more prerequisites for a cause for the Cambrian Explosion. In addition to the need for rapid development of a top-down pattern, new body forms and creation of new genetic regulatory circuits, Meyer observes that this cause also needs to generate new digital information in the DNA and new structural information that cells use routinely. There also needs to be the development of new types of information that are precisely coordinated to specify brand new body plans.^{10}

A designing intelligence may be the only sufficient cause that can accomplish all of these events within any time frame, let alone the 5-10 million years of the Cambrian Explosion. Meyer concludes the chapter by writing, "The features of the Cambrian event point decisively in another direction—not to some as-yet-undiscovered materialistic process that merely mimics the powers of a designing mind, but instead to an actual intelligent cause."^{11}

Clearly when all the evidence is reviewed as Meyer does, the conclusion of Intelligent Design is nearly impossible to avoid. To ask how a designing intelligence did all this is to insist on a materialistic explanation for an immaterial cause. More is yet to be discovered, but if the pattern holds, Intelligent Design will become even more robust in the future.

Notes

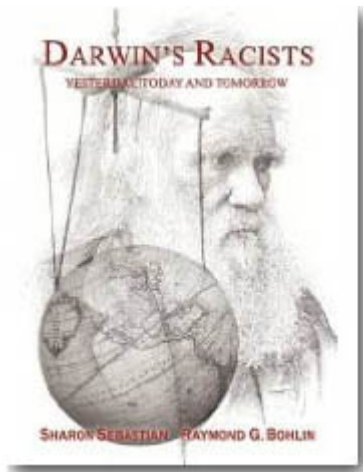
1. Stephen C. Meyer, *Darwin's Doubt: The Explosive Origin of Animal Life and the Case for Intelligent Design* (New York: HarperCollins, 2013).
2. Charles Darwin, *The Origin of Species*, Chapter X (pp. 235, 252-254), quoted in *Darwin's Doubt*.
3. Stephen J. Gould, *Wonderful Life: The Burgess Shale and the Nature of History* (New York: W.W. Norton & Co., 1989), p. 217.
4. *Darwin's Doubt*, pp. 105-106.
5. Pierre-Paul Grassé, *Evolution of Living Organisms* (New York: Academic Press, 1977), p. 87.
6. S. Gilbert, J. Optiz, and R. Raff, "Review—Resynthesizing Evolutionary and Developmental Biology," *Developmental Biology* 173 (1996): 361. "The Modern Synthesis (Neo-Darwinism) 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."
7. Wallace Arthur, *Biased Embryos and Evolution*, (Cambridge: Cambridge University Press, 2004), p. 36. "Textbooks of evolutionary biology have for years trotted out the usual old stories about how birds' beaks evolve to match their food items, or how moths' colours evolve to match their background. But where are the equally detailed studies about the importance of one body part matching another."
8. *Darwin's Doubt*.
9. *Ibid.*, p. 355.
10. *Ibid.*, p. 358.
11. *Ibid.*, p. 381.

Was Darwin a Racist?

In some circles to even ask this question and impugn Darwin's integrity conjures up charges of secular blasphemy. After all, Darwin is well documented as holding views on slavery commensurate with the great William Wilberforce himself. Darwin was repulsed by any cruelty of humans on humans.

Darwin was by all accounts an affectionate husband, loving father, defender of the oppressed, and just an all round good and decent man. So how could one accuse him of racism? You simply need to read his second major work on evolution, *The Descent of Man*.

As Benjamin Wiker makes clear in his recent biographical book, *The Darwin Myth: The Life and Lies of Charles Darwin*, Darwin insisted that his theory of natural selection and evolution be understood as a purely natural and undirected process. Consequently, he could only see humans and apes as the result of a real struggle for survival. By all accounts, humans were winning. There was also a severe struggle going on between the races of man.



I recently coauthored a book with Sharon Sebastian entitled *Darwin's Racists: Yesterday, Today, and Tomorrow*. In chapter three we discuss Darwin's explanation of the differences between men and apes from *The Descent of Man*.

In Chapter 6, *On the Affinities and Genealogy of Man*, Darwin argues that he expected the civilized races of men to fully exterminate the savage races of men in just a few centuries. He also expected the anthropomorphous apes [Ed. note: those most like humans] (gorillas and chimpanzees) to become extinct. As a result, he believed that the gap between humans and animals would eventually be much greater than exists. Darwin postulated that this higher form of man would come from the current Caucasian race. In his book, Darwin states that the current gap between apes and humans is between the gorilla, on the ape side, and the Negro or Australian aborigine, on the human side:

The break will then be rendered wider, for it will intervene between man in a more civilized state, as we may hope, than the Caucasian, and some ape as low as a baboon, instead of as present between the Negro or Australian and the gorilla.

Darwin's foremost German disciple, Ernst Haeckel, made even more dramatic statements. According to Haeckel, if you want to draw a sharp boundary between the human races and the apes, "you must draw it between the most highly developed civilized people on the one hand and the crudest primitive people on the

other, and unite the latter with the apes." Elsewhere Haeckel identifies these cruder and primitive races as the Australian aborigines and the South African Bushmen, which he says, still live in herds, climb trees and eat fruit. According to Haeckel, certain more primitive groups of "people" are more ape than human.

Darwin certainly did not invent racism. Prejudice because someone is "other" than us has always been a part of human existence. What Darwin did provide was a scientific rationale that justified racial prejudice. Implicit in Darwin's struggle for existence is that some forms of a species would be more fit for the current environment than others. From Darwin's vantage point, the Caucasian or European race was well underway to surpassing the other "human" races because of their intelligence, culture, and superiority in war as demonstrated routinely in conflicts between Europeans and any other race or culture to that point.

Darwin's ideas were used to launch the first eugenics society in Britain headed by his cousin, Francis Galton. Darwin's son, Leonard, later served as President of the same society. Margaret Sanger drew her inspiration for what became Planned Parenthood from Darwin and saw a need to control the breeding of poorer and less fit humans.

If humans are a part of a naturalistic struggle for existence, then it logically follows that some tribes and races of humans will be more fit than others. And since with Darwin's help, we now understand this struggle, why not help it along by slowing down the breeding of those less fit? Or, as Hitler rationalized, eliminate them altogether.

To be sure, Darwin himself would likely have been horrified by the excesses of the early 20th century eugenics societies and the national excesses of Nazi Germany, Stalinist Russia, Mao's Cultural Revolution and Pol Pot's regime of extermination. But they all thought they were simply aiding and abetting the

process of natural selection.

You can order [a copy of the book](#) at the Probe Online Store.

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“Is Dark Matter Another Attack on God?”

I was reading an article about experiments with dark matter in a very deep underground lab in South Dakota. What is dark matter and is this another secular atheist way to circumvent God?

The simple answer is that dark matter is material in space that cannot be directly detected with telescopes because it does not emit any type of radiation. Ordinary dark matter is made up of cold gas, stars with so little mass that they never ignite nuclear fusion, small rocks, etc. Even though astronomers cannot directly see dark matter, they can detect its presence through its effects, e.g. impact on movement of galaxies. (See the excerpt from an article by Dr. David Rogstad below for more information on this.) In attempting to measure the amount of dark matter required to create the observed effects, astronomers have developed a theory that there are two types of dark matter: ordinary dark matter and exotic dark matter. Exotic dark matter only weakly interacts with light and ordinary matter, so it is different than the material we normally deal with on earth. I would guess the experiments you were reading about were dealing with the study of exotic dark matter.

Based on this definition, the existence of dark matter does

not directly bear on the existence of God. I have not seen any arguments from atheists that point to dark matter as supporting evidence for their claims. Given that dark matter in space can only be detected through very sophisticated, expensive methods, I would not expect the Bible to talk about it directly, and it does not. Of course, the Bible makes it clear that “For by Him [Jesus Christ] all things were created, both in the heavens and on earth, visible and invisible” (Col. 1:16). No matter how you define dark matter, it is covered by this verse.

Going a little deeper, it is true that some (but not all) of the ways used to estimate the amount of dark matter in the universe assume that the universe has been expanding for billions of years. Some Christian scientists, such as those at Reasons to Believe, who promote a Biblical creation model based on a 13.7 billion-year-old universe, point out that the existence of dark matter in just the right quantities is further evidence that our earth is fine tuned for life to such a degree that it could only be through the work of a transcendent, all powerful, intelligent creator. RTB has a number of articles on dark matter which you can see at www.reasons.org/search/node/?keys=%22dark+Matter%22.

If you are interested in understanding the different Christian perspectives on the origins of the universe, check out our Faith and Science section at www.probe.org; in particular you may be interested in “Christian Views of Science and Earth History” at www.probe.org/christian-views-of-science-and-earth-history

I hope this answer is helpful for you.

God bless,
Steve Cable

Excerpt from Dr. David Rogstad on history of dark matter:
“Based on his observation that clusters of galaxies do not

have enough matter to remain gravitationally bound, Fritz Zwicky proposed (in 1933) the existence of dark matter to provide the needed gravity. Since then, there has been a growing body of supporting evidence, including flat rotation curves in large spiral galaxies, larger-than-expected velocity dispersion in elliptical galaxies, and certain measured characteristics of the cosmic microwave background, all of which require the presence of dark matter for their explanation.” [www.reasons.org/filling-gap]

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Dr. Ray Bohlin Engages in Embryonic Stem Cell Debate

Dr. Ray Bohlin was recently (3/11/09) a guest on a radio talk show concerning President Obama’s Executive Order expanding federal funding for embryonic stem cell research. This was on station KPFT in Houston, a “Progressive” (liberal) radio station. The other guest was Dr. P.Z. Myers, in his own words “a godless liberal,” a biologist at the University of Minnesota at Morris. He hosts what is called the most popular science blog in the nation, Pharyngula. The host of the program, Geoff Berg, could probably also be described in the same way. The hour-long show is archived [here](#). You might be interested to listen to Dr. Bohlin explain his viewpoint in a sometimes hostile environment.

Articles you may find helpful:

[Human Embryonic Stem Cells Go to Human Trials](#) [Heather Zeiger]

[The Continuing Controversy over Stem Cells](#) [Dr. Ray Bohlin]

[Stem Cell Wars](#) [Kerby Anderson Commentary]

[Stem Cells and the Controversy Over Therapeutic Cloning](#) [Dr. Ray Bohlin]

[Stem Cell Commentary](#) [Dr. Ray Bohlin]

[Cloning and Genetics: The Brave New World Closes In](#) [Dr. Ray Bohlin]

Darwin Day

February 12, 2009 is being promoted internationally as Darwin Day. Aside from being Abraham Lincoln's 200th birthday it is also Charles Darwin's 200th birthday. It's not too difficult a guess to say that the emphasis on Darwin is due in large part to the continuing success of groups around the world arguing that Darwinism is not all that it has been made out to be.

In America 40% of the general public still does not accept that a purely naturalistic process is responsible for all we see in the living world. This drives the community of evolutionary biologists and all humanist and atheist groups positively bonkers. They all but blame the decreasing enrollments in science programs in this country on this continuing reticence to accept Darwin.

Some see the need, therefore, to increase education on all things Darwin on the occasion of Darwin's anniversary and all the contributions of the man and the idea. We will hear how Darwin revolutionized biology. The often repeated quote of Theodosius Dobzhansky, a mid-20th century evolutionist, that "nothing in biology makes sense except in the light of evolution," will be repeated ad nauseum.

There is no doubt that Darwin made impressive contributions about the ubiquitous nature of small scale changes in biological populations over time. Not all things Darwin are to be considered suspect. But separating the good from the bad can be a daunting challenge at times.

The recent documentary film, *Expelled: No Intelligence Allowed*, received howls of protest at the accusation that Darwinism made a contribution to the Nazis' eugenics program and ideas of racial purity. Never mind that these connections have been considered historical facts for decades. Richard Weikart's excellent book, *From Darwin to Hitler: Evolutionary Ethics, Eugenics, and Racism*, makes the case in great detail from the German literature of the early decades of the twentieth century. But casting aspersions on Darwin in a very public setting just isn't tolerated. People might get the wrong idea, you see, that Darwin is anything less than THE saint of modern biology.

You should also pay no attention to the fact that when the great Supreme Court Justice, Oliver Wendell Holmes, finished his soldiering in the Civil War, he became a convinced Darwinist after all the suffering he witnessed and participated in. This led to his rethinking about law in general. He soon realized that since all things biological change over time, so should the law that we govern ourselves by. Holmes was the original activist judge, making law instead of interpreting law. He firmly believed that law was a product of evolving cultures and traditions.[\[1\]](#)

The innovator in moral philosophy of education John Dewey was decidedly Darwinian. The originator of the still popular Values Clarification moral approach believed that moral values evolve just like biological features, and students must be free therefore to arrive at their own values. We simply can't know if our values are better or preferable than another's. When given a choice, most parents prefer their children be taught a clear system of right and wrong but most teachers

prefer to teach a values clarification approach. [{2}](#)

If we're going to be bombarded with Darwiniana this month and for the rest of the year (since 2009 is also the 150th anniversary of the publication of Darwin's *On the Origin of Species*) let's appeal for some balance. Since even Abraham Lincoln is being reevaluated as perhaps not the great President many have idolized him to be, why not Darwin?

Check out [Probe's numerous articles](#) on the various problems with Darwinian practice and thinking. Also stop by the Discovery Institute's website at www.discovery.org/csc to keep up with the latest news through articles, podcasts, and news briefs.

Let's teach more Darwin for sure. But let's try to tell the whole story and not just the laundered propaganda of the evolutionary elite.

Notes

1. Nancy Pearcey, *Total Truth* (Wheaton, IL: Crossway Books, 2004), p. 228-229, 237.
2. Ibid., 238-242.

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**“Shouldn't the Statistical
Improbability of Evolution
Convince Open-Minded**

Evolutionists?"

Dear Dr. Bohlin,

Thank you for your excellent article ["The Five Crises in Evolutionary Development"](#) which I just completed reading. Very, very well done.

Here is a comment/question for you: The statistical improbability (impossibility) of macroevolution, whether Darwinian or sudden leaps, is so overwhelming that no other evidence should really be needed to discredit the theory. However, I've never seen the type of discussion of the statistical/probability aspect that I'd like to see. My feeling is if the statistical aspect were carefully developed and presented it would be sufficient to convince any reasonably open-minded evolutionist (an oxymoron?).

Thanks again for your excellent article. If you know of any good statistical analyses of the probability of evolution please tell me where to look.

I'm glad you found the article helpful.

Regarding probability, most biologists don't really fully comprehend the argument from probability. To them, evolution happened, therefore the statistical studies must be missing something to come up with such impossible odds. Their eyes tend to glaze over with the many numbers and conditions. In my graduate work at the University of North Texas in the late 70s, the one probability and statistics course we all took was largely seen as necessary evil and we all probably remember being told that statistics can be easily misused and you can prove anything with statistics. So while they all need some probability and statistics to get their population genetics articles published, they largely distrust the figures of others. Therefore anything trying to use probability to debunk evolution must be suspect.

A good book covering the general argument from probability against evolution can be found in Lee Spetner's *Not By Chance*. You can probably still find it at Amazon or at the ID website at www.arn.org.

Respectfully,

Ray Bohlin, PhD

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“Cloning Could Help So Many People”

I am intrigued by the possibilities of cloning. Is human cloning possible? Could we use it on nearly extinct animals? What would be the risks of cloning, and if it were a success what might be the outcome?

I am interested in this because I think that cloning should be allowed to go ahead because it could one day help a lot of people. I would like to know as much information as you have on genetic cloning, so that I can gain an understanding of it and how it works. We would also have the ability to feed the starving children in Africa and other third world countries.

I am intrigued by the possibilities of cloning. Is human cloning possible? Could we use it on nearly extinct animals?

Human cloning is not possible at this time. Cloning to preserve endangered species is counter-productive since cloning produces genetically identical organisms. Endangered species usually suffer from a lack of genetic diversity.

Cloning only makes the problem worse.

What would be the risks of cloning, and if it were a success what might be the outcome?

Cloning produces a nearly identical genetic copy of the original by taking the nucleus of a cell from an organism and placing inside an egg cell of the same species. The egg needs to “reprogram” the original cell’s DNA to perform embryonic functions. The risks currently are that this process is not always complete and the organism dies at various stages of development, or it is born deficient in some way. Some scientists believe that all clones are genetically handicapped in some way but some are able to survive, but marginally.

I am interested in this because I think that cloning should be allowed to go ahead because it could one day help a lot of people.

We don’t really know yet what cloning could do for anybody. At the moment there are only hopes and wild dreams.

I would like to know as much information as you have on genetic cloning, so that I can gain an understanding of it and how it works.

I have several articles on our website. Check there first:
<http://www.probe.org/faith-and-science/bioethics/>

If we were to be able to clone cows it would mean that we would not have a loss of meat production.

Cloning cows is more expensive than normal reproduction. Currently only bulls are cloned to make more copies of good genetic stock for normal animal husbandry purposes.

We would also have the ability to feed the starving children

in Africa and other third world countries.

Unfortunately, cloning will not answer this problem.

I hope you find this helpful.

Respectfully,

Ray Bohlin, Ph.D.

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Only Science Addresses Reality?

Dr. Ray Bohlin comments on the hubris of Drs. Coyne and Cobb in their op-ed in Nature, in which they claim that only science addresses reality. Religion, they say, must be silenced. This alarming sentiment has already met reality in California.

Would it surprise you to hear that churches may eventually be prohibited from teaching any ideas contrary to Darwinian evolution? “No way!” you say. “The Constitution guarantees freedom of speech! The first amendment guarantees that Congress can pass no law restricting or promoting any religious exercise!”

Well, yes the Constitution does that, but be patient with me and I’ll show why the answer to the opening question could be “yes.”

In the current issue of Nature, probably the most prestigious science journal in the world, a letter to the editor appeared

in the August 28, 2008 issue on page 1049. Two well-known evolutionary biologists, University of Chicago's Jerry Coyne and University of Manchester's Matthew Cobb wrote the letter to complain about a previous editorial expressing hope that the Templeton Foundation, which funds research into the relationship between science and religion, might bring about some helpful resolutions.

Coyne and Cobb couldn't disagree more:

We were perplexed by your Editorial on the work of the Templeton Foundation.... Surely science is about material explanations of the world—explanations that can inspire those spooky feelings of awe, wonder and reverence in the hyper-evolved human brain.

Religion, on the other hand, is about humans thinking that awe, wonder and reverence are the clue to understanding a God-built Universe.... ***There is a fundamental conflict here, one that can never be reconciled until all religions cease making claims about the nature of reality*** (emphasis added).

The scientific study of religion is indeed full of big questions that need to be addressed, such as why belief in religion is negatively correlated with an acceptance of evolution. One could consider psychological studies of why humans are superstitious and believe impossible things....

...You suggest that science may bring about "advances in theological thinking." In reality, the only contribution that science can make to the ideas of religion is atheism (emphasis added).

Coyne and Cobb clearly state that religion has no authority to make claims about reality. If science is allowed to persist in this audacious distortion of religion and science, then any kind of teaching that is critical of any aspect of naturalistic evolution would be considered a negative influence on society as a whole. Religion is seen as crossing

its constitutionally protected borders.

Biology teachers constantly complain now that what they teach about evolution is contradicted by the churches their students attend. This is obviously quite frustrating. If science is the only branch of knowledge that is allowed to make claims about reality, then religious teachings should not be allowed to interfere.

You may still be thinking that I'm taking this too far. Consider though that the California state university system already refuses to give credit for high school science courses that include anything beyond naturalistic evolution. Many Christian private school graduates in California are finding that their science courses are not accepted at state universities. Essentially that means you don't get in unless you can make those credits up by taking junior college science courses that meet the evolution-only standard.

State governments may easily decide that they need to help these religious school graduates out by requiring that these religious schools not be allowed to teach religious material that contradicts state-mandated standards. It's a violation of the separation of church and state, after all!

If you ever questioned the importance of the evolution/Intelligent Design controversy, I hope you see the point now. Unless we can convince a sufficient minority in the science community that science is limited and the subject of origins is one of those limitations, we may not be able to legally teach students anything about creation or Intelligent Design.

While Coyne and Cobb certainly don't represent all scientists, they are not alone! Trust me. I watched a video recently of Jerry Coyne making a presentation at a scientific meeting where he basically made the very same claim. NO one objected. He was applauded enthusiastically. Watch it for yourself

[here](#). While the whole lecture is worth watching, the last eight minutes when he presents a slide with just the word “Religion” is the key segment.

Coyne and others are trying to establish what Nancy Pearcey called the fact/value split in her book *Total Truth*. To Coyne science is based on fact. Only material explanations are allowed in science since religion is based on personal values and have nothing to do with facts. Therefore if you try to inject your personal values (Creation, Intelligent Design) into the world of facts (science) this is a violation of the rules of science. It’s not allowed.

According to Jerry Coyne speaking in the video, the only way to increase the acceptance of evolution is to reduce or eliminate the influence of religion. The two are incompatible! Coyne is unable to see that he also has a worldview, materialism, which influences how he interprets the data of science. He erroneously believes he is being objective about his interpretation.

This is a cultural battle as well as a scientific battle. For more information and resources from Probe to help you educate yourself and others about evolution and Intelligent Design see browse our articles at www.probe.org. If we don’t “tear down strongholds” like this, we may find ourselves behind impenetrable, silent walls.

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“Can I Get HIV From Washing

Machines?"

Hello Mr. Ray,

I would like to get some advice from you regarding HIV transmission.

Because of the nature of my job, I have to always travel from one place to another. During this I have to stay in the hotel for many days. For washing my clothes, I often use the washing machines which are kept in the hotel for washing clothes. These machines are used by many people for washing clothes. Do I need to take any special care when using these machines for washing my clothes, as these machines are used by several people; some of them might be infected with the disease or the clothes which are brought for washing might be contaminated with body fluids of the infected person.

Please advise.

There is no danger to you in using these washing machines. Infection with HIV requires direct contact with body fluids contaminated with the virus. HIV is actually a very fragile virus outside the body so even if someone were to have washed clothes containing blood or semen from an infected individual in the machine you are about to use, the virus will have been disabled long before by exposure to air, drying and the chemicals in the detergent. Infection also requires exposure to a large number of virus particles. So even if, by the remotest of chance, some virus particles survived all this (and the heat of the dryer), there simply would not be enough of them to cause infection by the time you put your clothes on or even handled them in the laundry facility.

I am confident that you have nothing to be afraid of.

Respectfully,

Ray Bohlin, Ph.D.
Probe Ministries