

Teaching Intelligent Design as Religion or Science?

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Imagine yourself the head of Christian education for a large local church. Suppose that among its many ministries the church operates a high school. Let us say the high school has been in existence for a number of years, and has until now encountered no difficulties with state certification boards. Unfortunately, this happy state of affairs is about to change. Recently the state certification boards have had an influx of new policy makers who are largely unsympathetic to Christian education. These policy makers want to see any distinctives between Christian and public school education curbed as much as possible.

Thus in reviewing your church's high school curriculum, the new policy makers have been particularly distressed by the way evolution and creation are handled in the biology classes offered by your high school. The policy makers would have no problem if you relegated creation to religion classes, and limited yourself to evolution in the biology classes. They would not even have a problem if in addition to treating evolution in the biology classes you also treated it in religion classes. As far as the new policy makers are concerned, you could criticize evolution to your heart's content within a religion class.

The problem, however, is that you are mixing creation and evolution in your biology classes. Granted, the mention of creation within the biology curriculum would be excusable if creation were presented as an outdated religious dogma with no scientific basis. Thus for purely historical reasons it would be acceptable to describe what people used to think about biological origins-how people used to invoke supernatural interventions and a host of other now disreputable notions. In this way you would not be challenging evolutionary theory by suggesting that a case of genuine intellectual merit exists against it.

But this is precisely what your high school is doing, namely, subverting the teaching of evolution. To be sure, you are fulfilling your obligation to the state by teaching evolutionary theory as it is presented in accepted high-school and beginning-college biology texts. But having presented what you are required to teach, you are also critiquing the theory you have just presented. What's more-to add insult to injury-you are offering a positive alternative to evolutionary theory, an approach increasingly referred to as intelligent design. You are even using a supplemental biology text called *Of Pandas and People* to teach intelligent design. The teaching of intelligent design particularly infuriates the new policy makers. As far as they are concerned, intelligent design is just a sexy new name for the tired old creationism of the 1980's. This brand of creationism was roundly defeated in the courts, is not permitted to be taught in the science curricula of public high schools, and certainly does not deserve to be resurrected. Intelligent design is not science, and should not be taught as science. So the story goes.

Even if one leaves aside positive alternatives to evolutionary theory (like intelligent design), and focuses exclusively on negative critiques whose only aim is to punch holes in evolutionary theory-even such negative critiques are unacceptable to the new policy makers. From their perspective critiquing evolution is just as much a form of indoctrination as presenting a positive alternative. We do not tolerate history teachers who critique the Holocaust by suggesting it never happened. We do not tolerate physics teachers who deny the view that the earth is spherical or doubt whether its motion is around the sun. We do not tolerate chemistry teachers who think the periodic table of the elements is irrelevant to chemistry. So too, we should not tolerate biology teachers who deny the truth of evolutionary theory.

As far as the new policy makers are concerned, intellectual history has progressed far enough for everyone to realize that creation belongs to the realm of religion and evolution to the realm of science, and that the twain do not meet. Religion and science are distinct windows into reality and look upon completely different aspects of reality. As the National Academy of Science has so aptly put it, "Religion and science are separate and mutually exclusive realms of human thought whose presentation in the same context leads to a misunderstanding of both scientific theory and religious belief." Although science and religion complement each other, they do not intersect so as to allow insights from one realm to be meaningfully imported into the other.

To recap, you are head of Christian education at a large local church. The high school operated by your church is teaching biology classes that present an alternative to evolutionary theory known as intelligent design. The new policy makers in charge of certifying your high school find this unacceptable and are threatening to pull your certification unless you toe the line and teach evolution exactly as it is presented in approved biology texts-without critique, without an intelligent design alternative. As head of Christian education for this large local church, what are you going to do? How are you going to advise the relevant judicatory of your church in deciding what to do about the teaching of creation and evolution within its high school biology curriculum?

The path of least resistance is obviously to capitulate to the new policy makers and simply remove anything contrary to evolutionary theory to a safe place in the curriculum where the policy makers will not cause trouble. As far as the policy makers are concerned, any place outside the science curriculum will do. And since yours is a Christian high school, the most obvious place would be to place the critique of evolutionary theory in a philosophy or religion course, something like "Contemporary Issues Facing the Church."

Should you capitulate? Why shouldn't you capitulate? After all, what is the harm in capitulating? You will still be getting the same material across to your students. Isn't it the case that we should choose our battles wisely, and not expend a great deal of effort fighting for things that in the end do not matter very much. To spite the new policy makers you could even require that all students take an entire course (say within the religion department) devoted exclusively to critiquing evolution and promoting intelligent design. Whereas in the past students had only a handful of lectures critiquing evolutionary theory and promoting intelligent design, now they would be required to take an entire course on the subject. Wouldn't this be a way of turning defeat into victory, all the while sidestepping the nasty new policy maker's demands.

Unfortunately, No. The problem is that this move fails to recognize the immense cultural prestige which our society accords to science, but denies to religion. This disparity ought to be a fundamental concern for Christian educators. To relegate the critique of evolution to religion or philosophy or anything other than science is to perpetuate this disparity and, in effect, deny the very purpose for Christian education in the first place. If there is any point to Christian education, it is to present the various academic disciplines within an adequate conceptual framework for making sense of the world. What's more, as Abraham Kuyper so forcefully argued in the last century, the only adequate framework for the Christian to make sense of the world is one in which Christ reigns supreme in every "department of life." The framework that currently guides public education, by making science inviolable and religion subordinate to science, thus provides an inadequate conceptual framework for making sense of the world, and must needs be unacceptable to any Christian educator with a coherent philosophy of Christian education.

The over-inflated role of science within our society must not be left unchallenged, and certainly not by Christian educators. Within our society, science is advertised as the only universally valid form of knowledge. This is not to say that scientific knowledge is deemed true or infallible. But within our society, whatever is purportedly the best scientific account of a given phenomenon demands our

immediate and unconditional assent. This is regarded as a matter of intellectual honesty. Thus to consciously resist what is currently the best scientific theory in a given area is, in the words of Richard Dawkins, to be either stupid, wicked, or insane. Thankfully, Richard Dawkins is more explicit than most of his colleagues in making this point, and therefore does Christian educators the service of not papering over the contempt with which the scientific community regards anyone who questions scientific orthodoxy.

It bears repeating: the only universally valid form of knowledge within our society is science. Within late 20th century western society neither religion, nor philosophy, nor literature, nor music, nor art makes any such cognitive claims. Religion in particular is seen as making no universal claims that are obligatory across the board. The contrast with science is here glaring. Science has given us technology-computers that work as much here as they do in the third world. Science has cured our diseases. Whether we are black, red, yellow, or white, the same antibiotics cure the same infections.

It now becomes clear why relegating a critique of evolutionary theory, and intelligent design in particular, to any realm other than science (e.g., religion) represents so significant a concession. In making this concession a Christian educator engages not in a comfortable truce but in a quiet surrender. If evolutionary theory fails some religious criterion, business will continue as usual. As long as evolutionary theory is the best science of its day, it will continue to demand the society's immediate and unconditional assent. But if evolutionary theory fails as a matter of science, then its day of reckoning will have arrived.

It is precisely at this point, however, that things become sticky. To be sure, some critiques of evolutionary theory are nothing more than religious. Thus to reject evolutionary theory simply because it conflicts with a literal interpretation of Genesis 1 cannot constitute a scientific critique of evolutionary theory, and ought not to be taught within a science curriculum. On the other hand, if one has genuine scientific reasons for rejecting evolutionary theory, then it is inappropriate to require that these reasons be presented outside a science curriculum. Where things become sticky is whether there can even be such a thing as counter-evidence to evolutionary theory that is properly speaking scientific.

The only legitimate reason for excluding a critique of evolutionary theory from a science curriculum is that the critique is non-scientific. But what makes a critique of evolutionary theory scientific as opposed to non-scientific? Let us first be clear what we mean by the term "evolutionary theory." By this term I mean any account of the origin and development of life which appeals only to non-purposive, undirected natural processes. The most popular such account is what is known as the neo-Darwinian synthesis, of which Richard Dawkins is the most outspoken contemporary proponent. Competitors to the neo-Darwinian synthesis include Stephen Jay Gould's theory of punctuated equilibria and Stuart Kauffman's self-organizational theory. But observe that all these accounts are instances of evolutionary theory-however much these accounts may differ on the surface, they are each committed exclusively to naturalistic causes as the only legitimate mode of explanation within science.

By now it has become clear why critiques of evolutionary theory that invoke intelligent design are proscribed from science curricula. Evolutionary theory views natural causes as fully capable of explaining the origin and development of life. Intelligent design says No, natural causes are incapable of fully explaining life; what is needed additionally are intelligent causes. But science no longer recognizes intelligent causes as possessing an integral status independent of natural causes. If anything, intelligent causes are nowadays viewed as a byproduct of natural causes in the sense that natural causes gave rise to us, who happen to be intelligent beings and act as intelligent causes. In the end, however, intelligent causes like ourselves are reducible to natural causes, so that intelligent causes become eliminable from science. Intelligent design is therefore not properly speaking scientific, since a more exact analysis will eliminate intelligent causes in favor of natural causes.

This rejection of intelligent causes from science is problematic for it ignores a fundamental question: Are there things intelligent causes governed by minds can do which natural causes governed purely by natural laws cannot do? Before we start eliminating intelligent causes in favor of natural causes, let us recognize that there are good reasons for thinking intelligent causes can do things which natural causes cannot. Although the reduction of intelligent causes to natural causes has a long history, going back at least to the Greek atomists like Democritus, the view that intelligent causes can do things which natural causes cannot also has a long and illustrious history. For instance, in the *Phaedo* (98d-99a) Plato has his hero Socrates distinguish clearly between the intelligent causes that are inducing him to stay in an Athenian jail and await execution, and the natural causes which govern the joints and sinews of his body wherewith he could either stay in prison or escape to save his life. According to Plato, natural causes and intelligent causes are fully compatible and operate in tandem, but are not ultimately reducible the one to the other.

With the rise of modern science, however, intelligent causes fell into disrepute. Aristotelian science, by requiring that everything have a final cause, had proven itself scientifically sterile. This distrust of intelligent causes within science has if anything intensified in our own day, so that we find evangelical scholars who work in the science-theology debate accepting that science has to be "methodologically atheistic." To be sure, these scholars believe in God, and therefore are not "metaphysically atheistic." But they accept that science has to be framed strictly in terms of natural causes governed by natural laws—intelligent causes are therefore strictly *verboten*. Does life exhibit nothing more than the outcome of fully naturalistic purposeless material processes, or does life exhibit the purposeful activity of an intelligent agent? Methodological atheism denies that life can exhibit intelligent causation in a scientifically meaningful way. As a matter of faith, we can attribute the origin and development of life to an intelligent cause. But as a matter of science, we are left with no more than natural causes, from which it is impossible to form any definite conclusions about an intelligent cause, much less a Christian God.

It is crucial here that we distinguish between intelligent causes as a faith commitment and intelligent causes as a scientific inference. As Christians we all know that God created the world by wisdom (cf. Psalm 136:5). For the Christian there is no question that an intelligent cause underlies the world. The question is rather an epistemological one—how do we know that an intelligent cause underlies the world? It is here that intelligent design wants to challenge the way science is currently practiced, arguing that intelligent causes belong within science, that intelligent causes can do things which natural causes cannot do, and that we can know the difference. It is one thing to hold as a faith commitment that an intelligence underlies the world, but then be unable to read the book of nature in a way that makes this intelligence evident. It is another thing to look at the world and find features in it that can be reliably correlated with intelligent agency. In the latter instance, attributing the world to an intelligent cause is no longer simply a faith commitment, but actually constitutes a scientific inference.

In describing the controversy over intelligent design in a recent article for the *New York Times*, Peter Steinfels misses this point. According to Steinfels, "The issue is not whether creation took days or eons. The issue is purpose: Is there an intelligible and caring purpose at work in the universe or is the cosmos, human life included, ultimately the manifestation of blind chance?" Steinfels is correct as far as he goes, but he errs by leaving the question of intelligent causation at the level of religious belief. The important question is whether there are good scientific reasons for thinking that an intelligent cause is at work in universe. Anyone who wants to engage the secular culture with a public theology (and Christian educators are key in this regard) must come to terms with this question. Religious believers have on religious grounds always believed that an intelligent cause underlies the universe. The crucial question is whether there are also scientific grounds for holding this belief.

Intelligent design theorists say Yes, there are valid scientific grounds for holding that an intelligent cause has been active in the origin and development of life. Much of the work in this area is recent, and has

been motivated, on the one hand, by the consistent failure of evolutionary theory to account for the specified complexity of life, and, on the other, by the tendency of so-called "scientific creationists" to conflate a literal reading of Genesis 1 with their scientific work. Recent books on intelligent design theory have been written by Walter ReMine (an engineer), Michael Behe (a biochemist), and myself (a mathematician). In each case we introduce a criterion by which to distinguish what intelligent causes can do from what natural causes cannot do.

For instance, Michael Behe introduces the notion of *irreducible complexity* to distinguish intelligent causes from natural causes. As an example of irreducible complexity Behe considers a mousetrap. According to Behe a mousetrap is irreducibly complex because it loses functionality as soon as any of its components are removed: remove the spring, and the trap won't close; remove the latch, and the trap can't be set; etc. So too, Behe finds cells comprised of "molecular machines" (like the bacterial flagellum) which display irreducible complexity. Behe presents an in-principle argument why evolutionary theory cannot account for these systems and why they are better explained by appealing to intelligent causes.

Well, that certainly seems to settle the matter-intelligent design is properly scientific and ought to be taught within high-school science curricula. Not so fast say the critics. Even if intelligent design eventually proves itself to be properly scientific, for now it is much too new to be tested on high school students in their biology courses. High school students should not be treated as guinea pigs for a course of instruction that may in the end just turn out to be religion masquerading as science. Granted that Michael Behe's criterion of irreducible complexity has a certain intuitive appeal, we ought nonetheless to demand that this criterion be properly vetted by the scientific community before admitting it into high-school science curricula.

Although this caution appears well-founded, it in fact betrays a strong metaphysical bias of its own, and one that evinces an unreasoned commitment to naturalism-the view that nature is all there is and that proper explanation is always in terms of natural causes governed by natural laws. As strictly a logical possibility, naturalism may be the way things are. But naturalism is hardly a necessary truth, and the debate over its truth is by no means closed. To demand that Behe's criterion receive the approval the scientific community before it can be taught in science curricula is, in the naturalistic ethos that currently dominates science, to guarantee that Behe's criterion will not be taught in science curricula. What appears as an innocent caution therefore ends up being an act of scientific imperialism, guaranteeing that intelligent design will never make it onto the scientific playing field.

Indeed, who sets the rules of science? The very demand that science explain in terms of natural rather than intelligent causes is itself applied selectively. Whole branches of science already presuppose that features of the natural world can display unequivocal marks of intelligence causation, thereby clearly signaling the activity of an intelligent designer (cf. anthropology, archeology, and forensic science). Nor need the intelligences inferred in this way necessarily all be human or even earthbound. Consider, for instance, NASA's SETI program (Search for Extra-Terrestrial Intelligence) in which certain radio signals from outer space would with full confidence be interpreted as signaling the presence of an extra-terrestrial intelligence. There are reliable criteria for inferring intelligent causes. Certain special sciences already admit as much. Why then refuse their admission into biology?

There is a double standard at work here. And as G. K. Chesterton has so perceptively noted, behind every double standard is a hidden agenda. The hidden agenda in this case is ensuring the continued dominance of naturalism within the scientific establishment. For instance, the National Association of Biology Teachers (NABT) promotes precisely this hidden agenda when it endorses evolutionary theory to the total exclusion of intelligent design: "The diversity of life on earth is the outcome of evolution: an

unsupervised, impersonal, unpredictable and natural process of temporal descent with modification that is affected by natural selection, chance, historical contingencies and changing environments."

Whence the NABT's supreme confidence in evolutionary theory given the severe problems that continue to trouble it? The origin of life, the origin of the genetic code, the origin of multicellular life, the origin of sexuality, the gaps in the fossil record, the biological big bang that occurred in the Cambrian era, the development of complex organ systems, and the development of irreducibly complex molecular machines are just a few of the more serious difficulties that confront every account of the origin and development of life that posits only purposeless, material processes. These problems are not going away and, if anything, the prospect of accounting for them given naturalism is becoming worse with time. Whence, then, the NABT's dogmatism in excluding intelligent design from the scientific playing field?

The only reasons for excluding intelligent design from science are self-serving ones. Philosophers of science who remain fully committed to evolutionary theory, but know the difference between a good and a bad argument admit as much. For instance, Elliott Sober, a philosopher of biology at the University of Wisconsin, will write, "Before Darwin's time, some of the best and the brightest in both philosophy and science argued that the adaptedness of organisms can be explained only by the hypothesis that organisms are the product of intelligent design. This line of reasoning—the *design argument*—is worth considering as an object of real intellectual beauty. It was not the fantasy of crackpots but the fruits of creative genius." Nor does Sober exclude intelligent design from staging a comeback: "Perhaps one day, [intelligent design] will be formulated in such a way that the auxiliary assumptions it adopts are independently supported. My claim is that no [intelligent design theorist] has succeeded in doing this yet." My claim, on the other hand, is that design theorist are just beginning to succeed in this respect.

In conclusion, as head of Christian education for a large local church, the right thing for you to do is to stand your ground and continue to have intelligent design taught in the biology classes of your high school. The reason for taking this stand has nothing to do with a narrow, self-serving fundamentalism according to which Christianity will prosper only if evolutionary theory can be discredited. Intelligent design is not the latest Christian ploy to undermine evolutionary theory and thereby promote Christianity. The question, rather, is one of truth and fairness: to determine the scientific merits of evolutionary theory and intelligent design.

This is not to stack the deck and assert that intelligent design is true. Evolutionary theory may indeed be true. But if so, its truth ought to be ascertained not by artificially constricting the playing field on which scientific theories are decided. As things stand now, the new policy makers in charge of school certification are ruling intelligent design out of court without a fair hearing. This attitude cannot help further the cause of truth. Nor does it make for good pedagogy. The reason, then, for continuing to teach intelligent design within the biology curriculum of your Christian high school is to promote the free expression and critical examination of ideas. And within Christian education this is without a doubt the best signifier of the gospel.

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