

YMLC Paper – Intelligent Design: Why So Popular

By Harley Karz-Wagman

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We can see. We can think. We can perceive our amazing universe, even the dark matter and the anti-matter. That cannot be accidental. We can even understand each other, or we can process thoughts so quickly that we can choose to ignore each other. Our life feels so complex that we must have a purpose.

Evolution sounds like it means that the world in general and our life in particular is random, governed by chance and fate, ultimately full of sound and fury, signifying nothing. But for the fluke of random mutations, we would be monkeys or dinosaurs or bacteria. Nothing is predictable, and we do not matter.

For a large segment of America, thoughts like these make it hard to accept evolution and comforting to accept a competing theory, called Intelligent Design. The current use of the phrase, Intelligent Design, means that our world was created, pretty much as it is, at one time, by a supernatural Creator, whom we call God.

Not long ago, those who opposed evolution called their approach “creationism,” but the term Intelligent Design has taken over.

The idea of purposeful creation by a purposeful Creator goes back to primitive times. It fits an intuitively appealing proof of God, which philosophers call “teleological.” The complexity of nature, especially human nature, could not possibly have developed randomly. Immanuel Kant, perhaps the greatest logician of all time, showed why that proof is fallacious, in his classic book, The Critique of Pure Reason, published in 1781. Yet, even Kant can’t give up his faith in God. He pointed to the starry skies above, and the moral law within, as the basis for his own believing in God, even if we cannot prove, by logic, that God exists.

What today’s proponents of Intelligent Design add is that purposeful creation cannot include an ever changing world, governed, in part, by the scientific laws of evolution, of survival of the fittest. So, the teaching of evolution, pronounced evolution, corrupts our kids and turns them away from the Bible, and from God. It must be stopped.

To no surprise, those who argue against the science of evolution focus on the complexity of nature. Eight years ago, Dale Strickland gave a paper to our club on the scientific arguments for and against Darwin's theory of evolution. Dale sent me a copy, and I will, with his permission, send it to any of you who ask. My goal tonight is to explore why those who oppose evolution find Intelligent Design so compelling.

Studies have shown that as many as 40% or more of Americans oppose teaching evolution in our schools, or at least want a requirement to teach alternatives. Columnist Leonard Pitts cites a national study, a couple of years ago (column 2/4/11), by professors at Penn State. They found that: only 28% of High School science teachers consistently present evidence of evolution; 13% explicitly advocate creationism or intelligent design; and 60% avoid controversy. They teach that students need not "believe in evolution," just understand enough to pass the test.

I imagine that John Scopes and his attorney, Clarence Darrow, are rolling in their graves, either stunned that we still have this debate, or perhaps laughing at those of us who thought the matter was settled. (The Scopes trial was held in 1925 in Tennessee.)

The School Board for the state of Texas may have a majority opposed to teaching evolution. Texas matters more than any state, except California, since both of them have statewide mandates for textbooks. The same science books are used, throughout the entire state. That creates a huge market for publishers, who must cater to whatever the Texas and the California Boards of Education mandate.

So why is evolution so unpopular? I see two fears – the obvious one, the fear of change, and a deeper one, the fear of meaninglessness.

Change always scares us. We may become comfortable with life, which may be defined as change. Yet, we like predictability, and evolution seems to imply randomness. The fear of change has grown exponentially in America over the past few decades.

Consider us, the baby boomers, the only generation which counts, at least in our own minds. We grew up with solid expectations about reliable careers, growing pensions, and all the health care we needed. We also expected that we could rely on our families, our neighbors, our churches, and our politicians.

Well, we never expected that about politicians, but the rest were the foundations of our lives, the rugs which one by one have been pulled from under us. So, we became anxious, vulnerable to demagogues, to fear mongers, and that was before 9-11 and before the recent recession. The hope, the faith, that evil lution does not work feels very comforting, a bit of reassurance in a stormy world.

From a global perspective, those changes sound minor. How can we complain about our situation, compared to the ravages of war, of mass starvation, of epidemics, and of vicious dictatorships? Yet we engage in “first world thinking” and narrow our perspective to just American life. However intellectually indefensible, our feelings are real and powerful, and they cry out for a response. Intelligent Design responds to those feelings that our world is crumbling. It enables us to stop the world, and get off.

Intelligent Design also speaks to a deeper fear, the fear that our lives have no meaning. Evolution seems to require that our fate will be random, dependent on mutations, with no loving God to support us.

Many of us see no conflict between faith in a loving God and evolution. Yet, it feels conflicting, and those who want to exploit our fears will exploit that feeling.

No fear hits deeper than the fear of meaninglessness. It drives people to suicide or to lesser forms of giving up on life, such as drugs, alcohol, video games, and never ending obsessions with sports. We so much need to feel significant that sociologists often define “religion” (see [The Sacred Canopy](#), by sociologist, Peter Berger) as our response to the problem of meaning, to the challenge of finding purpose and significance.

By way of irony, if we hold our human status as our highest priority, then we are worshipping our status, which just happens to be one of the most common forms of idolatry. For further irony, some of the same scientists who most vehemently defend evolution may also worship an idol, themselves, by claiming that the only real truth is what they can prove by their studies. At the same time, many other scientists, I believe the majority, see no conflict between evolution and faith in God, whether they believe in God or not.

Beyond these two primal fears, much of the force behind Intelligent Design is a belief, a deeply and genuinely held one, that evolution contradicts the Bible. Exponents hold, as a fundamental article of faith, that God created the world, one time and one way. We know that, because Genesis tells us so. By the way, this view of creation overlaps with a view of human nature, often called “original sin,” which posits that we human beings, on our own, are fundamentally hopeless. Without supernatural intervention, we would continue to make the world the same mess we already have made, and keep making. At another setting, we can debate human nature and the need for a supernatural Messiah. I mention it tonight, because I suspect that those who fear evolution connect it, at least subconsciously, with their view of human nature. I happen to see no necessary conflict between original sin and evolution, but again, that is a debate for another time.

For tonight, just consider the Bible on creation. My Jewish tradition posits that every word, even every letter, of the Bible can be interpreted in infinite ways. How else would an infinite God communicate?

That non-literal approach to Biblical interpretation is used by Jews, by Christians, by Muslims, and even by those who deny that the Bible reflects the accurate teachings of God.

Consider just four ways of translating and interpreting the first phrase in the first chapter of Genesis. The Hebrew words are: –*“B’reisheet bara elohim et hashamayim vet ha’aretz.”*

The most common translation derives from baseball – “In the big inning, God created the heavens and earth.” Why do we assume that means the top of the first? Why not the third or the seventh, or even enough extra innings that we are still playing the game?

For King James, who met with Moses in person, the first words should be translated, “In the beginning, God created the heavens and the earth.” That depicts a world that’s fixed, stable, and predictable. That gives us feelings of security and comfort.

Although common, that understanding seems contrary to our experience in life. We experience constant change. It also contradicts the rest of the Bible, which seems to presume our human ability to create, that is, to improve the world.

That task, improving the world, might be understood as the Biblical explanation of our purpose, or why we exist. We do so, as God's partner, as co-creator.

More fitting our experience is the translation of our ancient Rabbis and many modern scholars, who come from many faith traditions. They translate: "When God began creating the heavens and the earth ..." In other words, creation is ongoing. This may still feel comforting. While our world continually changes, God provides a solid foundation – a world which wants us to make it better and God provides the resources to do so.

A third translation, also from ancient Rabbis in our Talmud, adds insights to the second. "By means of Torah, God creates the heavens and the earth." Torah is our word for the Jewish Bible, which some call the Old Testament. By understanding Torah, in as many of its meanings as we can learn, we can understand our role as co-creators with God.

Then, a fourth translation, from Jewish Mysticism (*Kabbalah*), puts even more of the burden on us. This translation says: "At the start, 'he' created God." Who is the "he" who created God?

The creator was Abraham, and can include anyone who lives by God's call. In other words, until we understand and follow God's teachings, it is as if God did not yet exist, at least in our world.

None of these four interpretations contradicts evolution. All of them place a high value on human life. All of them give us a purpose for living, a most significant one.

Yet, the proponents of Intelligent Design will only accept the first interpretation. They need a fixed creation, because their fear of change is overwhelming.

One last factor, which fuels the movement for teaching Intelligent Design, is the convoluting of biological evolution with sociological evolution, called Social Darwinism. This theory, most popular about a century ago, posits that the process of survival of the fittest applies not just to individual forms of life, such as animals, but also to societies. Our societies, by force of nature, get better and better. That seems to misapply Darwin's theory. Evolution teaches that the most fit survive. It does not say that the most fit are "better," in a moral sense.

Social Darwinists claim that it means precisely that. They optimistically predict that our world will get better and better, especially due to technological innovations.

Some Social Darwinists extended their argument. They saw the world as improving, based on the rise of a superior race. The Nazis under Hitler saw the Aryan race taking control, leading to the best of all possible worlds. Today's Nazis, whether the heirs to Hitler in Europe or the white supremacists in America, hold a similar view, that the superior race will inevitably move the world to its proper fate. Ironically, perhaps the best argument against those Social Darwinists, who saw the world as inevitably improving, is the reality of the Nazis, the ultimate example of the world getting worse. Those who push teaching Intelligent Design point to these horrendous applications of Social Darwinism in their arguments against teaching evolution.

Overall, Intelligent Design feels so appealing that it is unlikely to disappear soon, if ever. Those of us who want our kids to learn about evolution will need to stay vigilant, and active. The creation of the world may have happened at one time, or creation may be ongoing. The debate about evolution will go on and on.

Evolution or Intelligent Design, what's right for our schools?

Young Men's Literary Club
Cheyenne, Wyoming
October 25, 2005

My interest in the origin of life began in my 12th year when a playmate told me about a book he was reading about dinosaurs. He loaned me the book and I read with great interest about the stegosaurus, triceratops, brontosaurus and the vicious tyrannosaurus rex. The book stimulated a flood of interest in these prehistoric times and how they related to me. Did my ancestors live with these horrible creatures? Where are the dinosaurs now? Are the current reptiles just small dinosaurs? Where were the mammals? I read everything I could find in my school library and the county library regarding prehistoric creatures.

My readings ultimately lead me to the theory of evolution when I discovered a reprint of Darwin's 1859 book, *The Origin of Species*. The concept of species changing with changing conditions, the possibility that humans evolved from simpler creatures, the notion that this type of change was still occurring was both fascinating and confusing to a young teenager. Particularly, to a boy that had been encouraged to go to church for as long as he could remember. Finally, I went to my pastor in the hope that he would help resolve my confusion. What I was reading in science books didn't match what I was hearing at church and reading in the Bible. Was the earth millions, perhaps billions of years old? Did life begin at some unknown point in the distant past, or was it created by God a few thousand years ago? When I ask my questions my pastor gave me a firm look and said "you must have faith that God created all we know and all we are."

His answer ultimately was inadequate for me. There was simply too much evidence for me to accept the literal interpretation of the origin of life in the Bible. For the remainder of this paper I will provide brief background on the debate over evolution versus creation and provide greater detail on the latest strategy being used by creationist to influence public education, specifically intelligent design (ID). I hope to convince you that ID is a religious concept, not a scientific concept, and as such, should remain a part of religious instruction in the home and church and not a part of the educational curriculum. I will end by expressing concern for what could happen if we follow the political solution and "teach the controversy."

The word "evolution" first appeared in the English language in 1647 in a non-biological connection. The term Darwin most often used to refer to biological evolution was "descent with modification," which remains a good brief definition of the process today.

The concept of evolution did not begin with Darwin, but his seminal work offered a unifying theory for the process. The scientific evidence in support of evolution fills volumes and I will not try to repeat it here. I will, at the risk of over simplification, offer the following brief description of what some refer to as Darwinian evolution.

Darwin proposed that evolution could be explained by the differential survival of organisms resulting from their differing traits--a process he termed "natural selection." According to this view, the offspring of organisms differ from one another and from their parents in ways that are heritable--that is, they can pass on the differences genetically to their own offspring. Furthermore, organisms in nature typically produce more offspring than can survive and reproduce given the constraints of food, space, and other environmental resources. If a particular offspring has traits that give it an advantage in a particular environment, that organism will be more likely to survive and pass on those traits. As differences accumulate over generations, populations of organisms diverge from their ancestors.

Darwin's original hypothesis has undergone extensive modification and expansion, but the central concepts stand firm. Biological evolution is supported by evidence accumulated from the study of paleontology, comparative anatomy, biogeography, embryology, genetics and molecular biology. Recent studies in genetics and molecular biology--fields unknown in Darwin's time--have explained the occurrence of the hereditary variations that are essential to natural selection. Genetic variations result from changes, or mutations, in the nucleotide sequence of DNA, the molecule that genes are made from. Modern advances in the study of the genetics continue to support Darwin's ideas. For example, recent sequencing of the human and chimpanzee genome found that we share 96% of our DNA with our nearest primate relative. Perhaps the best illustration of contemporary evolution, albeit through human selection, is the rapid and ongoing evolution of drug resistant bacteria and viruses.

Scientists are firm in their conviction that the origin of life can be explained by these natural phenomena. Nevertheless, many people in this country vehemently disagree, supporting Divine creation instead. In a recent survey of the American public about what should be taught in schools, the Pew Research Center for the People and the Press reported that 42% of the survey respondents held strict creationist views, agreeing that "living things have existed in their present form since the beginning of time." In contrast, only 26% felt that evolution occurred through natural selection and without influence from a supreme being. In all, 64% said they were open to the idea of teaching creationism in addition to evolution, while 38% felt evolution should be replaced by creationism in schools. Gallup conducted similar polls in 1982, 1993, 1997 and 1999 with a similar statistical breakdown that remarkably has changed little in almost two decades.

Humans have always tended to attribute the unknown to superstition, usually involving the intervention of a deity or deities. This modern-day bias against evolution may be due in part to scriptural literalism, but it is also likely due to creationist proselytizers, political activists, and honest confusion and ignorance. Confusion probably exists because many Americans have not been taught evolutionary concepts in a biology class, read books on the subject, or heard from someone they respected that evolution and religion are not mutually exclusive. Opponents of evolution hope to capitalize on these differences in public opinion to make Divine creation a part of the academic curriculum.

The fundamentalist viewpoint of creationism has been battled in the courts for decades. The infamous 1925 Scopes trial in Tennessee posed a false dilemma: either there is the God of the Bible (William Jennings Bryan) or there is atheism (Clarence Darrow). Contemporary advocates of creation science have campaigned to have their Biblical version of creation taught as science in U.S. public schools. One of their successes was in the state of Arkansas, which passed a law requiring the teaching of creationism in public schools. This accomplishment may seem significant, until one realizes it was illegal to teach evolution in Arkansas until 1968! In 1981 the law was ruled unconstitutional by a federal judge who declared creationism to be religious in nature (*McLean v. Arkansas*).

Numerous court cases have been fought and lost by creationists over the last two decades in numerous states, including a Louisiana law overturned by the United States Supreme Court in 1987 (*Edwards v. Aguillard*). The Court found Louisiana's "Creationism Act" "facially invalid as violative of the Establishment Clause of the First Amendment, because it lacks a clear secular purpose." In Alabama, biology textbooks carry a warning that evolution is "a controversial theory some scientists present as a scientific explanation for the origin of living things. . . .No one was present when life first appeared on earth. Therefore, any statement about life's origins should be considered as theory, not fact." In Alabama, it seems, if you find bear feces in the woods, but no one saw it deposited, you may only propose a theory as to the origin of the feces.

Creationism obviously hasn't fared well in the legal courts, and ultimately in court of public opinion regarding education. Enter a new player on the scene, ID. In October 2004 in Dover, Pennsylvania, the school board voted 6 to 3 to require that ninth-graders be told about intelligent design when they learn about evolution. Ultimately the school Board adopted a policy that requires a disclaimer to be read before ninth-grade biology lessons on evolution. The statement says Charles Darwin's theory on evolution is "not a fact," has inexplicable "gaps," and refers students to a textbook, "Of Pandas and People: The central question of biological Origins," a controversial 1989 high school level biology text book that espouses the idea of ID. While biology teachers refused to read the disclaimer, it was read by a school administrator this past spring. Eleven parents in Dover were outraged enough to sue the school board and the district, contending that ID is a "Trojan horse" for religion in the public schools. The case, pitting neighbor against neighbor, continues before Judge John E. Jones.

ID is an anti-evolution philosophy that asserts that intelligent causes are responsible for the origin of the universe and of life in all its diversity. Advocates of ID maintain that their theory is scientific and provides empirical proof for the existence of God or super-intelligent aliens. They believe that design is empirically detectable in nature and in living systems. They claim that intelligent design should be taught in the science classroom because it is an alternative to the scientific theory of natural selection.

Two scientists often cited by defenders of ID are Michael Behe, Professor of Biochemistry at Lehigh University, and William Dembski, Associate Research Professor in the conceptual foundations of science at Baylor University. Dembski and Behe are fellows of the Discovery Institute, a Seattle research institute funded largely by Christian foundations. Their arguments are attractive because they are couched in scientific terms.

However, their arguments are identical in function to the creationists' arguments: rather than provide positive evidence for their own position, they mainly try to find weaknesses in natural selection.

Behe, a star witness in the Dover case argues the notion of "irreducibly complex systems," systems that could not function if they were missing just one of their many parts. "Irreducibly complex systems ... cannot evolve in a Darwinian fashion," he says, because natural selection works on small mutations in just one component at a time. He then leaps to the conclusion that ID must be responsible for these irreducibly complex systems.

Dembski's basic argument is that some things could not have been produced by chance. He believes that an object must be the product of ID if it shows "specified complexity." He explains with examples such as "if you came home and found 'I love you' spelled out in potato chips on the couch, the probability of something so specific and complex being the result of chance is nearly zero."

One example Behe uses to support irreducible complexity is the complex of proteins that clot blood. However, in rebuttal scientists have pointed out that key proteins that clot blood are actually modified versions of proteins used in the digestive system. It has been shown through peer reviewed research how evolution duplicated, retargeted, and modified these proteins to produce the vertebrate blood-clotting system.

Dembski thinks some things in nature clearly demonstrate specified complexity, for example, the eye. His argument of specified complexity attempts to define ID negatively, as anything that is not chance or necessity is designed for a specific purpose by some intelligent being. But this argument does not exhaust the possibilities for say the presence of a very complex organ such as the eye. Science requires positive proof and there is an abundance of evidence on how complex organs such as the eye have evolved.

Other arguments have been made such as evolution violates the second law of thermodynamics and that evolution is not supported by the paleontological record. Simply put, the second law of thermodynamics states that in the universe, there is a tendency for complexity to decrease. How then, argue the proponents of ID, can evolution create complex organisms from primitive ones? This type of argument sounds impressive to the lay person but utterly fails by definition because the second law applies only to closed systems, and biological systems are not closed.

The argument that evolution is not supported by the fossil record is commonly based on two points: 1) there are few transitional species represented in the fossil record and 2) a sudden “Cambrian explosion” occurred resulting in the appearance of many basic body plans to which taxonomists now award the highest taxonomic status: “phylum.” It is true that the fossil record has historically had gaps. Nevertheless, hundreds of thousands of fossil organisms, found in well-dated rock sequences, represent successions of forms through time, documenting many evolutionary transitions. The so-called biological explosion is supposed to have occurred over a relatively brief period of 10 to a few tens of millions of years. It is true that a remarkable number of fossil forms do appear for the first time in lower and middle Cambrian rocks. Although, Precambrian animal fossils exist in some geologically unique deposits, verifying the existence of animals living long before the so-called “Cambrian explosion;” and furthermore, Precambrian animals had few or no hard body parts, the best material for fossil building.

To better understand this debate it is helpful to consider several definitions. Science, for example, is first and foremost a set of logical and empirical methods which provide for the systematic observation of phenomena in order to understand them. We think we understand observed phenomena when we have a satisfactory theory which explains how the phenomena work, what regular patterns they follow, or why they appear to us as they do. While scientific explanations are in terms of natural phenomena, science itself requires neither the acceptance nor the rejection of the supernatural.

Science consists of several specific areas, such as biology, physics, chemistry, geology, and astronomy, which are defined by the type and range of empirical phenomena they investigate. “Science is,” as Carl Sagan put it, “a candle in the dark. It shines a light on the world around us and allows us to see beyond our superstitions and fears, beyond our ignorance and delusions, and beyond the magical thinking of our ancestors, who rightfully fought for their survival by fearing and trying to master occult and supernatural powers.”

Opponents often deride evolution as “just a theory.” The word theory is misunderstood and is commonly used by the lay public to refer to ideas that have no firm proof or support. In contrast, scientists usually use this word to refer to a body of ideas that make a specific prediction. An especially fruitful theory that has withstood the test of time and has an overwhelming quantity of evidence supporting it is considered to be “proven” in the scientific sense. Some universally accepted models such as the theory of electricity, are so well-established that it is impossible to imagine them ever being falsified. Others, such as relativity, electromagnetism and biological evolution have survived rigorous empirical testing without being contradicted, but it is nevertheless conceivable that they will some day be supplanted. Younger theories, such as the string theory, may provide promising ideas, but have yet to receive the same level of scrutiny. A theory is a piece of objective science with very concrete, testable consequences.

The bottom line on the theory of ID is that it has not led to new discoveries, increased understanding of the relatedness of areas within the field of biology or between such fields as biology and psychology, and it is not testable. As a theory ID is nearly useless. And, since the theory is put forth as dogma, it is the antithesis of a scientific theory. To accept ID you must agree with that Southern Baptist preacher I consulted 42 years ago. You must simply have faith that it is so.

So what is the point of the ID movement? Dr. Barbara Forest, a star witness for the plaintiffs in the Dover, PA case, and Dr. Paul Gross, in their book *Creationism's Trojan Horse: The Wedge of Intelligent Design*, maintain that ID is a strategy designed to get creationism taught in public schools. For this to happen, they believe that it "does not require scientists be impressed. It does depend critically, however, on convincing the public that mainstream science is impressed by ID." If that happens, supporters of ID are convinced it must be treated as at least the equal of mainstream science.

So, what is my position on ID? On the one hand I believe that teaching ID alongside evolution would be the theist's worst nightmare and in the long run, might help resolve the controversy. On the other hand, science curricula are overburdened already, and not all biologists would teach the controversy, most would take a position, adding confusion and controversy to science education.

What might the ultimate effect be on our country of mixing religion and science? I am not sure, but I believe we can look for models in other societies. The Middle East, the region that spawned civilizations that gave us many early advances in science including most of our domestic crops and domestic animals is one such model. Bernard Lewis, the Cleveland E. Dodge Professor of Near Eastern Studies Emeritus at Princeton University, wrote in his book *What went wrong?* that "it is ... the lack of freedom- freedom of the mind from constraint and indoctrination, to question and inquire and speak; freedom of the economy from corrupt and pervasive mismanagement; freedom of women from male oppression; freedom of citizens from tyranny-that underlies so many of the troubles on the Muslim world."

In conclusion, clearly ID is religion and politics, and not science. Teaching the controversy would take valuable time away from the already overburdened school science curriculum and pave the way for the teaching of other alternatives to the origin of life, and potentially other important scientific principles. I believe the courts will continue to find it inappropriate to mix religion and science. I also believe that if allowed to go to the extreme of controlling what is taught in our schools, mixing science and religion will result in a society that no longer searches for answers to scientific questions. Anything we don't understand is simply an act of god. Science is marginalized to the point that new discoveries become exceedingly rare.

Michael Zimmerman: Why Battling Creationism Matters: Learning to Question
Huffington Post Blog 8-20-12

(Zimmerman runs a large national program, The Clergy Project, to encourage teaching evolution and understanding of the overlap of science and religion.)

I'm often asked why I care so much if creationism is taught in public school science classrooms and laboratories. My passionate response touches on a host of important issues, issues that most people living in a democratic society really should care about. The nonsensical battle between creationists and scientists is important because its very existence demonstrates just how scientifically illiterate so many citizens are. Indeed, evolutionary theory represents the best science has to offer.

Ever since Darwin published "On the Origin of Species" in 1859, evolutionary theory has offered numerous testable predictions, predictions that have consistently been supported by reams of data from paleontology to molecular biology and from developmental biology to genomics. Creationism, on the other hand, in all of its guises, makes no falsifiable predictions and offers no insight into the structure of the world around us. Simply put, pretending that the two are on an equal intellectual footing encourages people to completely misunderstand the nature of scientific investigation and promotes pseudoscience. The consequences of having a voting public that embraces the nonsense of pseudoscience should be self-evident to most.

As the great biologist Theodosius Dobzhansky so cogently put it in the title of a paper he published in 1973, "Nothing in biology makes sense except in the light of evolution." Replace evolution with creationism and modern biology becomes an incoherent collection of random pieces of data. The context that makes the science an integrated whole vanishes without evolution. And without that context much of modern medicine, agriculture, psychology and neuroscience, to name just four fields, becomes meaningless. To make matters worse, creationism also dismisses a good deal of modern anthropology, archeology, astronomy, chemistry, linguistics and physics. Even if you don't care about science or science literacy, you should be concerned about what happens when creationism enters the educational arena. Creationism is the embodiment of one single religious worldview. Treating that religious worldview as science privileges one religion over all others. In addition to completely confusing religious and scientific methodology and the purposes of each, it is utterly disrespectful of those who practice a different faith as well as those who practice no faith.

Those of us who have been working to ensure that education remains both meaningful and valuable and is not controlled by those with partisan interests, and there are many of us working together toward this end, are aware of a larger truth. Those promoting creationism, regardless of the rhetoric they employ, view education dramatically differently than those who recognize the importance of science. Creationists believe that education is about teaching students what to think while those opposed to creationism believe that education is about teaching students how to think.

Students need to learn how to ask probing questions -- and how to assess the answers they receive. Students need to learn to think critically rather than blindly accepting everything that is put before them.

Creationists have long argued that they're in favor of these things as well, but their actions demonstrate otherwise. In fact, the most egregious of these actions, the platform adopted by the Republican Party of Texas this year, categorically puts an end to this debate. In clear and dramatic prose the Republican party in the state that has most aggressively attacked the teaching of evolution has stated: "We oppose the teaching of Higher Order Thinking Skills (HOTS) (values clarification), critical thinking skills and similar programs that are simply a relabeling of Outcome-Based Education (OBE) (mastery learning) which focus on behavior modification and have the purpose of challenging the student's fixed beliefs and undermining parental authority."

That entire sentence is absolutely frightening, but let's distill it down to its most simple meaning: "We oppose ... critical thinking skills ... which ... have the purpose of challenging the student's fixed beliefs and undermining parental authority."

The Republican Party in Texas believes that students enter school with "fixed beliefs" and nothing they experience in that setting should alter those beliefs. Anything that encourages students to think and grow, apparently, is off limits.

The 22-page Republican Platform is filled with startling items every bit as disconcerting as this. The document asserts that the concept of the separation of church and state is a myth, urges public schools to teach "the Judeo-Christian principles upon which America was founded," and urges "Congress to withhold Supreme Court jurisdiction in cases involving abortion, religious freedom, and the Bill of Rights."

If these things scare you, as they should, take a look at the Texas Freedom Network's (TFN) analysis of the platform. As it has on so many important issues, TFN has performed a great service with its examination.

Let's return to the evolution/creation controversy. A quote from the great American philosopher George Carlin fully and simply explains why I care so very much about this issue:

New York Times December 23, 2012

The Moral Animal

By JONATHAN SACKS

London

IT is the religious time of the year. Step into any city in America or Britain and you will see the night sky lit by religious symbols, Christmas decorations certainly and probably also a giant menorah. Religion in the West seems alive and well.

But is it really? Or have these symbols been emptied of content, no more than a glittering backdrop to the West's newest faith, consumerism, and its secular cathedrals, shopping malls?

At first glance, religion is in decline. In Britain, the results of the 2011 national census have just been published. They show that a quarter of the population claims to have no religion, almost double the figure 10 years ago. And though the United States remains the most religious country in the West, 20 percent declare themselves without religious affiliation — double the number a generation ago.

Looked at another way, though, the figures tell a different story. Since the 18th century, many Western intellectuals have predicted religion's imminent demise. Yet after a series of withering attacks, most recently by the new atheists, including Sam Harris, Richard Dawkins and the late Christopher Hitchens, still in Britain three in four people, and in America four in five, declare allegiance to a religious faith. That, in an age of science, is what is truly surprising.

The irony is that many of the new atheists are followers of Charles Darwin. We are what we are, they say, because it has allowed us to survive and pass on our genes to the next generation. Our biological and cultural makeup constitutes our "adaptive fitness." Yet religion is the greatest survivor of them all. Superpowers tend to last a century; the great faiths last millenniums. The question is why.

Darwin himself suggested what is almost certainly the correct answer. He was puzzled by a phenomenon that seemed to contradict his most basic thesis, that natural selection should favor the ruthless. Altruists, who risk their lives for others, should

therefore usually die before passing on their genes to the next generation. Yet all societies value altruism, and something similar can be found among social animals, from chimpanzees to dolphins to leafcutter ants.

Neuroscientists have shown how this works. We have mirror neurons that lead us to feel pain when we see others suffering. We are hard-wired for empathy. We are moral animals.

The precise implications of Darwin's answer are still being debated by his disciples — Harvard's E. O. Wilson in one corner, Oxford's Richard Dawkins in the other. To put it at its simplest, we hand on our genes as individuals but we survive as members of groups, and groups can exist only when individuals act not solely for their own advantage but for the sake of the group as a whole. Our unique advantage is that we form larger and more complex groups than any other life-form.

A result is that we have two patterns of reaction in the brain, one focusing on potential danger to us as individuals, the other, located in the prefrontal cortex, taking a more considered view of the consequences of our actions for us and others. The first is immediate, instinctive and emotive. The second is reflective and rational. We are caught, in the psychologist Daniel Kahneman's phrase, between thinking fast and slow.

The fast track helps us survive, but it can also lead us to acts that are impulsive and destructive. The slow track leads us to more considered behavior, but it is often overridden in the heat of the moment. We are sinners and saints, egotists and altruists, exactly as the prophets and philosophers have long maintained.

If this is so, we are in a position to understand why religion helped us survive in the past — and why we will need it in the future. It strengthens and speeds up the slow track. It reconfigures our neural pathways, turning altruism into instinct, through the rituals we perform, the texts we read and the prayers we pray. It remains the most powerful community builder the world has known. Religion binds individuals into groups through habits of altruism, creating relationships of trust strong enough to defeat destructive emotions. Far from refuting religion, the Neo-Darwinists have helped us understand why it matters.

No one has shown this more elegantly than the political scientist Robert D. Putnam. In the 1990s he became famous for the phrase "bowling alone": more people were going

bowling, but fewer were joining bowling teams. Individualism was slowly destroying our capacity to form groups. A decade later, in his book "American Grace," he showed that there was one place where social capital could still be found: religious communities.

Mr. Putnam's research showed that frequent church- or synagogue-goers were more likely to give money to charity, do volunteer work, help the homeless, donate blood, help a neighbor with housework, spend time with someone who was feeling depressed, offer a seat to a stranger or help someone find a job. Religiosity as measured by church or synagogue attendance is, he found, a better predictor of altruism than education, age, income, gender or race.

Religion is the best antidote to the individualism of the consumer age. The idea that society can do without it flies in the face of history and, now, evolutionary biology. This may go to show that God has a sense of humor. It certainly shows that the free societies of the West must never lose their sense of God.

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