

SOME THOUGHTS ON INTELLIGENT DESIGN AND ITS RELATIONSHIP TO EVOLUTIONARY THEORY

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I was very interested to see the three articles in *Perspective* (volume 4, number 2) concerning the teaching of biological evolution at BYU–Idaho. This is an important topic, and from the three articles, it appears that BYU–Idaho is doing a fine job handling the subject in a sensitive way. But I was disappointed to see the dismissal of recent treatments of intelligent design (ID), and the implications they hold for evolutionary theory. This seems odd, especially given that recent scholarly work on ID does not challenge evolution except on ideological grounds, and fits particularly well with the LDS worldview.

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THE CONTROVERSY

‘Intelligent design’...maintains that if evolution occurred at all it could never be explained by Darwinian natural selection and could only have been directed at every stage by an omniscient creator.¹

ID has become a hot-button political issue, with articles about Pennsylvania, Georgia, and Kansas dominating news accounts. President Bush recently announced support for teaching ID alongside evolution in public schools. In Pennsylvania, a federal district judge appointed by Bush recently said that the teaching of ID in public schools would be “breathtaking inanity,” and ruled it unconstitutional because it would advance “a particular version of Christianity.” Polls have shown that the American public overwhelmingly believe that life was designed, and religious conservatives are claiming that ID proves God exists. But most academic theologians and philosophers reject ID, and the vast majority of scientists say that ID is simply a more sophisticated rehash of discredited creationist ideas. Some even say that taking ID seriously would spell death to scientific inquiry and the end of all enlightened thought. It’s difficult to overstate the heat of the debate.

But much is changing. As far as scientific revolutions go, we’re still early in the game. ID as a scientific pursuit is only about 15 years old. But it is starting to win over converts in academia. There are several articles now published in peer-reviewed journals that discuss evidences in favor of ID. According to the *Washington Times*,² after one such article appeared in an independent journal published at the Smithsonian called the *Proceedings of the Biological Society of Washington*, the editor (a man named Richard Sternberg) was fired on charges of professional malfeasance

for publishing the article. All of its three reviewers had recommended in favor of publication.

So what's going on? What is it about ID that generates so much controversy? It's difficult to tell from news accounts because ID is often mischaracterized and dismissed.

For example, consider the Susan Jacoby quote that began this section. Sounds simple and clear-cut. But the statement is pretty misleading. Let's look at the claims this statement attributes to ID, explicit or implicit:

1. Evolution probably does not occur.
2. If evolution ever did occur, it could never be explained by Darwinian selection.
3. Any evolution would have required direction at every stage.
4. The directing agent would have been God.

While it is true that some people believe each of these claims, this only serves as a distraction from the fact that those leading the way in thinking about ID make no such claims. In fact, a person informed of recent intelligent design theory would answer the four points above as follows:

1. Scientific evidence, including laboratory experiments, shows that evolution has and does occur. It is even possible, if not likely, that all plant and animal life evolved from a single common ancestor.
2. The Darwinian mechanism of descent with modification is an active mode of evolutionary development (see number 1). However, the Darwinian mechanism lacks the power to produce organisms of significantly increased complexity.
3. ID claims only that some direction by some intelligent agent must have happened at some point in the evolutionary process. No specification whatever is made as to how often this insertion of intelligent direction occurred.
4. No claim is made as to how much the intelligent agent knew, nor as to who the intelligent agent was.

Ms. Jacoby's critique is quite stark, and frankly overstated. More typical are articles in the press, and statements from professionals that call ID anti-evolutionary, or unscientific, or that conflate it with creationism, or indeed theology. Although proponents of design in nature have more generally had a long history of less scientific repute, and sometimes of scandalous mischaracterization, current work on intelligent design is different in kind. Claims that ID is anti-evolutionary, or unscientific, or

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Given the current political climate, with proponents of ID becoming more insistent, and even the president advocating teaching ID in public schools, how is one to come to an informed opinion on this topic? If even our supposedly objective news media are garbling the message of the ID movement, how are rational decisions to be made?

Of course the best way is to read works from both proponents and critics yourself. It is my intent in this article to provide some motivation by discussing some of the preliminary issues relating to ID and the scientific and philosophical communities. After such issues have been introduced, an article that reviews the scientific case for ID will follow. I guess as a matter of full disclosure, I should admit that I am a card-carrying member of the Church of Jesus Christ of Latter-day Saints, and hold, as a matter of faith, to the notion that God created the universe.

SCIENCE VS. RELIGION

Meanwhile in Kansas, the State Board of Education has urged schools to criticize evolution. It has also changed the definition of science so it is not limited to natural explanations, opening the way for including intelligent design or other forms of creationism that cannot meet traditional definitions of science.³

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What is the traditional definition of science? To the Greeks, there was not much distinction between the physical and the metaphysical. Science was philosophy, and sought to describe reality as it was understood. But sometimes philosophical precommitments got in the way. Ptolemy's (about 200 AD) complex epicyclical model of planetary motion was a direct result of his commitment to a geocentric universe, and uniform circular motion. His model worked quite well for predicting celestial events, and was in use for over 1000 years. During the middle ages, these ideas were adopted into Christianity itself. Copernicus (about 1500 AD) challenged the church, and forced a complete paradigm shift by showing evidence of a heliocentric universe.

In subsequent history, there were many occasions where the science of the day contradicted the church. But observations could be made, and experiments done that demonstrated conclusively that the theologians were wrong. The idea that God was personally directing physical outcomes became less and less attractive to intellectuals, and led to what is known now as the "God of the Gaps" argument. This is the notion that as phenomena once thought to be attributable to God are shown to be attributable to natural causes, the influence of God recedes to the point that he need only be invoked for the gaps in our current understanding. The logical extreme of this line of reasoning is that eventually we'll be

able to explain everything in terms of natural causes, and then God will not be needed at all.

Add to that the sometimes morally indefensible actions of professed theists, and philosophers began to wonder about the usefulness of theology. Aldous Huxley once wrote of those who invoked God to defend their actions:

The desire to justify a particular form of political organization and, in some cases, of a personal will to power has played [a]...large part in the formulation of philosophies postulating the existence of a meaning in the world. Christian philosophers have found no difficulty in justifying imperialism, war, the capitalistic system, the use of torture, the censorship of the press, and ecclesiastical tyrannies of every sort from the tyranny of Rome to the tyrannies of Geneva [Calvin] and New England. In all these cases they have shown that the meaning of the world was such as to be compatible with, or actually most completely expressed by, the iniquities I have mentioned above—iniquities which happened, of course, to serve the personal or sectarian interests of the philosophers concerned.⁴

But well before Huxley, intellectuals had begun to push for a more secular view of the world. In the nineteenth century, secular humanism, materialism, and other naturalistic philosophies replaced more theistic or deistic philosophies in western culture. British Natural Theology, a nineteenth-century attempt to prove divine creation by noting how marvelous everything in the natural world was, was turned on its head by naturalists who noted that there were some very disturbing things too: nature red in tooth and claw.

As scientific understanding advanced, the god of the gaps receded. But one very large gap remained, namely life itself. How could science explain life?

For some time, biologists and paleontologists had noted that species in the lower rock strata were very different from living organisms. Many of the ancient flora and fauna were extinct, and most organisms now on the earth were absent. In fact if you went deep enough, organisms began to look very simple. Better understanding of geology put the age of the earth much older than theologians had said it should be. People started proposing that creatures evolved over time. Of course Darwin's contribution was to propose a mechanism by which evolution could proceed without recourse to an external agent directing it. Darwin's mechanism was termed natural selection: natural variations accompanied by differential survival. Darwin proposed that if given enough time, even small changes could accumulate to yield creatures vastly different from their ancestors.

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The notion that all living things, including humans, had descended from a common ancestor seemed to go right against traditional Christian ideas of special creation, and, in the minds of its advocates, called into question even more clearly the authority of the church. If life could be explained by recourse only to natural causes, then there would remain no more significant gaps for God to inhabit. The idea that life might, after all, be a result of meaningless natural forces freed those who found the Christian system of social norms and morality oppressive. As Richard Dawkins once famously stated, Darwin made it possible to be an intellectually fulfilled atheist. Aldous Huxley put it a bit more candidly when he stated:

I had motives for not wanting the world to have a meaning; and consequently assumed that it had none, and was able without any difficulty to find satisfying reasons for this assumption...

The philosopher who finds no meaning in the world is not concerned exclusively with a problem in pure metaphysics. He is also concerned to prove that there is no valid reason why he personally should not do as he wants to do...

For myself, as no doubt for most of my friends, the philosophy of meaninglessness was essentially an instrument of liberation from a certain system of morality. We objected to the morality because it interfered with our sexual freedom...

The supporters of this system claimed that it embodied the meaning—the Christian meaning, they insisted—of the world. There was one admirably simple method of confuting these people and justifying ourselves in our erotic revolt: we would deny that the world had any meaning whatever.⁵

Also adding to the disenchantment with religion is the notion, held from the Greeks on, that God is arbitrarily omnipotent, able to do anything without constraint. This leads to some paradoxes. The classic Judeo-Christian paradox is to couple this notion of arbitrary omnipotence with the idea of a benevolent God. If God is really benevolent and omnipotent, why is there evil in the world? Why would he create intelligent beings out of nothing, and then create even the possibility of failure? These are not morally justifiable.

Of course Joseph Smith taught that God is not arbitrarily omnipotent; He is a part of reality, and as such is subject to constraint. And He did not create the world *ex nihilo*. But these are very unorthodox ideas. They have nothing to do with traditional theology, which still must deal with its paradoxes.

Disillusionment with traditional religion fueled the move toward a thoroughly naturalistic definition of science. Materialism, or naturalism, is a philosophical notion that holds that the observable universe is the only reality. Naturalism views deity as supernatural, and therefore (by

definition) outside the realm of science. Stephen J. Gould proposed his concept of NOMA (nonoverlapping magisteria) as a way of keeping science and religion forever separate. In other words, all truth cannot be circumscribed into one great whole.

But this decision to call deity supernatural is arbitrary. Granted, we don't want to go back to the days of superstition, where every thunderclap, every circling raven, every budding flower was an omen for good or ill. But what if there is more to the universe than can be directly observed? Physicists talk about such things. Why not biologists? What if intelligence were an irreducible feature of our universe? Naturalism, by artificially restricting itself to only evolved biological intelligence, would miss it. Must a belief in God hinder one's scientific competence? Is holding for a created universe bad science?

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CREATIONISM AND EVOLUTION

But Judge Jones said the evidence in the trial proved that intelligent design was "creationism relabeled."

The Supreme Court has already ruled that creationism, which relies on the biblical account of the creation of life, cannot be taught as science in a public school.⁶

We believe God has raised up ICR to spearhead Biblical Christianity's defense against the godless and compromising dogma of evolutionary humanism. Only by showing the scientific bankruptcy of evolution, while exalting Christ and the Bible, will Christians be successful in "the pulling down of strongholds; casting down imaginations, and every high thing that exalteth itself against the knowledge of God, and bringing into captivity every thought to the obedience of Christ" (II Corinthians 10:4,5).⁷

First of all, when the press or the scientific community says "creationism," what they mean is so-called "Creation Science" (CS), of the sort advocated by the Institute for Creation Research. CS relies on a literalist interpretation of Genesis as scientific narrative. The earth was created in six 24-hour days in about 4000 BC. Requisite for this worldview is a challenge to well-established scientific methods, such as radiometric dating, geologic dating, astrometric dating, etc. A common CS belief is that simpler life forms are found in lower rock strata because more complex organisms were more mobile, and were able to get to higher ground before inundation in the universal flood. This kind of creationism has indeed been discredited scientifically. So if someone can convince you that ID is "creationism" (i.e. CS), then he or she has won the battle.

But ID is not creationism, and those who believe in creation don't necessarily advocate CS. Many find evolution and creation to be compatible notions:

No less a religious authority than the late pope, John Paul II, said that evolution is more than just a hypothesis. It is a thrilling theory that has demonstrated its explanatory power over and over again in diverse scientific disciplines. Intelligent design theory has no such record. Why then, do some religious parents want intelligent design theory taught alongside evolution in public school classrooms?

For some religious fundamentalists, this may indeed be a way of making room for God in science classes. But for many parents, who are legitimately concerned about what their children are being taught, I suspect that it is a way of countering those proponents of evolution—and particularly of evolutionary biology—who go well beyond science to claim that evolution both manifests and requires a materialistic philosophy that leaves no room for God, the soul or the presence of divine grace in human life.⁸

Darwin was aiming at a purely naturalistic cause for evolution, so that supernatural causes need not be invoked to explain life. But was he successful in doing so?

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Key to understanding the issue here is the distinction between what biologists call microevolution and macroevolution. Microevolution is simply Darwin's notion of modification with descent. Future generations may be different from the current generation. Although Darwin knew nothing of modern genetics, neo-Darwinists point out that these differences originate from beneficial genetic mutations that become established in a population, or from already extant distributions of genetic traits, acted upon by pressure from the environment. Microevolution has been observed in nature, and in laboratory experiments, and is a demonstrable fact. Darwin's finches, peppered moths, organisms developing resistance to toxins, etc., all demonstrate this. When people say evolution is both a fact and a theory, microevolution is the factual part. It is this aspect of evolution that has direct application to (and potential benefit for) our future, and that can inform scientific inquiry.

The theoretical part of evolution is macroevolution, which is the notion that if microevolution proceeds for geologically long periods of time, then large-scale change is possible, including increasingly complex organisms. Macroevolution should work, some conclude, because we observe self-replication, mutation, and selection. It is a very powerful idea. Some have gone so far as to say that once the simplest self-replicating molecules chanced upon the scene, complex beings such as fish and elephants, and humans were inevitable, given enough time. To many, this seems to be a reasonable idea. What barriers to large accumulated change could there possibly be?

Because of the time scales involved, macroevolution cannot be directly observed, but must be inferred from other data, such as the fossil record,

or commonality of genetic information among morphologically diverse species. Interestingly, also because of the timeframe, there is no direct applicability of macroevolution to our future; only to our past, in the form of historical analysis (passing for science) about who we are, and how we came to be. The mythic appeal of the evolutionary tale comes to augment or replace our more traditional creation narratives. This is one aspect of evolution that many theists find unsettling.

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Adding to this uneasiness, some Darwinists claim much more. They further argue that no intelligence is needed in the evolutionary process at any time. Natural processes alone can account for the origin and diversity of life. No recourse to an intelligent agent is needed. It is this last claim, and only this last claim, with which informed proponents of ID take issue.

In this sense, to call ID anti-evolutionary is to commit an error. Proponents of ID seek to more fully understand evolution, how it works, and what its limitations are. They do not seek to destroy it, nor to supplant it with religious mumbo jumbo. ID then becomes a complement to, not a replacement for, evolutionary theory.

INTELLIGENT DESIGN

Even if all the data point to an intelligent designer, such an hypothesis is excluded from science because it is not naturalistic.⁹

Biology is the study of complicated things that give the appearance of having been designed for a purpose.¹⁰

Biologists must constantly keep in mind that what they see is not designed, but rather evolved.¹¹

Sir Francis Crick, co-discoverer of the double helix structure of DNA, was an atheist, a naturalist, and had some serious concerns about Darwinism's explanatory power with regard to life on earth. For instance, it appears from the geological record that microbial life began on earth soon after liquid water was present. Too soon, Crick thought. He therefore proposed the idea of "directed transpermia," by which he meant that (evolved) space aliens must have seeded the primordial earth with genetic information, providing a starting point for evolution to work from. But, as Crick's critics point out, this merely begs the question of where the aliens came from. Key to the naturalist's argument is that intelligence must have evolved: there is no such thing as non-biological intelligence. What would that mean? Interestingly, Joseph Smith stated in Doctrine and Covenants 93:29 that "Intelligence, or the light of truth, was not created or made, neither indeed can be." Might intelligence be an irreducible, primitive feature of nature, like matter/energy?

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What is intelligence? The word comes from the Latin *inter-* and *legere*: literally, to choose between. Intelligence can act on contingency; it can create. When an intelligent agent creates, it can do so teleologically, that is it can have a goal in mind, and it can conceive of steps to execute in order to reach the goal. Naturalism eschews teleology, except as a result of evolved intelligence. In this sense, Darwinism claims that evolution acts blindly, and that even though the results may appear to have design, they weren't actually designed. This claim is made even though it cannot be demonstrated that intelligence was not involved. It is taken as an article of faith. It is thought that to admit that intelligence may have been involved is to sink back into the abyss of superstition and ignorance—the doom of enlightenment.

But what if it can be shown that there are features of the natural world that defy explanation due only to naturalistic causes? For instance, what about intelligence itself? Could natural processes alone explain intelligence? Those committed to finding so-called hard artificial intelligence presuppose this. But they have been having difficulty for some few decades now. Some, like Ray Kurzweil (see his “The Age of Intelligent Machines” and “The Age of Spiritual Machines”), think the problem can be overcome with more computing power, and further science. But what if Joseph Smith was right? What if there is no way of creating intelligence? And if intelligence has always existed, could it not have been involved in the creation of life?

One common misconception held by critics of ID is the nature of the designing intelligence. Many point to examples in nature that, if designed by a creator, would indicate evil or incompetence. For instance, the mammalian eye has its network of blood vessels supplying the retina on the front side, rather than behind. Thus the blood vessels cast a shadow on the retina, blocking part of the image, and the brain has to do its best to ignore this. A competent designer, it is claimed, would have put the blood vessels on the back side, like in the eye of the octopus. And since both front-side and back-side blood vessels do exist in nature, this appears to be evidence that the whole thing resulted from the messy process of evolution. The problems with this criticism are two-fold. First, proponents of ID happily acknowledge that different eyes may indeed have evolved differently. ID is not anti-evolutionary in such a case. Second, even if particular structures, like the eye, were specifically designed, ID puts forth no claim as to the competence of the designer. Certainly there are incompetent designs created by humans, yet this is not an argument that humans do not create. ID claims only that some information somewhere in the evolutionary process must have been injected by an intelligent agent. And “intelligence” is only meant in the generic, abstract sense.

Some may say that this is a disingenuous argument; for after all, deep down inside, the proponent of ID really believes that God is the designer. But in reality, proponents of ID only claim that intelligence can be detected empirically. Things produced by intelligent agency can reliably be detected as different from things produced by natural processes alone. They propose a theoretical model, and invite one and all to provide an example that falsifies the model. This is what historian of science Carl Popper argues is the real definition of science: propose a theory that makes clear predictions, and then solicit examples that would falsify the theory. If none can be found, confidence grows in the theory. If a falsification can be found, the theory is abandoned.

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If it could be shown that for some reason intelligence needed to have entered the process of evolution, science could make no statement about where that intelligence came from. But physics is full of open questions of this sort. Darwinists, on the other hand, because of philosophical precommitments to naturalism, reject any possible involvement of intelligence with evolution. By so doing, they make a statement about what must be, not a theoretical statement that can be falsified, and thereby they cross the line from science into metaphysics.

Proponents of ID claim that it can be shown that natural processes are indeed insufficient to produce the diversity of life found on this planet. They claim that although evolution does indeed operate in our world, it cannot, in principle, explain life itself, or even the full diversity of life after it appeared. How could they convincingly make such a claim? It will be the topic of a later paper to discuss the theoretical reasons, and why Darwinism falls short in its explanatory power.

CONCLUSION

Darwinists, who have held the intellectual high ground for so long, are understandably reluctant to relinquish their monopoly over high culture. The question is whether they will continue to misrepresent intelligent design as a theological enterprise to artificially insulate their theory from competition, or whether they will take the moral high ground by opening scientific discussions to the questions intelligent design raises. Not having a particularly optimistic view of human nature, I expect Darwinists will continue business as usual, misrepresenting intelligent design as long as they can get away with it and relinquishing their monopoly over biological education only once the evidence for intelligent design becomes overwhelming. My hope for the success of intelligent design therefore resides not with Darwinists but with a younger generation of scholars who can dispassionately consider the competing claims of Darwinism and intelligent design.¹²

People have said a lot of unscientific things, purporting to be advocates of ID. There's the old analogy of the tornado going through a junkyard which assembles (by purely natural processes) a Boeing 747. There's the argument that all complex things (like a watch, or a fish) simply must have a creator. The eye is too complex and exquisite an organ to have evolved. But this is not science. These statements reflect the desire of people who, as a matter of faith, believe there is a creator, and who want to discredit the notion of evolution because they think it somehow attacks that faith.

But there are more careful thinkers questioning the power of Darwinian evolution to explain all of biological diversity. Some of these have become convinced that there must have been intelligence entering into the process somewhere.

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Earlier I said that there are aspects of evolution that some theists find unsettling. Anyone advocating intelligent design must be sensitive to the fact that there are aspects of ID that many scientists find unsettling. It must be remembered that secular humanism, materialism, and other thoroughly naturalistic philosophies were developed, in large part, as a reaction against the real abuses of apostate religion, particularly the European Church State. No one wants to go back to that. But materialists fear that if it is admitted that some extraterrestrial and unembodied intelligence designed life, then scientific inquiry will cease, enlightenment fail, and we'll slip backward into fundamentalist religious history where the unfaithful are punished, and dogma is not questioned. This fear is strengthened when scientists witness the public, many of whom are reacting to their own fears of what Darwinism means for their faith, embrace ID as proof that evolution is false.

But really, this is a gross misconception. ID embraces Darwinism as a powerful optimizing scheme for a complex bio-system, but also asks what the limitations might be. Because of the evidence they see, proponents of ID simply propose that intelligence must be an irreducible part of nature (like matter/energy), and that it might have preceded our universe. This has the effect of opening the mind even further than Darwinists are able to do, as they, on an *ad hoc* basis, exclude intelligence as a contribution to evolution.

The LDS community should approach scientific inquiry (and life in general) in a fundamentally different manner than either strict materialists or traditional theists. We know that truth can be accessed through faith and revelation. It is my belief that evolution is a very apt analog to the way we learn truth. Ideological isolation leads to stagnation. There is truth in all cultures. I have grown most when I have questioned my own beliefs, whether that meant trying to explain myself to others, or asking myself probing questions during study. The fitness of any idea, the criterion for

selection, is revelation *à la* Doctrine and Covenants, Section 9. In this way, we are led sometimes to surprising truths.

I will present the case for Intelligent Design in a future paper. I will argue that we, of all people, should consider not only evolution in our courses here at BYU–Idaho, but also ID. I will seek to show that the case for design can be made with scientific rigor. Let us not side with theocrats or technocrats simply because of ideological preconceptions. Let us learn with an open mind. Advocacy for design has had its crackpots, but the current advocates for ID are different in kind. I think they’ve struck upon something. ☺

**The case for design
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NOTES

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5. *Ibid.*, 312-316.
6. Laurie Goodstein, *The New York Times*, “Judge Rejects Teaching Intelligent Design,” 21 December 2005.
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8. Kenneth L. Woodward, Op-Ed Contributor, *The New York Times*, “Evolution as Zero-Sum Game,” 1 October 2005.
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