A Word About

Intelligent Design Creationism

by Burt Humburg

Intelligent Design Creationism (IDC) has emerged as an attempt to integrate science and religion. But is there any scientific evidence for IDC or reason to alter science to suit it? And what are the theological implications of IDC?

This flyer examines IDC and its relationship to science and religion.

Evolution, or the process of descent with modification, has been shown to elegantly explain and predict findings that relate to speciation and general biology. Evolution provides the basis for almost all biomedical research, allowing human drugs to be developed in mice and so on. Also, evolutionary concepts, when applied more broadly, have proven useful in explaining and predicting observations in geology, anthropology, and other fields unrelated to general biology directly. For this reason, scientists consider evolution to be a workhorse of a theory worthy of the title "The integrating theory of biology."

Evolution was validated over a century ago and it continues to be validated today whenever scientists describe findings that make the most sense (or that only make sense) from an evolutionary perspective. While there are creationists that dispute the legitimacy of this evidence, this flyer will not attempt to argue against them. Contemporary anti-evolutionary arguments purport to agree with *most* of evolution, but suggest that it is insufficient to explain all of biological diversity. IDC advocates appeal to the actions of an unnamed agent, typically called an Intelligent Designer, to account for things they feel evolution can't. (Almost all IDC advocates believe this mysterious designer to be the Christian God, though they continue to use vague terms in order to skirt the Constitution or leave the impression that they are not discussing religion.)

So what is IDC and "Teach the Controversy?"

IDC advocates operate under the assumption that natural processes cannot fully account for natural phenomena. They survey current science, find those areas that are poorly understood currently, and conclude (or oftentimes simply argue) that science never will be able to understand those areas. Since God can do anything, IDC advocates point to these poorly understood areas as places where God must have intervened.

This is problematic because any phenomenon could be explained by God's involvement and no phenomenon or data could ever disprove God. For example, IDC advocates appeal to mutually exclusive manifestations of the IDC creator: that life arose because it is so improbable (e.g., CSI, described below) and that life arose because it is just so likely (e.g., "Privileged Planet," described elsewhere). In order for scientists to use a hypothesis to explain or predict findings from the observable and testable "natural" world, the proposed hypothesis must be cohesive and predictive of a pattern. Since IDC appeals essentially to the whimsy of a designer, and especially since IDC advocates are usually at pains to avoid saying just who this designer is, it therefore becomes clear *that there is no theory of IDC*. Rather, IDC exists only as a criticism of evolution or the accepted processes of science in general.

Because there is no testable model proposed by IDC, it cannot be science and it is therefore inappropriate to teach IDC alongside or instead of science in public school classrooms. It is for this reason that IDC advocates have shifted their tactics from arguing in favor of teaching IDC to "Teaching the Controversy." As Judge Jones wrote in his *Kitzmiller* trial opinion, IDC's backers have sought to avoid scientific scrutiny by advocating that the *controversy*, but not IDC itself, should be taught in science class. The goal of the movement, as he noted, is not to encourage critical thought, but to replace evolution with IDC.

IDC is a Useless Idea

The IDC logic essentially holds that if something cannot be explained by natural (observable and testable) means, this would be evidence of an intelligent designer. Notably, all IDC advocates concede the utility of explaining things by natural means in science. Phillip Johnson makes this point clearly, since he is only interested in phenomena that have "God's fingerprints all over them." William Dembski explicitly states that IDC explanations are to be advanced only after natural explanations have failed.

But this gives away the game: natural explanations must be preferable to supernatural ones! Further, a poorly understood area of science that *will never be* understood is indistinguishable from a poorly understood area of science that someday *will be* understood. Since the former are the evidences of the designer that IDC backers supposedly seek, IDC's logic will be unable to say anything with certainty regarding what the designer did in this world until the day when science has discovered as much as it can possibly discover forevermore. There are many examples of IDC advocates who have given up on the accepted processes of science too early. (Google "Behe whale" sometime.) Therefore, IDC is useless.

What About Behe's "Irreducible Complexity?"

Irreducible Complexity (IC) is advanced as evidence for IDC in science. Advocates believe IC demonstrates certain complex and/or interdependent structures or systems that evolution – a process that uses functional or intermediate steps – could not have constructed. Unfortunately for Behe, in order to claim that IC is evidence against a gradualistic evolutionary ascent, the evolution of a complex system must be the opposite of its dismantlement. As the reader will see, it is not.

There are many systems of apparent irreducible complexity that have obvious intermediate stages. For example, when framing a house, if a single wall is raised, that wall will stand only so long as it is supported. Rather than holding it, a builder might temporarily support the wall with an anchoring beam. In this fashion, all four walls could be raised and connected to each other, making the structure self-supporting and making the supportive role of the anchoring beams redundant to the function of the joined walls. If those beams were removed, the system would become IC, since the removal of a single wall might compromise the complex and interdependent function of the whole. This is proof of principle that IC is unreliable evidence that a structure could have had no intermediate stages.

In point of fact, evolution gives rise to irreducible complexity all the time. Indeed, IC can be predicted to arise whenever a part or a function is added to a system and subsequently made necessary. Examples on the TalkOrigins website describe IC structures that arose from the addition of parts, the subtraction of parts, and the co-optation of parts into new functions. In particular, the evolutionary ascent of the C3 protein in the complement system – a system which Behe said is irreducibly complex – is reviewed.

What About Dembski's Complex, Specified Information (CSI)?

William Dembski tries to use probability and information theory to demonstrate that random processes cannot produce the special and complex patterns of genetic code required for life as we know it. Unfortunately, he misappropriates information theory and its attendant theoretical treatments of entropy to arrive at his conclusion. Thus, Dembski recapitulates the violation of the second law of thermodynamics arguments for which young earth creationists are so well known.

He is also wrong in principle. By arguing that the specific genetic *code* could not have appeared, Dembski misses the point of evolution, which has always been focused on the *function* a gene provides: the selective pressures of evolution operate on the products of genes and gene functions, not the genetic codes giving rise to functions. Dembski's pretense is to distract people by claiming the ascent of the "information" in those codes represents an insurmountable obstacle for evolution, even though Darwin's theory was considered compelling even back when it was articulated without any understanding of genetics or codes at all. Moreover, probabilistic treatments of genetic code are obviously irrelevant to any model of evolution in which the transitional nature of the evolutionary process – that later states are achieved via modifications of previous states – are ignored, like Dembski's.

But where Dembski really blunders is in the real world. His verbiage on the impossibility of spontaneous information formation becomes impotent when one sees that very thing occurring in the wild or in the lab. Cheng, in 1998, described the evolution of diverse antifreeze proteins in Antarctic fish, one of which was co-opted from a digestive enzyme called trypsinogen. Copley, in 2000, described the evolution of PCB-digesting bacteria. Since PCB is a "xenobiotic" that is not found in nature but made only by humans, this is evidence of recent evolution. Examples like these look for all the world like genetic information being created through evolution. If they are not, then Dembski needs to be doing a much better job of explaining what the "information" evolution supposedly cannot give rise to is and why his concerns are relevant to biology. They certainly appear irrelevant today.

IDC Can Sabotage Science

Science is fundamentally a system of discovery. When scientists see something they cannot explain, they formulate a hypothesis that explains what they saw and then they test that hypothesis. If it survives those tests, it could explain and predict other hypotheses, forming a theory from which to build other hypotheses. The danger of IDC is that it can substitute supernatural explanations that can never be tested and do not predict other findings in the place of natural hypotheses that can be tested and do predict other findings. (A direct intervention by God may possibly "explain" but it does not predict other interventions, nor is it testable. One cannot put God in a test tube, nor can one keep him out.)

As a fanciful example, take two scientists who travel to St. Louis, neither of whom knows much about construction and one of whom uses IDC thinking instead of science. As these two scientists gaze upon the arch, both are astonished and they both attempt to explain how the arch was constructed. As neither of our two scientists knows about the use of scaffolding to support an eventually self-supporting structure while it is being created, our scientists are left without natural explanations for how the arch came to be. The scientist who falls prey to IDC thinking might conclude that, since humans cannot create such structures as a whole and since the arch is clearly the product of design, God must have built the St. Louis arch.

Of course, this conclusion would seem silly to most readers and possibly insulting to IDC advocates, since most readers would know about scaffolding and all would know humans created the arch. But to understand the example, one must enter into the mindset of a person investigating a problem for which there is no current scientific understanding. IDC advocates have appealed to the actions of an Intelligent Designer to explain the Cambrian Explosion, the ascent of whales evolving, and the origin of life. The reader is asked to substitute any "challenge to evolution" the proponents of "Teach the Controversy" wish to advance in place of the arch. (The only difference will be, in the examples of "controversy" creationists today will advance, a scientific explanation for the phenomenon in question probably will not yet be known.)

Clearly, the scientist who suffers from IDC thinking reached an inappropriate conclusion. Easily, one danger of IDC thinking is that it can support bad explanations for phenomena with untestable "evidence." However, incorrect hypotheses are advanced and corrected often in science, so this is not a prominent danger. The real threat is that the question of the arch's construction has now been answered (God did it) in a way that sabotages further inquiry. Why investigate further if the question has been answered? Why investigate further if to do so might be considered to detract from God?

Obviously, explaining the creation of the arch by a one-time act of an undefined and unknown omnipotent agent (God) does not predict other natural findings and has no application to other natural problems. We might imagine our IDC-thinking scientist will remain yet ignorant of the secret of the arch's construction since he has no reason to investigate or innovate it.

The scientist who does not fall prey to IDC thinking would attack his problem differently. He might consult literature on construction, learn about scaffolds and their use, and go on to apply scaffolding technology to other problems he might encounter in the future. If there were no previous work on scaffolding, he might attempt to construct a model of the arch and, in trying to build it, innovate scaffolding technology and advance the state of the art of construction for everyone. But if the technologies to even think of scaffolding were not yet invented – say, the ladders to build the scaffolds were not invented – and if the scientist had honestly reached the limits of his creativity in trying to explain the arch's construction, our heroic scientist would simply say, "I don't know how it was built."

The difference between our two scientists is at once subtle and vital. Neither scientist knows how the arch was constructed, but one fills the void of ignorance with a hypothesis that explains everything and sabotages the process of discovery. The other scientist does not substitute an unfalsifiable explanation for his ignorance, but accepts his inability to answer the question for the time being. The fact is, good scientists must often deal with their inability to answer a question. They are not satisfied by it and should continue to innovate and discover in order to someday answer the question – but they do accept their ignorance for the time being. Poor scientists are those who must fill all voids of ignorance with whatever concepts are available, however inappropriate. IDC, as an explanation that cannot be tested by natural science, is an example of an inappropriate non-natural answer to a perfectly natural, scientific problem.

Naturalism and the Theological Implications of IDC

Science is the search for progressively better natural explanations for phenomena. In other words, a scientist is a person who uses a naturalistic methodology to look for understandings that can be used to explain other findings or predict other observations. The reason for the commitment to the natural world – a naturalistic methodology – is not because science is scornful of God but because natural explanations are the only things on which everyone can agree. (Supernatural explanations, on the other hand, are revealed, internal, and personal.)

Science pursues truth within very narrow limits. Inside those limits, it has proven extraordinarily successful, far more so than when "science" was not so constrained – a period of stagnated scientific advancement known as "The Dark Ages." But science cannot answer all questions and many theists hold that science and religion are complementary, provided religion does not attempt to contradict the explanations that science successfully provides.

IDC is one attempt to integrate science and religion, but it is a poor one. As demonstrated above, IDC can sabotage the process of inquiry and the "evidence" supporting God's involvement in the world is unreliable. There are also theological reasons to shun IDC. Since IDC exists where scientific understanding isn't, IDC implies a God of the Gaps (GOTG) argument. As Miller has written in *Finding Darwin's God*, GOTG arguments forge a logical link between failures in science and successes for God. The counterlogic of the GOTG proposition – that successes for science must therefore be failures for God – is therefore just as logical. Clearly, if one bases a belief in God on an inability to explain some natural phenomenon scientifically, that belief will be threatened by any pursuit of understanding of that phenomenon by science. A reverent GOTG believer would surely serve his beliefs best by refusing to further investigate the reasons for that phenomenon. GOTG therefore propagates the warfare model of science and religion.

Clearly, the progress of science is relentless and religious scientists realized long ago that the foundations of their religious beliefs were best placed in a God that did not lurk in the shadows of our scientific understanding. In avoidance of that end, many religious scientists endorse theistic evolution, which unlike IDC posits that natural law can fully explain natural phenomena and that God used natural law as his tool to work his will. Theistic evolutionists acknowledge that there is no scientific reason to believe in God but instead rely on faith to know he exists.

Realizing that science works best when committed to a naturalistic methodology, theistic evolutionists feel free to revere God in their work and recognize scientific explanations as expressions of God's creative power. They know that science studies natural phenomena but religion studies ultimate creation and relationships with the Creator.

What Can I Do To Keep Science Education Strong?

If you are concerned about the quality of science in America and the menace that IDC is to that quality, learn evolution by visiting Panda's Thumb [http://pandasthumb.org] and taking advantage of science instruction. But most grassroots-level IDC advocates do not understand the science enough to know how vacuous IDC is; some would not understand it even if it were presented to them. These people are instead motivated by considerations external to science, such as the fear that evolution will separate them from God or that God will punish them if they permit the teaching of evolution. But Christians have rethought their theology in the light of verified science many times before in history. It is therefore incumbent upon science advocates to engage these fearful people in an honest discussion about the real issues at hand regarding the science or theology involved.

Because religion is important to Americans and because public schools cannot be counted upon to provide theological guidance to prevent anti-evolutionary fear, talk with parents and clergy in your area and encourage them to learn more about evolution. Consider joining or forming local pro-science groups like Kansas Citizens for Science [http://kcfs.org] or consider joining national pro-science groups like the National Center for Science Education [http://natcenscied.org].

Finally, vote. Groups like the Discovery Institute (DI) know that IDC isn't science and therefore scientists will never find creationism useful. The DI therefore bypasses the process of scientific approval, recommending laws that force IDC into schools or proposing cuts in funding for labs that ignore non-science like IDC. Get involved, stay vigilant, check your own backyard, and make sure your leaders know why IDC is poor science and can defend real, natural science when the DI and their supporters call.

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