

Evolution, Creationism, and Fairness: Equal Time in the Biology Classroom?

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Controversy continues to rage about the place of creationism in science classrooms. It has been fashionable, in some circles, to argue that creationism should be included on an “equal time” basis with evolution. The form of creationism that should be taught, however, is disputed. Some religious fundamentalists want a literal reading of Genesis (and the “creation science” that grows out of Genesis) to be given equal time, while others prefer that schools give time to “intelligent design.” Still others simply want criticisms of evolutionary theory to be given equal time in the classroom.¹

The idea that students should hear “both sides” of the evolution debate enjoys widespread popular support. An opinion poll from the Pew Forum on Religion in Public Life revealed that nearly two-thirds of Americans believe that creationism, in some form, should be taught alongside evolution.² For many, the equal-time view has a strong appeal as a matter of fairness: public schools should always present multiple perspectives on controversial issues. For his part, President George W. Bush endorsed equal time on these grounds in 2005, saying, “You’re asking me whether or not people ought to be exposed to different ideas, the answer is yes.”³ Editorial writers around the country have also chimed in. One writes:

Proponents of evolution have to realize that not everyone is convinced the theory is true. And those who don’t are also taxpayers who should have a say in the curriculum. If evolution is allowed in the classroom, intelligent design should be too. It’s only fair, since Gallup polls have found that the majority of Americans believe life began with a supreme being anyway.⁴

It is true that the courts, driven largely by Establishment Clause concerns, have been hostile to most forms of creationism in public schools. Political philosophy, however, provides some arguments for including creationism that cannot simply be ignored. Francis Schrag has argued, for example, that creationism in science classrooms can be defended on both liberal and democratic grounds.⁵ By exposing students to different perspectives, students are better able to choose for themselves what to believe and thus better able to exercise their personal autonomy.⁶ Likewise, if large segments of society want creationism taught in public schools, then the ideal of democracy would imply that this preference be accommodated. We need not fully agree with these arguments to see that the teaching of creationism (or intelligent design) as a matter of fairness can be justified in fairly sophisticated ways.

In this essay, I want to further analyze the implications of fairness in the science curriculum. I ask: If we grant the idea that creationism (in some form) should have equal time in science classrooms as a matter of fairness, what else follows? What are the implications of the inclusion of creationism for the rest of the curriculum, if any?

Of course, to answer these questions we need to ask about the nature of fairness itself and ask, more specifically, about what it means to be treated fairly in curricular

matters. John Rawls is no doubt the foundational figure in philosophical discussions of fairness. In *A Theory of Justice*, Rawls argues that justice in a well-ordered society is what individuals would agree to if they were to cooperatively construct the basic rules of a society from a mutual position of freedom and equality. To catch a glimpse of what this social contract would involve, he asks us to imagine what rules and procedures we would agree to if we did not know our various positions in society — if we were, as he says, behind a thick “veil of ignorance” in an “original position.” We are to envision a situation in which “the parties are equally represented as moral persons and the outcome is not conditioned by arbitrary contingencies of the relative balance of social forces.”⁷ The conditions of impartiality in the original position serve to illustrate the conditions of fairness — a fair policy is a policy that we could all accept, irrespective of our particular social positions. While the notion of fairness is doubtless more complex than Rawls admits,⁸ I will take his way of thinking about fairness as my starting point. Thus, I want to ask: With respect to the curricular inclusion of different perspectives in public schools, what would we agree to under conditions of mutual respect and equality?

I do not have a full answer to this question. Indeed, I am undecided about the full set of principles that should guide the fair inclusion or exclusion of different comprehensive viewpoints in the public school curriculum.⁹ I can, however, think of one principle that could be defended in the original position, and it relates to how different views, if they are included in the curriculum, should be treated. The principle is this: If students are to be taught about a comprehensive belief within the context of compulsory public schools, that belief must be presented in its strongest form. I will call this the “principle of curricular fairness.”

There are at least two reasons why free and equal citizens would endorse this principle in the original position. The scheme of the original position presupposes the value of autonomy — the perspective of the autonomous person, after all, is used to shape the principles of the well-ordered society. The value attached to autonomy suggests that a person in the original position would have an interest in becoming familiar with different conceptions of the good. Since it is possible to be born into circumstances that are not personally congenial, an autonomous person would want to be adequately informed about available alternatives. To be adequately informed, though, a person must be presented with alternatives in their most compelling forms. Schools have a responsibility to teach about these alternatives if they are not provided in other ways. As John Stuart Mill wrote, students “must be able to hear [ideas] from persons who actually believe; who defend them in earnest and do their very utmost for them.”¹⁰ Building on this idea, Harry Brighouse points out that autonomy requires students to hear “serious advocacy” of different perspectives.¹¹

Second, free and equal citizens would endorse the principle of curricular fairness because of the importance of familial intimacy. Although people in Rawls’s original position do not know what particular desires they will have, they do have a basic grasp of human psychology, and thus would recognize the general importance of family life and personal relationships. As human beings, we generally hope

to have close relationships with our children, and it helps if our children come to share some of our values. Recognition of continuing family identity might even be a “primary good,” since it is related to the “social bases for self-respect” — that is, it may be required to have a sense of our “worth as persons.”¹²

To be sure, the development of individual autonomy will often trump the value of intimacy as it relates to one’s own children. At the same time, however, the value of familial intimacy would suggest, at the very least, that home beliefs should be treated with respect. I can imagine individuals within an original position, any of whom might find themselves to be parents, saying, “We understand the need to be exposed to alternative conceptions of the good, but we do ask that, when our own conception of the good is presented, it be presented in its strongest form.” Thus, the principle of curricular fairness would be agreeable to free and equal citizens for reasons grounded both in individual autonomy and in the familial interest in intimacy.

If we are to present both creationism and evolution, then, it is required that we present both views in their strongest forms. But, again, what does this entail? I will look at this question by examining the different claims that are said to deserve equal time: creation science, intelligent design, and criticisms of evolutionary theory. Before analyzing what fairness entails for these positions, it is important to review the differences between the older creation science and newer theories of intelligent design. Creation science takes a “literal” reading of Genesis as its starting point and seeks to collect empirical evidence in support of this interpretation. In contrast, the intelligent design movement is based on the theory that “certain features of the physical universe and/or biological systems can best be explained by reference to an intelligent cause (that is, the conscious action of an intelligent agent), rather than an undirected natural process or material mechanism.”¹³ Thus, intelligent design takes as its starting point the alleged deficiencies of evolutionary theory, not a sacred text. This difference will matter when it comes to assessing the fairness of equal time.

THE IMPLICATIONS OF EQUAL TIME: SOME FALSE STARTS

In looking at the implications of equal time, there are three mistaken implications that might tempt us in the beginning. First, one might deny that there are, in fact, larger policy implications of an equal-time strategy: creationism can simply be added to the typical biology curriculum and nothing else needs to change. The teacher can teach evolution as she usually does, and then teach about the creationist alternative (or have someone come in who can provide “serious advocacy” for that position).

This no-implications view, however, is unsatisfactory. Some of the reasons for this are obvious; others perhaps are less so. The most obvious reason is that time is limited in the biology classroom, and adding something to the curriculum will mean that something else has to be dropped. Decisions would have to be made about whether to drop, say, arthropods or protists from the curriculum. Another problem is that, if creationism is presented with serious advocacy, it will make claims that speak directly to the strength of the evolutionist position. This has implications for

evolution: *If we present creationism without any response, then we have now not taught evolution in its strongest form.* Since the principle of curricular fairness requires that we teach both perspectives in their strongest forms, the teaching of evolution must be modified so that it addresses the questions that it faces from creationism in this particular context. After all, the evolutionary perspective *also* deserves serious advocacy. What counts as serious advocacy for any given position, therefore, will depend on what else is advocated within the curriculum.

Another false start: If creationism is to be given equal time, then *all* competing viewpoints in the larger society would need to be given equal time. These viewpoints would include, perhaps, Neo-Nazism, the existence of UFOs, and so forth. The premise is that, if we admit that it is good for competing views to be acknowledged in schools — even views that seem false or repugnant — then the floodgates will necessarily open to all sorts of disreputable and questionable views.

This slippery-slope argument fails. Simply put, there is no compelling case why things must necessarily proceed down the slippery slope. Indeed, it is fairly easy to think of reasons why creationism might have a special status as a controversial view. We could stipulate that fairness in giving equal time holds only for viewpoints that command widespread belief in the larger local community (thus eliminating something like Holocaust denials). Moreover, we could stipulate that not just any viewpoint can be included; rather, given the lack of time in school, it needs to be a deeply held belief. Thus, while many Americans say they believe in UFOs, few seem to feel strongly enough about this belief to demand equal time for it in science classrooms. Note that my argument here is not that creationism should be included, just that it would be easy to find reasons for why creationism might be different from other controversial views.

Finally, there is the view that, if creationism is allowed in science classrooms, then secular viewpoints would need equal time in places like churches, synagogues, or mosques. For example, the critic of religion Christopher Hitchens argues that, if creationism is included in science classrooms, then, for example, tax-exempt churches should “provide space for leaflets and pamphlets favoring evolution.”¹⁴ The basic idea seems to be that, if equal time is given to creationism in biology, then *any* interaction between the government and religion in public policy (including those policies currently favoring religion) must follow the equal-time standard.

There are, however, important differences between public school classrooms and other areas of public policy. First, in the American educational scheme, there is a long tradition of local democratic control over public schools. Americans have traditionally had a more direct say in their local schools than in, say, the direction of U.S. foreign policy, which, for better or worse, is far removed from direct democratic control. As long as we want to preserve this sort of system, democratic voices calling for equal time in biology classrooms will *legitimately* have more sway in public schools than in other policy domains. Second, public schools are public in a way that churches receiving tax exemptions are not. One important reason why, of course, is mandatory attendance requirements — students are required to attend

schools, but not churches, so a different set of rules should apply. Another reason why schools are different has to do with fulfilling the particular educational mission of schools. If schools deny, misrepresent, or ignore the core elements of students' identities, including their religious identities, it may cause harm, and thus impede the school's educational mission. For all of these reasons, equal time might be more appropriate for public schools than in other areas of public policy.

THE IMPLICATIONS OF EQUAL TIME: WHAT IT *DOES* MEAN

So, if those are false starts, then what are the implications of the principle of curricular fairness? Note that, before we even get to the principle of fairness, we have already made assumptions about the form of the debate by saying that creationism is the sort of thing that belongs in the science classroom. To assert that creationism belongs in biology classrooms is to claim that it belongs with everything else that is included in the science curriculum. It is to claim that a creation account (usually that of the biblical Book of Genesis) has the same explanatory goals as the other aspects of the science classroom. Further, equal time presupposes that religious accounts of creation are playing the same evidentiary game as the scientific accounts. It assumes, for example, that evidence from the biological record matters in evaluating theories. Since the two views are assumed to have the same goals, equal time also assumes that the two views are competitors, each vying for the allegiance of students.

Now, it is possible that a creationist may deny that scientific evidence is relevant to Genesis and still maintain that that it belongs in the science classroom. This sort of creationist would stand against the idea that science is relevant to evaluating Genesis — indeed, such a person might claim that the evidence from the fossil record is a ruse used by devils to trick us into denying God. However, such claims would cut strongly against the case for creation accounts in the science classroom — the case for inclusion in the science classroom is then much weaker. Thus, from my experience, most people that want creationism in biology class believe that creationism can make something of a scientific case for itself.

IMPLICATIONS OF EQUAL TIME FOR CREATION SCIENCE

Suppose we grant the premise that creation science is deemed by most people as having the same goals and standards of evaluation as evolutionary accounts. This type of creationism would take Genesis as an accurate account of biological history. One thing that follows from this, of course, is that the evolutionary account is now open to criticisms from the creation scientist. Since science and religious texts are all asking the same questions and talking about the same basic things, they are all on the same playing field. The creation scientist can now attack the evolutionary position with whatever evidence she can muster.

But if we are to take the principle of curricular fairness seriously, what else follows? Remember that each view must be presented in its strongest form. As the creation scientist criticizes evolution, it now means that evolution requires a different form of "serious advocacy." That is, what it means to teach evolution in its "strongest form" is now different. Evolution, again, must respond to the creation scientist. It is not only that the evolutionist can now defend herself from the

creationist criticisms; the evolutionist can now go on the “offensive.” Fairness demands that she be allowed to bring the weight of scientific evidence to bear on the *positive views* of the creation scientist, namely, the Genesis account. For example, an evolutionist, acting as a serious advocate, might criticize the idea of a literal seven-day creation.

What religious advocates of equal time may not realize is that, since scientific and religious claims are brought into the same domain, the critical knife now cuts both ways. If we endorse the principle of curricular fairness, then not only can the creationists criticize scientific texts, but the evolutionists can then criticize religious texts. Genesis would thus become a legitimate target of scientific criticism. As Robert Pennock points out, “Introducing creationism in the science classroom would necessarily place...religious beliefs under critical scrutiny.”¹⁵ Proponents of equal time should consider whether this is something they really want.

IMPLICATIONS FOR INTELLIGENT DESIGN

Intelligent design (ID) is the view that the complexity we see in the world can best be explained as an act of design. For the ID theorist, there is no discussion of Genesis or any particular conception of God. There is no story of Adam and Eve to defend, no seven-day creation, and no problem with dinosaurs. The dynamic of changing organisms across eons of time is affirmed. But, when faced with examples of intricate complexity within life forms (for instance, examples of “digital codes” and “miniature motors” within living cells) and instances of sudden species explosions (for example, the “Cambrian explosion”), the ID theorists assert that the most reasonable explanation is that there must be an intelligent designer. This camp embraces the evidentiary standards of science more clearly than the creation scientist and therefore claims even more strongly that ID theory is doing the same thing as evolutionary theory, namely, seeking to provide an adequate account of the biological development of life. Accounting for the intricate complexity of life through mechanisms of chance or blind selection, they would argue, requires believing in an even bigger miracle than believing in an intelligent designer.

There are two aspects of the work of ID. First is the work of showing the limitations of evolutionary theory — proposing that all the new forms of life that appeared during the “Cambrian explosion,” for example, cannot be explained by current theory. Second is the use of “inference to the best explanation” arguments to show that an intelligent designer is the most likely explanation for such complexities.¹⁶ The first project is a negative project aimed at debunking an undesigned creation; the second is a positive project showing the reasonableness of a designer.

Suppose we grant that the positive project of ID, which stipulates an intelligent designer, is what should receive equal time with evolution. If the positive ID project is to receive serious advocacy, then evolutionary theory is now being challenged in a different way. This means, again, that the teaching of evolution must adapt if it is to offer serious advocacy for the evolutionary position. I think that ID has several implications for the teaching of evolution. First, the inference to the best explanation argument as endorsed by the ID theorists rests on the prediction that the current gaps in understanding biological complexity in naturalistic terms are enduring and

permanent. These gaps, after all, are what supposedly make intelligent design the superior explanation. Thus, the challenge of ID would be met by scientific examples where apparent overwhelming complexity was eventually explained in naturalistic terms. After all, many things that seemed supernatural at one time have been adequately explained in naturalistic terms (lightning, perhaps, or the movements of the planets).

Second, the arguments for design, as I understand them, are largely claims about the probability of design given the evidence of complexity. This is as much a philosophical project as a scientific project. Some sort of discussion from philosophy of science or even philosophy of religion would therefore be necessary to give evolution serious advocacy. To the extent that ID makes a positive claim about the probable existence of a creator, and to the extent that this mechanism is seen as a competitor to evolutionary theory, then the evolutionist must be able to evaluate the evidence for the existence of such a designer: Is there, in fact, any independent reason to stipulate a designer, apart from explanatory gaps in evolutionary theory? If there is an intelligent designer behind all things, how do we explain those features that, from a human perspective, appear to be chaotic and disordered (for example, the birth of severely disfigured children)? If the existence of a designer is to be posited as an explanatory tool, in other words, all the available arguments against design are open to discussion. Again, religious advocates for equal time might consider if this is what they really want.

IMPLICATIONS FOR CRITICISMS OF EVOLUTIONARY THEORY

The more thoughtful advocates of ID do not want the positive claim of the existence of an intelligent designer necessarily taught in schools. That aspect of the ID movement, they admit, is still not developed as a science. Instead, what they want is for the negative project of ID to have time in public schools. That is to say, they only want equal time for criticisms of evolutionary theory. Campbell and Meyer write, for example,

Rather than teaching evolution as an incontrovertible "truth," teachers should present the arguments for modern neo-Darwinism and encourage students to evaluate these arguments critically. In short, students should learn the scientific arguments for, and against, contemporary evolutionary theory.

Furthermore, they add, "Because intelligent design is a new theory, we...don't think students should be required to learn it."¹⁷

With only a negative project, a critique of evolution, being assigned equal time, the implications for the biology classroom are less clear. I believe, however, that at least two implications can be drawn. First, for evolution to receive serious advocacy, students must be given a sense of the full weight of evolutionary evidence. It would not be fair to evolutionary theory to present two or three reasons in support of evolution, and then offer two or three gaps in current evolutionary theory. Instead, if we acknowledge the known problem areas for evolutionary theory, then we must also acknowledge the mountains of accumulated evidence for the existence of evolutionary processes. If we are to teach the best of each theory, then the teacher must give a true sense of each theory's successes, as well as its failures.

Second, it would not be fair to evolutionary theory to single it out as a uniquely problematic branch of science. As Thomas Kuhn and Imre Lakatos have pointed out, every scientific theory has anomalies that have not been subsumed under the dominant scientific paradigms. All scientific theories stand in need of future work. If criticisms of evolutionary theory are to be raised, then the shortcomings of *all* major scientific theories should also be broached. For example, it could be pointed out that general relativity and quantum mechanics, two highly successful theories, break down completely when jointly applied to the world of tiny objects of immense mass (or at least that is what I am told!). Neglecting this discussion sends the message that evolutionary theory is uniquely problematic and troubled. The evolutionist would want to claim that it is no more problematic or troubled than any other major scientific theory.

CONCLUSION

I have argued for the principle of curricular fairness, which says that a conception of the good, if it is to be presented in public schools, must be presented in its strongest form. If creationism is presented, it follows from this principle that proponents of evolution would then be allowed to criticize the positive position of the creationist. If this is the case, what is someone who believes in a creation to do? Such a person might, of course, say, "Bring it on." The result might prove to be an extremely engaging, heated, and spirited curriculum — perhaps a welcome relief from a school environment that seeks to avoid controversy at all costs. At the same time, a religious person might be uncomfortable with direct attacks on Genesis, or with arguments meant to cast doubt on the need for a designer. For such a person, the best solution would be to relinquish the claim that creation accounts are meant to play on the same field as evolution. It may be time to admit, as many religious scholars have done, that religious creation stories were never written to be biology textbooks.¹⁸

1. John Angus Campbell and Stephen Meyer, "Evolution: Debate It," *USA Today*, August 14, 2005, http://www.usatoday.com/news/opinion/editorials/2005-08-14-evolution-debate_x.htm?loc=interstitialskip.

2. Laurie Goodstein, "Teaching of Creationism Is Endorsed in New Survey," *New York Times*, August 31, 2005, <http://www.nytimes.com/2005/08/31/national/31religion.html>.

3. Associated Press, "Bush: Schools Should Teach 'Intelligent Design' Alongside Evolution," August 1, 2005, <http://www.foxnews.com/story/0,2933,164446.00.html>.

4. Alva James-Johnson, "Give Intelligent Design Equal Time and Place," *South Florida Sun Sentinel*, April 23, 2008, http://www.sun-sentinel.com/news/opinion/sfl-coreofcontrarian021108two_0_253285.column.

5. Francis Schrag, "Political Theory and the Teaching of Creationism," in *Philosophy of Education 2001*, ed. Suzanne Rice (Urbana, Ill: Philosophy of Education Society, 2002).

6. I have argued that Schrag's liberal argument for autonomy facilitation via creationism seems to fail. See Bryan R. Warnick and C. David Focoe, "Does Teaching Creationism Facilitate Student Autonomy?" *Theory and Research in Education* 5, no. 3 (2007): 357–378.

7. John Rawls, *A Theory of Justice* (Cambridge, Mass.: Harvard University Press, 1971), 120.

8. For a discussion of the complexities of fairness, see Alan Ryan, "Fairness and Philosophy," *Social Research: An International Quarterly of Social Sciences* 73, no. 2 (2006): 597–606.

9. Robert Pennock argues that people in the original position would advocate a strict separation view — nothing based on “private epistemologies” would be allowed. Taken to its extreme, though, this would mean that schools could not even teach *about* religion for secular purposes. This restriction is unacceptable since it would limit the future freedom of those in the original position. See Robert T. Pennock, “Should Creationism Be Taught in Public Schools?” *Science and Education* 11, no. 2 (2002): 111–133.
10. John Stuart Mill, “On Liberty,” in *On Liberty and Other Essays*, ed. John Gray (New York: Oxford University Press, 1991), 42.
11. Harry Brighouse, *On Education* (New York: Routledge, 2006), 25.
12. John Rawls, *Justice As Fairness: A Restatement*, ed. Erin Kelly (Cambridge, Mass: Harvard University Press, 2001), 59.
13. John A. Campbell and Stephen C. Meyer, *Darwinism, Design, and Public Education* (East Lansing: Michigan State University Press, 2003), 618.
14. Christopher Hitchens, “Equal Time: No Tax-Exempt Status for Churches That Refuse to Distribute Pro-Evolution Propaganda!” *Slate*, August 23, 2005, <http://www.slate.com/id/2124952/>.
15. Pennock, “Should Creationism Be Taught in Public Schools?” 124.
16. Stephen C. Meyer, “DNA by Design: An Inference to the Best Explanation,” *Rhetoric and Public Affairs* 1, no. 4 (1998): 519–556.
17. Campbell and Meyer, “Evolution: Debate It.”
18. Bruce K. Waltke, “The Literary Genre of Genesis, Chapter One,” *Crux* 27, no. 4 (1991): 2–10.