

IS INTELLIGENT DESIGN SCIENCE? WHO DECIDES IF IT IS?

PETER RADAN*

I INTRODUCTION

In his expansive paper Professor Smith notes that its focal point is ‘a consideration of the legitimacy of ... evolutionary science and its acceptance in public education’, because evolution is the ‘science from which the whole study of genetics and eugenics arises[s]’.¹ He later details the bitterly contested litigation in the United States, beginning with the *Scopes Trial* in 1925, on the place in public school curricula of evolution and its rival theories on the issue of the origins of life. As Professor Smith points out, the teaching of non-naturalistic theories on this question has been rejected on the basis that they are religiously based with the result that legislative or school board directives that they be taught, violate the First Amendment’s establishment clause.² After the *Scopes Trial* the first proffered alternative to evolution was the biblically inspired ‘creation science’ theory. Attempts to mandate ‘balanced treatment’ of both evolution and creation science were rebuffed on constitutional grounds in *McLean v Arkansas Board of Education*³ and *Edwards v Aguillard*.⁴ Pivotal to these decisions was the ruling that creation science was not science. However, as pointed out by Professor Smith,⁵ during the 1990s, with the emergence of the field of ‘intelligent design’, with its questioning of the core of evolutionary theory, evolution’s place in public school curricula was again challenged. This issue was confronted by a Pennsylvania federal court in *Kitzmiller v Dover Area School District*,⁶ a decision handed down after Professor Smith’s paper was presented.

Intelligent design claims to be a scientific alternative to evolution. A core of scientists, mathematicians and other scholars, building upon recent discoveries in cell biology and molecular genetics in particular, argue that naturalistic

* Associate Professor, Division of Law, Macquarie University.

¹ G P Smith, ‘Law, Religion and Medicine: Conjunctive or Disjunctive?’ (2006) *Macquarie Law Symposium - Law, Religion and Medical Science* 16.

² Smith above n 1, 31.

³ *McLean v Arkansas Board of Education*, 529 F Supp 1255 (1982).

⁴ *Edwards v Aguillard* 482 US 578 (1987).

⁵ Smith, above n 1, 29.

⁶ *Kitzmiller v Dover Area School District*, 400 F Supp 2d 707 (2005).

explanations relating to the complexity that characterises life at the cellular and molecular levels are completely inadequate. Furthermore, on the basis of the techniques of information theory, they claim that ‘certain features of the universe and of living things are best explained by an intelligent cause rather than an undirected process such as natural selection’, thereby placing themselves in ‘a scientific disagreement with the core claim of evolutionary theory that the apparent design of living systems is an illusion’.⁷ Critics of intelligent design claim that it is simply creationism under another name – ‘creationism in a cheap tuxedo’⁸ – and that the designer is a masked reference to God.

In 2004 the Dover Area School Board in Pennsylvania passed a resolution that stipulated:

Students will be made aware of gaps/problems in Darwin’s theory and of other theories of evolution including, but not limited to, intelligent design. Note: Origins of Life is not taught.

In *Kitzmiller* the Board’s resolution was held to have violated the First Amendment’s establishment clause. In the course of his judgment, Judge Jones, after an extensive analysis of the nature of intelligent design, concluded that ‘[intelligent design] is a religious view, a mere re-labeling of creationism, and not a scientific theory’.⁹

In the wake of *Kitzmiller*, two questions are worthy of debate. The first, directly arising from *Kitzmiller*, is the question of whether intelligent design is science and thus, a proper subject to be taught in public schools. The second is whether the courtroom is the proper place to seek an answer to the first question. This is a bitterly contested issue in the wider context of America’s on-going culture wars between what Hunter terms as ‘cultural progressivism’ and ‘cultural orthodoxy’,¹⁰ which, in relation to the issue of evolution, has raged since the *Scopes Trial*.

II IS ID SCIENCE?

At the heart of Judge Jones’ decision is his ruling that intelligent design is not science. However, there is respectable intellectual opinion that suggests that intelligent design is within the scope of a science curriculum and therefore could be taught in public schools.

In *McLean*, it was held that the essential characteristics of science were that:

⁷ Cited from the homepage of the Intelligent Design Network, <http://www.intelligentdesignnetwork.org/>.

⁸ Dan Peterson, ‘The Little Engine That Could Undo Darwinism’, *The American Spectator*, (Arlington, US), June 2005, 34-43, 36.

⁹ *Kitzmiller v Dover Area School District*, 400 F Supp 2d 707, 726 (2005).

¹⁰ James Davison Hunter, *Culture Wars, The Struggle to Define America* (1991) 44-45.

1. It is guided by natural law;
2. It has to be explanatory by reference to natural law;
3. It is testable against the empirical world;
4. Its conclusions are tentative, ie, are not necessarily the final word; and
5. It is falsifiable.¹¹

Is this too narrow a definition of science? Columbia University Law Professor Kent Greenawalt suggests that it is. Greenawalt does not find intelligent design particularly persuasive as science within the scope of a *McLean*-like definition, nor does he suggest that the teaching of evolution would be enhanced by references to intelligent design. Nevertheless, he concludes that intelligent design is ‘within the range of constitutionally permissible judgment’ as ‘one conceivable’ alternative to the standard evolutionary theory.¹² His argument is based upon the legitimacy of teaching intelligent design in reference to the question of the *limits of science*. In this respect Greenawalt writes:

Advocates of ... intelligent design [theories] claim that the available scientific evidence suggests that a purely scientific explanation of the origin of species is not only unavailable now, but is unlikely in the future. So understood, the theories, relying on scientific evidence, are partly about the limits of science.¹³

Greenawalt’s argument that theories about the limits of science do belong in science is stated in the following terms:

Science cannot explain why anything at all exists, why our lives have meaning, if they do, and why we should be ethical. These intrinsic limits, set by the nature of the scientific enterprise, should definitively be mentioned in science courses, and it would be appropriate for texts and teachers to discuss controversies over the exact nature of these limits, including competing suppositions about the relationship of science and religion. ... If convincing evidence of such limits lay within science itself, their analysis would appropriately fall within the scope of science courses.¹⁴

In the context of the limits in evolutionary theory, intelligent design theorists have argued that complex biochemical processes, such as the blood-clotting cascade of events which, when activated by a cut, lead to the formation of a blood clot, lack any explanation within an evolutionary framework, a point conceded by many scientists who otherwise embrace evolution.¹⁵ For Greenawalt, this amounts to an ‘evidential gap’ in evolution.

From the perspective of what would be constitutionally legal in relation to such gaps, Greenawalt explains the proper role of the science teacher as follows:

¹¹ *McLean v Arkansas Board of Education*, 529 F Supp 1255, 1267 (1982).

¹² Kent Greenawalt, *Does God Belong in Public Schools?* (2005) 124.

¹³ *Ibid* 110.

¹⁴ *Ibid* 113.

¹⁵ Peterson, above n 8, 34-43, 39.

[S]cience teachers should cover the evidential gaps and controversies surrounding the neo-Darwinian synthesis. Any evidence for a kind of order of a sort not yet integrated into the dominant theory should be fairly presented. ... Science teachers should *not* get far into the question of whether any as yet undiscovered principles of order in evolution, were they to exist, are likely to have proceeded from a creative intelligence. One reason not to engage this possibility at any length is that students with religious objections to standard evolutionary theory may build much more than is warranted from any scientific perspective from conjectures about intelligent design.¹⁶

Greenawalt's insightful analysis is important as it gives a basis to distinguish the decision in *Kitzmiller*. Greenawalt's argument is not dependant upon rejecting the point of *Kitzmiller*, namely that intelligent design is not science. Rather, he argues that a science curriculum is not confined to teaching what comes within the definition of science, but legitimately extends to an understanding of the limits of science and scientific theories. If so, Greenawalt makes a reasonable case for intelligent design being useful as a prism through which to explore the limits of science. The majority opinion in *Edwards v Aguillard*, with its suggestion that 'teaching a variety of scientific theories about the origins of humankind to schoolchildren might be validly done with the clear secular intent of enhancing the *effectiveness of science instruction*' (emphasis added),¹⁷ tends to support this argument.

III WHO DECIDES WHAT IS SCIENCE?

Professor Smith laments the Supreme Court's failure to stem the 'spread of creationism'.¹⁸ Whether this is or is not so, is a matter of contention. However, his comment leaves unanswered the far more important question of whether the Supreme Court is the appropriate venue for resolving the issue of evolution's place in public school curricula.

Ever since the *Scopes Trial* there has been keen debate over this question. Should education policy be determined by a state legislature or local area school board, or by the courts? In the former arena the people's voice is paramount whereas, in the latter, the voice of the people could be over-ruled. In the *Scopes Trial*, William Jennings Bryan passionately advocated the primacy of the voice of the people when he said '[the court] is not the place to prove that the law ought never to have been passed. The place to prove that, or teach that, [is] the legislature'.¹⁹ His opponent, the legendary defence lawyer Clarence Darrow, opposed Bryan's democratic majoritarianism principle, arguing that the purpose of the trial was to '[prevent] bigots and ignoramuses from controlling the education of the United States'.²⁰

¹⁶ Greenawalt, above n 12, 115.

¹⁷ *Edwards v Aguillard* 482 US 578, 594 (1987).

¹⁸ Smith, above n 1, 34.

¹⁹ *The World's Most Famous Court Trial, Tennessee Evolution Case* (1999) 171.

²⁰ *Ibid* 299.

This divide of opinion was repeated in later cases. Thus, at the trial at first instance of *Epperson v Arkansas*,²¹ counsel for Arkansas invoked Bryan's majoritarianism by arguing that that state's anti-evolution legislation should not be declared unconstitutional because 'the people [had] spoken' and that to undermine the people's decision would mean that there 'is no longer a government of the people, by the people, and for the people'.²² On the other hand, in *McLean v Arkansas Board of Education*, Judge Overton emphatically asserted the decisive role of the courts when he said:

The application and content of First Amendment principles are not determined by public opinion polls or by a majority vote. Whether the proponents of Act 590 constitute the majority or the minority is quite irrelevant under a constitutional system of government. No group, no matter how large or small, may use the organs of government, of which the public schools are the most conspicuous and influential, to foist its religious beliefs on others.²³

This passage undoubtedly represents current practice. However, Bryan's democratic majoritarian principle is not without its merits. When the cases dealing with evolution are considered, the real question raised in all of them, is whether what is to be taught or not taught is in fact science. It is a legitimate question to ask whether a courtroom, in which the main actors are lawyers operating within the constraints of an adversarial judicial system, is the optimal venue for resolving this question.

A compelling argument can be made for the proposition that the legislative process, be it at a state or local school board level, operates as a far better venue, provided that there are appropriate processes in place for debate and discussion so that legislators and their advisers can be properly informed on the respective merits of a particular case before votes are cast. As Bryan successfully argued in the context of the *Scopes Trial*, the appropriate place for experts to give their opinions was before the legislature and not, as Darrow claimed, in the courtroom.²⁴

The argument being made here is not one that implies support or sympathy for any particular side in the debate over whether intelligent design is or is not science. The present support that cultural progressivists give to judicial determination of this question is the fact that, to a large degree, federal courts, and in particular the Supreme Court, have in recent decades been generally sympathetic to their agenda. What is of concern to them is that the present domination of a conservative executive and legislature at the federal level will lead to judicial appointments that will tilt the balance the other way.²⁵ Were that to happen, it is arguable that cultural progressivists would look to the legislators, rather than the judges, to achieve their

²¹ *Epperson v Arkansas*, 393 US 97 (1968).

²² Quoted in Randy Moore, *Evolution in the Courtroom, A Reference Guide* (2002) 52-53.

²³ *McLean v Arkansas Board of Education*, 529 F Supp 1255, 1274 (1982).

²⁴ *The World's Most Famous Court Trial, Tennessee Evolution Case*, above n 19, 171.

²⁵ See for example Phillip E Hammond, David W Machacek and Eric Michael Mazur, *Religion on Trial, How Supreme Court Trends Threaten Freedom of Conscience in America* (2004) 127-149.

goals, and their culture wars rivals would look to the judiciary to achieve their goals. In effect both sides would, as they have done in the past, engage in forum shopping.

However, there are groups who, on principle, object to forum shopping. An illustration is provided from the *Scopes Trial*. The *New Republic* magazine opposed Tennessee's anti-evolution legislation and took the view that the legislators who voted for it were foolish and misinformed. Nevertheless, the *New Republic* argued that Tennesseans had the right to make what others might take to be bad decisions. To have denied the Tennesseans the right to ban the teaching of evolution was akin to asking them to commit a type of religious suicide.

On the other hand, if legislators realise that they have made a bad decision, it can readily be repealed.²⁶ As detailed by Professor Smith in his paper,²⁷ this is exactly what happened with the 1999 decision of the Kansas Board of Education which was reversed two years later. One can also that, 13 months after the 2004 decision of the Dover Area School Board, a newly elected board reversed its predecessor's decision. These examples suggest that legislative 'bad decisions' are 'corrected' much more quickly than 'judicial bad decisions' given that it was 43 years before the Supreme Court in *Epperson* overruled the decision in *Scopes v State*²⁸ that had upheld the constitutional validity of legislation banning the teaching of evolution.

The current approach to the establishment clause was neatly summed up by Souter J in *Lee v Weisman*,²⁹ as follows:

Since *Everson* [*v Board of Education*³⁰], we have consistently held the [Establishment] Clause applicable no less to government acts favoring religion generally than to acts favoring one religion over others.³¹

A shift to adopting the democratic majoritarianism principle would require a dramatic reversal in the jurisprudence of the First Amendment's religion clauses that would necessitate a return to the jurisprudence epitomized by Joseph Story, who, in his influential *Commentaries on the Constitution of the United States*, wrote as follows:

The real object of the [first] amendment was ... to prevent any national ecclesiastical establishment, which should give to an hierarchy the exclusive patronage of the national government.³²

²⁶ Paul K Conkin, *When all the Gods Trembled, Darwinism, Scopes, and American Intellectuals* (1998) 106.

²⁷ Smith, above n 1, 33-34.

²⁸ *Scopes v State*, 154 Tenn 105 (1927).

²⁹ *Lee v Weisman* 505 US 577 (1992).

³⁰ *Everson v Board of Education*, 330 US 1 (1947).

³¹ *Lee v Weisman*, 505 US 577, 610, (1992).

Many would argue that such a reversal would be ‘turning back the clock’ on nearly a century’s progress in relation to First Amendment jurisprudence, and in particular, a return to the days when there was a dominant ‘Republican Protestantism’ that in fact amounted to an informal religious establishment.³³ Such suggestions reflect misconceptions of what underpinned this informal establishment. America’s religious landscape today is vastly different from that of the nineteenth century. The informal establishment of Republican Protestantism arose, not because the courts were not resolving the kind of issues that emerged in the twentieth century, but because a particular brand of Protestantism, steeped in Calvinist doctrine, reigned supreme in terms of religious beliefs. In contemporary America, with its significant diversity of religious traditions, such an informal establishment would be impossible.

The choice of venue for determining the content of science curricula will in no way affect the reality that the process will continue to be bitterly contested, irrespective of whether the venue is the courtroom, or the legislature or school board. The argument here is that the better venue for determining this, and indeed the plethora of issues affecting America’s culture wars, is the legislature and not the courtroom.

Professor Smith may well be correct that the Supreme Court has failed to stem the appeal of fundamentalist-inspired creationism. It is indeed unlikely that this goal would have been achieved if the debate over evolution had been conducted in America’s legislatures or school boards. The religious history of America indicates that the demise of fundamentalism is not on the horizon. As Garry Wills has written, America’s culture wars, including the one being fought over the teaching of evolution in public schools, deeply rooted in religion as they are, show no signs of abating, for ‘the obvious cultural reason that the Bible is not going to stop being the central book in [America’s] intellectual heritage.’³⁴

³² Joseph Story, *Commentaries on the Constitution of the United States* (1833) quoted in Edward J Larson, *Trial and Error, The American Controversy Over Creation and Evolution* (updated edition, 1989) 93.

³³ Hammond *et al*, above n 25, 48, 55-60.

³⁴ Garry Wills, *Under God, Religion and American Politics* (1990) 124.