

Reframing the “Controversy” over Evolution and Intelligent Design

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Abstract

It is clear that the 1926 Scopes Trial marked the beginning, and not the end, of the emergence of what John Dewey described as a serious division in the “foundations upon which our culture rests.” This division is yet illustrated today by the persistence of anti-evolution legislation, as well as the emergence of vocal advocates of “intelligent design.” While many educators, as well as concerned citizens, pay lip service to the importance of nurturing “critical thinking” skills in our students, it is clear that the cultural conflicts which emerge between science and religion are formidable and thus make this topic especially challenging for educators seeking to develop thinking skills in their students. This paper addresses this challenge, but also advances a recommendation for those who wish to introduce this conflict as a “controversy” for discussion in public schools.

Keywords: John Dewey, Aldous Huxley, Evolution, Intelligent Design, Metaphysics

Introduction

In her 1993 text *Educating For Intelligent Belief and Unbelief*, Nel Noddings advocated an ambitious plan. She wanted to challenge our students by actively engaging them in a dialogue on the religious issues that define those questions, which “matter deeply to us.”¹ This was seen as a dialogue that can take place at all levels of education, but was initially aimed at helping teachers learn to explore links between traditional subject matter and profound existential and religious questions. More recently, in an essay that appeared in the *Harvard Educational Review*, Noddings ventured to add that, in her estimate “we should add frank, critical discussion of evolution and intelligent design” into our classroom “wherever the topic arises—in science, history, mathematics, or English.”²

One might note that well before Noddings' observations—specifically, since the Supreme Court banned devotional Bible readings in our public schools in 1963—there have in fact been a steady chorus of citizens who have called for just this: the linking of thoughts from religious traditions to school subject matter. Among the attempts to foster this dialogue, was the introduction of *Creationism* into public school biology classes—i.e., the idea that the Biblical account of “creation” should be presented as an alternative explanation to Darwin’s theory of evolution. This endeavor led to yet another Supreme Court verdict in 1987 in which it was decided that the teaching of Creationism in a public school represented an inappropriate (and unconstitutional) incursion

1. Nel Noddings, *Educating for Intelligent Belief or Unbelief* (New York: Teachers College Press, 1993).

2. Nel Noddings, “The New Outspoken Atheism and Education,” *Harvard Educational Review*, 78(2) (2008): 387.

of religious doctrine. Notwithstanding this decision, in 2004 a public school district in Pennsylvania attempted to introduce *intelligent design theory* into its ninth grade biology classes in an effort to address what was perceived by school board members as “weaknesses” in Darwin’s theory of evolution. However, in the federal lawsuit that subsequently emerged on account of this effort, the judge concluded that intelligent design was merely “reabeled creationism” and hence, again, an inappropriate incursion of religious doctrine into the curriculum of a public school. In spite, (or perhaps because) of these court decisions, Noddings subsequently wrote the statement cited above: namely, that “we should add frank, critical discussion of evolution and intelligent design” into our classroom.

Whether or not we choose to engage in a “frank, critical discussion,” this dispute is unlikely to disappear. Indeed, the enduring nature of this issue was illustrated recently when the state of Tennessee passed a law that encourages teachers to present the “scientific strengths and scientific weaknesses” of topics that arouse “debate and disputation” such as “biological evolution, the chemical origins of life, global warming, and human cloning.”³ Several additional state legislatures have attempted to pass similar laws. The upshot of all of these events and court cases is to illustrate, if nothing else, how eager a portion of the American population is to, as Noddings suggested, infuse the science curriculum with profound existential and religious questions. The matter which I seek to revisit then is this: how precisely might we best apply Noddings’ recommendation and thereby properly and profitably address this issue in our public schools today without either violating our Constitution’s establishment clause or appearing insensitive to the religious convictions of a significant portion of our population?

Controversy Defined and Reframed

The emergence of this dispute constitutes a potentially educable moment for all concerned citizens whether or not they are directly involved in our public schools. The problem, however, with most such deliberations over religion, science and public schools regarding the origin of life, is that they seldom unpack the three different ways in which this matter may be deemed a “controversy”: 1) the *scientific* controversy, 2) the *philosophical* controversy, and 3) the *public policy* controversy. In this regard it should be acknowledged at the outset that if we were to apply a strict scientific, epistemic criterion to the nature of this dispute, then we may be inclined to dismiss the issue altogether and acknowledge, at the outset, that there is no *real* controversy.⁴ After all, the overwhelming majority of scientists and science educators maintain that from a scientific perspective the theory of evolution—and not intelligent design—has a strong epistemic foundation; (similar claims may be made regarding climate change). On this account, it is clear that what we have is a *philosophical* and *public policy* debate, which itself may be legitimately addressed in a classroom—even if it does not occur in the biology class. Such debates have periodically occupied educators and our public schools, and have included such questions as the role of Latin language study for college preparation (a practice still endorsed by “classical” schools and academies), or the priority given to vocational education opportunities. This matter also illustrates what has been termed the “social criterion” for controversy.⁵ The question which then lies before us, once again, is this: how can we engage in this discussion in such a manner as to optimize its pedagogical value

3. Accessed at: <http://ncse.com/news/2012/04/monkey-bill-enacted-tennessee-007299>.

4. As understood in this volume’s *Criteria for Controversy: A Theoretic Approach*

5. Ibid.

for our diverse, democratic society—whether those members be secular and inclined toward atheism (or agnosticism) or devoutly Christian from an evangelical or fundamentalist perspective?

In arguing that we should participate in this discussion, we must nonetheless acknowledge the formidable obstacles to honest, constructive pedagogically successful engagement. These obstacles explain precisely why these debates generate more heat than light and seldom lead to a change of mind or a change of heart among the participants. I believe there are two reasons for these obstacles to constructive engagement and deliberation. The first reason is linked to the very conception of religion itself which is being advanced by a vocal portion of our population. The second, related reason, while underscored by John Dewey, has begun to emerge more prominently in recent years on account of the accumulation of considerable research: namely, the fact that our emotions and emotional responses are paramount when it comes to our opinions—the strategic application of our reasoning skills often serves as “cover” for our emotionally charged beliefs. Without recognizing this situation, our attempts at dialogue will inevitably generate more heat than light.

The first reason, as stated, is linked to the very conception of religion itself as advanced by a vocal portion of our population—widely known as “fundamentalism.” In 1922, three years before the Scopes trial, Dewey specifically addressed this fundamentalist challenge to our nation and culture as it manifested in the “campaign against science” that was already underway and being led by William Jennings Bryan—the man who would emerge as the prosecutor at the Scopes trial. Dewey maintained that the popular appeal of Bryan’s campaign among a significant portion of the American population was troubling, and even suggested that it “raises fundamental questions about the quality of our democracy.”⁶ Two years later, in a direct response to the Scopes Trial, British author Aldous Huxley also addressed this “fundamental question” when he opined that a democracy could not go on indefinitely “afflicted by anti-evolution laws.”⁷ Today, as we have seen, we are still “afflicted” by the fixed beliefs that generate anti-evolution policies—and even a “Creation Museum” that was established in Petersburg, Kentucky in 2007. Thus we are still compelled to contemplate the very “quality of our democracy” as Dewey had done almost 100 years ago.

In his 1939 text *Freedom and Culture* Dewey underscored this incompatibility when he wrote that the historic influence of religion, dating back long before the founding of the United States, has often—if not always—had the effect of “producing habits of mind at odds with the attitudes required for maintenance of democracy.”⁸ This is the reason Dewey believed that enmity toward science in general—and Darwin’s theory in particular— “raises fundamental questions about the quality of our democracy.” Precisely why? For the most part, Dewey believed that dogmatic religious beliefs were incompatible with the critical thinking skills necessary for sustaining democratic values. On this account, Dewey pointed out that if we merely spread literacy through our schools and neglected the cultivation of critical thinking skills as well, then, in his words, “the so-called educational work of schools is a dangerously hit-or-miss affair as far as democracy is concerned.”⁹ For Dewey, this dangerous situation emerges specifically on account of our failure to cultivate within our students something of the *scientific attitude*. This is not the same thing as making everyone a citizen scientist. Rather, the challenge Dewey set before us is one of

6. John Dewey, “The American Intellectual Frontier,” *The Middle Works: 1899-1924: Volume 13, 1921-1922*, Jo Ann Boydston (ed.) (Carbondale: Southern Illinois University Press, 2008), 301.

7. Aldous Huxley, “The Outlook for American Culture: Some Reflections in a Machine Age” in *Aldous Huxley Complete Essays: Volume III, 1930-1935*, Robert S. Baker & James Sexton (eds.) (Chicago: Ivan R. Dee, 2001), 192.

8. John Dewey, *Freedom and Culture* (New York: Capricorn Books, 1963 edition), 151.

9. *Ibid.*, 150.

cultivating the same type of thinking skills that a good scientist must apply to research and problem solving. What skills did Dewey have in mind? The ones he identified should be familiar to anyone who has studied even the elementary features of critical thinking; they include:

...Willingness to hold belief in suspense, ability to doubt until evidence is obtained; willingness to go where evidence points instead of putting first a personally preferred conclusion; ability to hold ideas in solution and use them as hypotheses to be tested instead of dogmas to be asserted; and (possibly the most distinctive of all) enjoyment of new fields for inquiry and of new problems.¹⁰

Without these skills, Dewey doubted that we could generate “public opinion intelligent enough to meet present social problems.”¹¹ For this reason, contemporary resistance, in the United States, to addressing the challenge of global climate change may well illustrate a deficiency in these skills among a significant portion of our population.

For Dewey, and most educators, the significance these skills hold for democratic communities is thus self-evident. Yet, Dewey does not deny that advancing these thinking skills would be difficult. He even points out that “Every one of these traits goes contrary to some human impulse that is naturally strong.”¹² This then brings us to the second prominent obstacle to constructive, pedagogically effective engagement on matters pertaining to science and religion in the public schools. As Dewey put it in *Freedom and Culture*: “We are beginning to realize that emotions and imagination are more potent in shaping public sentiment and opinion than information and reason.”¹³ In this text Dewey addressed this conflict between emotion, imagination and reason. He believed it exemplified a serious division in the “foundations upon which our culture rests.”¹⁴ But more importantly, Dewey characterized this as a conflict between the ideas that generate scientific knowledge, and “ideas that are emotional and imaginative and that directly actuate conduct.”¹⁵ Herein Dewey acknowledges a fact that the modern study of moral psychology has begun to illuminate: how the emotional, imaginative ideas which are the wellsprings for much of human conduct—as well as religion—interact with a scientific understanding of our world. The short answer for many is that “they don’t”—meaning people tend to cling to emotionally based ideas and biases, which, in turn, shape their thinking and conduct—even in the face of contradictory evidence. Where, then, does this leave us?

According to Dewey, we need to remember that democracy is much more than a political form of government. Rather, as he argued in *Democracy and Education*, it is “*primarily a mode of associated living.*”¹⁶ That is, democracy and democratic principles must be understood in the context of a *social psychological milieu* in which we live and continually interact. For Dewey, it is only through the endeavor in which human society replicates the interactive virtues of a human *community* that democratic values become infused into a culture. This is deemed obligatory since democracy, as a form of government exclusively, does not by itself solve social problems. Rather, it establishes the proper conditions under which human communities can appropriately address

10. Ibid., 145.

11. Ibid., 148-149.

12. Ibid., 146.

13. Ibid., 10.

14. Ibid., 168.

15. Ibid., 168.

16. John Dewey, *Democracy and Education: An Introduction to The Philosophy of Education* (New York: MacMillan, 1944, Free Press edition 1966), 87.

those challenges that inevitably—and continually—emerge in social life. Democracy as a mode of associated living optimizes the possibility for the identification of important shared values and consequently—by virtue of these shared values—increases the likelihood for the successful reconciliation of conflicting values and opinions; something that inevitably emerges in any group of people who seek to live together as a nation, state or community. If scientific method marks the optimal model for solving physical problems, democracy can be appropriately viewed as the corresponding model in which social, moral or political problems can be humanely resolved. Furthermore, it might be pointed out that for Dewey science and democracy are not wholly separate domains. They overlap. According to Dewey scientific method is not simply a matter of quantitative assessments applied to the problems which only interest scientists. Rather, it should also be intimately linked to the lived, experienced problems of people and social groups—even those problems and challenges which may be said to emerge on account of a perceived conflict between science and religion.

Because of these observations, Dewey believed that a most formidable obstacle to the successful application of democratic principles in our society is the emergence of social isolation and segregation among competing populations within that society—populations who maintain competing, and often, conflicting interests; including those populations who look toward science and those who look toward religious scripture for guidance on how to live their respective lives. Failing to foster a “mode of associated living” among our highly diverse population, it is small wonder that American society, in particular, has grown increasingly factious and polarized. Dewey predicted as much. This is what he had to say about the effects of social isolation among groups comprising a culture or society:

The isolation and exclusiveness of a gang or clique brings its antisocial spirit into relief. But this same spirit is found wherever one group has interests 'of its own' which shut it out from full interaction with other groups, so that its prevailing purpose is the protection of what it has got, instead of reorganization and progress through wider relationships. It marks nations in their isolation from one another; families, which seclude their domestic concerns as if they had no connection with a larger life; schools when separated from the interest of home and community; the divisions of rich and poor; learned and unlearned. The essential point is that isolation makes for rigidity and formal institutionalizing of life, for static and selfish ideals within the group. That savage tribes regard aliens and enemies as synonymous is not accidental. It springs from the fact that they have identified their experience with rigid adherence to their past customs. On such a basis it is wholly logical to fear intercourse with others, for such contact might dissolve custom. It would certainly occasion reconstruction. It is a commonplace that an alert and expanding mental life depends upon an enlarging range of contact with the physical environment. But the principle applies even more significantly to the field where we are apt to ignore it—the sphere of social contacts.¹⁷

In the final analysis, Dewey’s recommendation for remedying our increasingly polarized culture is wholly consistent with the pedagogical implications of two of our most important theorists/researchers who have made significant contributions to the study of moral psychology: Lawrence Kohlberg and, more recently, Jonathon Haidt. Kohlberg and Haidt offer us two contrasting theories on how we develop our value-laden opinions as well as our sense of right and wrong, good and bad. According to Kohlberg’s cognitive-developmental model, the interaction of individuals

17. *Ibid.*, 86.

engaged in rational, cognitive deliberations provides the foundations for a cognitive restructuring of our understanding of moral principles and human values. Haidt, on the other hand, has argued that in our social and moral deliberations, our emotional responses are paramount when it comes to our opinions—the application of our reasoning skills are secondary and merely serves as “cover” for our emotionally charged beliefs. Nonetheless, in spite of these fundamental differences, both Kohlberg and Haidt make the same recommendation if we wish to bring about a change in someone’s heart and mind: namely, we must encourage *social interaction*—just as Dewey maintained, so that we “enlarge” the range of our social contacts. As Haidt has explicitly written: “the main way that we change our minds on moral issues is by interacting with other people.”¹⁸ It is on this account that the social, moral, and politically charged “controversy” over intelligent design, religion and science needs to be addressed not as a scientific controversy with a clear epistemic foundation, but rather, I propose that this issue should instead be treated as a *philosophical* controversy—more specifically, as a *metaphysical* controversy. As a metaphysical controversy it also embodies that form of dispute which Dearden identified as a clash over *differing conceptual frameworks or worldviews*.¹⁹ More recently social psychologist Haidt has argued that these kind of differences are so profound that they can be profitably conceptualized as a clash of philosophical or “moral matrices”—as illustrated in the 1999 movie *The Matrix*.²⁰ Accordingly, a philosophical matrix reflects a whole web of interrelated assumptions and understandings that are taken for granted and are foundational to the worldview of the inhabitants of that matrix. It is something of a *consensual hallucination*. So much so, that growing up in a particular matrix can make one impervious to the challenges of other, competing matrices. Consequently, any attempt to reconcile such differences through an appeal to logic or reason alone—and the hope of a shared, *epistemic* criterion—is likely to be incomprehensible if not unacceptable. On these accounts, the purpose of the strategy that I am proposing here is—if nothing else—aimed at finding an alternate route toward fostering both dialogue and mutual understanding through civil *social interaction*. This constitutes a first step toward constructive pedagogically successful deliberations.

In some respects, this strategy is similar to those who have recommended “religious literacy” as an important goal for public schools. Religious literacy merely reflects an understanding of religious vocabulary and religious doctrine—something that is well within the Supreme Court guidelines which otherwise banned prayer and devotional Bible study. But, in addition, this is also an issue of respect for diversity in a pluralistic society.²¹ In a country where a large percentage of citizens profess religious beliefs, it would appear insensitive and disrespectful to ignore the religious voices in our culture. Rosenblith and Priestman, however, carry this idea one step further. They maintain that it may not be possible to truly show respect for religion without also entertaining the possibility that there are valid truth-claims to be found in those religions. Indeed, to this end it is suggested by coauthor Rosenblith that “to demonstrate true respect, we must submit religious claims, beliefs, and experiences to some shared process of evaluation.”²² Yet, the problem

18. Jonathan Haidt, *The Righteous Mind: Why Good People Are Divided by Politics and Religion* (New York: Pantheon Books, 2012), 68.

19. Robert F. Dearden, “Controversial Issues and the Curriculum,” *Journal of Curriculum Studies*, 13(1) (1981): 37-44.

20. Haidt, *The Righteous Mind*, 107-111.

21. Suzanne Rosenblith & Scott Priestman, “Problematizing Religious Truth: Implications for Public Education,” *Educational Theory*, 54(9): 2004: 365-380.

22. *Ibid.*, 372.

is not so simple. As coauthor Priestman contends, since religions often make claims about “*metaphysical Truths*” that are not found on reason, they are beyond the scope of our evaluation.²³ This, it would appear, may be the principal reason why Dewey underscored the role of religion in “producing habits of mind at odds with the attitudes required for maintenance of democracy”—unlike rational, scientific claims, those advanced in the name of scriptural authority and/or religious revelation are beyond the scope of rational deliberation and consensual validation, since they are advanced and accepted as articles of “faith,” or, more accurately, “belief.” This is a formidable obstacle, since the advancement of science or democratic values, does not proceed merely through the efforts of a few gifted individuals who can unilaterally impose their superior understanding on the nation or its schools. Rather, resolving scientific or social problems involves the participation of a community capable of reaching a significant measure consensus. Without a significant measure of consensual validation on the part of the wider scientific or democratic communities respectively, even the work of a few, gifted individuals is likely to be ignored. While an Albert Einstein or a Thomas Jefferson could have made important contributions to any culture and community in which they lived and flourished, those contributions would unlikely be the same renowned accomplishments which we now celebrate respectively had they lived in a much earlier generation—and consequently in very different scholarly and political communities.

Notwithstanding the formidable task of establishing a widely accepted standard to evaluate the truth claims of religion, I would nonetheless offer students instead the opportunity to examine, compare and contrast alternate *metaphysical paradigms*—especially since, as Priestman notes, religious traditions often make truth claims grounded in a particular metaphysic. Indeed, a metaphysical paradigm may be said to underlie not only all religious traditions, but even science as well—thus providing an appropriate, and essential, common denominator for our deliberations. In examining competing metaphysical paradigms, I believe we might create the social and psychological climate requisite for advancing mutual understanding. This alone, would serve the purpose of enjoining those forces necessary to create, as Dewey once wrote, “public opinion intelligent enough to meet present social problems.”²⁴

As indicated, it is being suggested that we introduce students to a basic discussion of the underlying, *metaphysical assumptions* from which competing metaphysical perspectives emerge. It is true that the approach I am advocating would not necessarily establish the claims of particular religious truths per se. However, it would serve two important functions. First, it would provide a context for advancing civil dialogue with the possibility of nurturing mutual understanding; but, in addition, it would inadvertently provide a context in which we could perhaps, as author Aldous Huxley recommended, distinguish a *good metaphysic* from a *bad metaphysic*. According to Huxley, a good metaphysic is simply one that corresponds reasonably closely with observed and inferred reality. That is, it does what Rosenblith suggests: it provides a shared process of evaluation from which a measure of consensus can emerge; a bad metaphysic does not.²⁵

To advance this dialogue in the hope of fostering pedagogically constructive engagement, I would like to propose four different metaphysics in a framework from which we may launch our dialogue: 1) *Supernatural Metaphysics*, 2) *Philosophical or Metaphysical Naturalism*, 3) *Methodological Naturalism*, and 4) *Naturalistic Metaphysics*. Each of these metaphysics can be examined in terms of the kind of truth claims they make: smaller “truths” or larger absolute “Truths” with a capital “T.” Furthermore, these truth claims can also be examined in terms of their foundational

23. Ibid., 374.

24. Dewey, *Freedom and Culture*, 148-149.

25. Aldous Huxley, *Ends and Means* (New York: Harper and Brothers, 1937), 291.

claims to the source of their validity. That is, the validity of either truth claim may be seen to be anchored in one or more of three different “arenas” from which truth claims may be seen to emerge. These arenas are composed of *internally* valid truth claims, *externally* valid truth claims, and those claims on truth that rest solely on *traditional* sources of validity—such as scripture. These sources of truth claims will be examined as we summarize our four metaphysics. I wish to emphasize, however, that these paradigms constitute a tentative proposal that is aimed at fostering a new direction for constructive dialogue and the promotion of mutual understanding.²⁶

Supernatural Metaphysics

A *Supernatural Metaphysic* is what most people may think of when they hear the term “metaphysic”, in so far as metaphysics is deemed to stand for a reality beyond the physical world in which we normally live. A Supernatural Metaphysic advances a strict dualism between the natural world of sense experience, and a supernatural world beyond sense and ordinary human experience. It is the same dualistic approach, which distinguishes the soul from the body and identifies a Supreme Being of supernatural qualities. The validity of Supernatural Metaphysics rests primarily, but perhaps not exclusively, with *tradition*. Such claims to *traditional validity* uniformly rest with an established authority that is not questioned but is accepted as a foundation of “faith”—it is not found on reason and is beyond the scope of rational evaluation. Many such traditions are linked to either scripture or a particular individual personality or both. Belief in the validity of the scripture or religious leader—the traditional source of validity—does not extend beyond those that can accept these sources as authoritative. For this reason, there is little or no *external validity* inherent in a Supernatural Metaphysic, in so far as non-believers cannot publicly verify the claims to Truth in this paradigm. With regard to *internally* valid claims, which are based upon personal, subjective experience, they are nice but not universally deemed necessary. Indeed, if we are to believe the scriptural story of the doubting Thomas, then merely believing through faith without the verification of personal experience is deemed much more laudable.

Philosophical or Metaphysical Naturalism

Philosophical or Metaphysical Naturalism advances the metaphysics of materialism. While this may seem an oxymoron to some, it is not since Philosophical Naturalism, like a Supernatural Metaphysics makes a claim to absolute Truth with a capital “T.” Indeed, this is its one absolute claim: the material world is the *only* reality. Some, especially religious thinkers, consider Philosophical Naturalism as the official metaphysics of science and secularism—although it is not necessarily so as we will see in the other paradigms to be considered. Its principal focus is on publically observable, publically verifiable truth with a small “t.” For this reason, while its claim to small “truth” is high on external validity, its claim to a valid position on absolute “Truth” is no more secure than that of Supernatural Metaphysics since there is no publically valid way to unequivocally verify this “Truth” claim either. This point is similarly made by the twentieth century philosopher Bertrand Russell who suggested that dogmatic religious claims as well as the uncompromising assertions of a skeptical materialist are both absolute philosophies: one is certain of knowing the other of not knowing. For Russell, as well as our own educational purp-

26. Some of the ideas I present are discussed in Barbara Forrest’s essay, “Methodological Naturalism and Philosophical Naturalism: Clarifying the Connection,” *PHIL*, 3(2) (2000): 7-29.

poses, philosophical dialogue should dissipate undo, arrogant certainty, whether of knowledge or ignorance.²⁷ Indeed, whenever dealing with claims involving absolute certainty, we should eschew unseemly confidence in our position. What Russell's statement offers is a caution to epistemic arrogance: something that sometimes affects both religious dogmatists and scientific skeptics. What is called for is something quite rare: epistemic modesty and humility—regarding *all* of our truth claims.

In Philosophical Naturalism, no authority is allowed to be sacred—except, perhaps its materialistic assumption. All other truth claims are open to further testing, verification or rejection. Public, consensual validation is the hallmark of external validity and the central path toward establishing truth. In an extreme form of Philosophical Naturalism, sometimes termed *scientism*, there is no room for internally valid truth claims that are subjective and remain unverifiable.

It should not be surprising that many adherents to Philosophical Naturalism are among those who are not merely skeptical about the claims of religion and/or religious experience, but critical as well. As an expression of scientism, Philosophical Naturalism is not only atheistic, but in many respects openly hostile to religion and religious beliefs—a perspective that is illustrated in the writings of Richard Dawkins.²⁸ It is both interesting as well as highly appropriate to note an observation about this form of materialistic atheism that was articulated by William James in the first chapter of his ground-breaking study *The Varieties of Religious Experience*.²⁹ James noted that even in his day, the penchant toward “medical materialism” in the scientific community led to a reductionist explanation of James' topic of study: namely, religious experience. According to the medical materialists, the phenomenon of religious experience was to be dismissed as simply the subjective accompaniment to an abnormal brain function—such as in epilepsy. James' response to this predisposition is as relevant today as it was in 1902 when he expressed it in what is, arguably, his most famous text. James' clever response to the medical materialist was to point out that if one was going to explain mental phenomena through an appeal to functions—or dysfunctions—of the brain, then it must be applied consistently to *all* mental states. Consequently, as James points out, the disposition of the “sturdy atheist” may be no less conditioned by physiological forces. In other words, the intense skepticism of obstinate atheism may also reflect an internal physiological condition that, in turn, reveals a disability of its own. It could signal an inability to experience the world with a heightened aesthetic sensibility, or in a manner that highlights a deeper sense of meaning in even ordinary experience. In making his observation, James makes it clear that we should remain opened minded about the study of *all* mental phenomena and not be too hasty in ascribing a positive or negative valence to it until it is better understood. In this sense, we are afforded yet another endorsement of the virtue of epistemic humility.

Methodological Naturalism

Methodological Naturalism differs most significantly from Philosophical Naturalism in that it makes no Truth (capital T) claims regarding the ultimate materialistic nature of reality. Rather, it assumes that the tools of scientific inquiry are limited to those features of reality that lend themselves to scientific study. Whether or not there are other realities or Truths (capital T) is beyond the scope of study for Methodological Naturalism. In other ways, it is similar to Philosophical Naturalism in that it emphasizes truth that is externally valid and open to public inspection

27. Bertrand Russell, “Philosophy for the Layman,” *Unpopular Essays* (New York: Simon & Schuster, 1950), 27.

28. Richard Dawkins, *The God Delusion* (New York: Houghton Mifflin Harcourt, 2008).

29. William James, *The Varieties of Religious Experience* (New York, Mentor Books, 1958), 29-30.

and consensual agreement. Likewise, there are no sacred authorities, personal or textual. However, on matters of religious revelations or religious/spiritual authority, Methodological Naturalism, while not hostile to religion, is nonetheless officially agnostic on matters that cannot be subjected to the empirical demands of scientific study.

Naturalistic Metaphysics

John Dewey may be seen as a principal contributor to a *Naturalistic Metaphysic* insofar as he maintained that what we allude to by the notion of metaphysics, is nonetheless contiguous with our natural world of ordinary experience. In other words, it is not “supernatural” and beyond systematic, empirical inquiry. The guiding principle underlying a *Naturalistic Metaphysic* was articulated by Aldous Huxley as well. Huxley maintained, as many do, that it is impossible to live without an assumed metaphysic—whether or not we choose to articulate it. As we noted earlier, Huxley maintained that our choice is not between any kind of metaphysic and no metaphysic at all; rather, our choice is always between a *good* metaphysic and a *bad* metaphysic.³⁰ As I also noted earlier, according to Huxley a “good” metaphysic is simply that which corresponds reasonably closely with observed and inferred reality. For this reason, a Naturalistic Metaphysic is firmly committed to scientific method and inquiry as a means of building external validity and a consensual measure of truth—for both small “t” as well as “Truth” with a capital “T.” While traditional sources of validity (authorities and scripture) may be respected, the question that must be asked is not whether custom and traditional authority will be respected and followed, but rather our choice is, as Dewey suggested, between adopting more or less intelligent and significant customs from a competing range of traditions.³¹ These traditions may nonetheless remain the source of a “working hypothesis”: that is, a tentative understanding that can be maintained, but without the assumption of certitude which often accompanies a chosen metaphysic. This point should be emphasized. That is, from the perspective of a Naturalistic Metaphysics, all truth claims, whether small “t” truth or large “T” Truth are tentative and open to possible revision if warranted by future inquiries. In this respect, all truth claims constitute a “working hypothesis” that is open to later clarification and revision—while simultaneously functioning as something of a “best bet” in our endeavor to understand either form of truth.³² In other words, a Naturalistic Metaphysic is predicated upon a healthy measure of epistemic humility.

Perhaps the most distinctive feature of a Naturalistic Metaphysic is its approach to that category of truth, which may be said to hold a measure of *internal validity*—personal subjective experience. As John Dewey also recognized, “knowledge” —meaning scientific understanding— is not our only *mode of understanding*.³³ There is much that we learn from our personal private experiences that may not be open to public inspection and verification. This, alone, does not necessarily render such understandings invalid. Rather, it underscores the idea that not everything we learn in life can be readily subjected to public inquiry—it may remain internally or *personally* valid nonetheless. There is, however, a limit to our claims to the validity of such truths. That is,

30. Huxley, *Ends and Means*, 291.

31. John Dewey, *Human Nature and Conduct, The Collected Works of John Dewey: 1882-1953*, The Electronic Edition, mw 14.58.

32. Originally published in Aldous Huxley’s 1944 novel *Time Must Have a Stop* (Urbana/Champaign: Dalkey Archive Press edition, 2006): 247-249. Subsequently republished in *Vedanta For the Western World*, edited by Christopher Isherwood, and more recently in *Huxley and God; Essays*, edited by Jacqueline Hazard Bridgeman.

33. John Dewey, *How We Think, The Collected Works of John Dewey: 1882-1953* The Electronic Edition, lw.8.226-227.

we cannot expect others to find the understandings we reach through personal experience to be persuasive, unless they too have had similar experiences. A case in point would be a personal encounter with an extraterrestrial life form or a spiritual experience, or an experience of religious revelation of some form. But even here, with regards to broadly conceived religious experience, John Dewey was confident that it was only a matter of time before scientific method would be applied toward its study—rendering it a part of “natural” (as opposed to supernatural) knowledge. This was among Dewey’s principal observations that he advanced *A Common Faith* over 80 years ago: namely that the application of scientific method to the study of broadly conceived spiritual experiences is likely to allow us to better understand them, and in doing so, make them more widely shared as well as understood. He deemed this endeavor important since such experiences, in Dewey’s words, can lend “a deep enduring support to the process of living.”³⁴

The field of neuroscience and its study of the brain through modern brain scanning technologies (e.g., fMRI, etc.) has made especially important contributions on this account during the past 30 years. Dewey predicted as much when in *A Common Faith*, he wrote that one would be “bold to the point of rashness who asserts that intimate personal experience will never come within the ken of natural knowledge.”³⁵ For this reason, neuroscience is central to the advancement of a Naturalistic approach to metaphysics since it underscores this idea that what we seek to embrace by our notion of “metaphysics” is itself contiguous with the natural world of ordinary experience. In this regard, the emergence of the field of *Neurotheology* is especially compelling in so far as it is explicitly concerned with the study of the brain during an individual’s endeavor to cultivate a spiritual, or religiously significant experience.³⁶ Nonetheless, it is important to acknowledge that this research cannot confirm the *ontological veracity* or the phenomenological accuracy of the subjective experience encountered through meditation or other spiritual practices; however, it may mark the beginning of a road of inquiry and dialogue that can help us better understand, as William James wrote, the *varieties* of such experiences as well as their practical impact on human life—in effect rendering such experience a part of the *natural* world as opposed to one that is *supernatural*. One possible implication, on this account, might be that the notion of “intelligent design” be reconceived not as a strictly empirical claim that lends itself to scientific testing and validation (i.e., *external* validity), but rather, it might represent a manner in which the world is subjectively experienced—an experience that may nonetheless hold personal meaning and a measure of *internal* validity for those who share that experience.

Conclusion

As already considered, there is a persuasive case for allowing our public schools to treat religion in their curriculum. Religious literacy is a compelling goal, in so far as it helps students understand the vocabulary of religious dialogue and the diversity of religious traditions. However, if schools are willing to engage students in the kind of existential exchange that Noddings would recommend, I believe they would be better served by focusing their discussions on the underlying metaphysical assumptions that appear to be at the heart of the most intense disagreements—especially those regarding science and religion. There are important reasons why this recommendation is made; and they have to do with the equally incommensurable nature of religious ideologies, within the religious domain, and the often mutually exclusive status of certain religious ideologies

34. John Dewey, *A Common Faith* (New Haven, Yale University Press, 1934), 15.

35. *Ibid.*, 35

36. Andrew Newberg, *Principles of Neurotheology* (Burlington, Ashgate Publishing Co., 2010).

and the principles of scientific inquiry—these perspectives representing competing *philosophical matrices*. It is on this account that an examination of the underlying metaphysics of these alternate visions may help to expose and clarify the incommensurable nature of these ideological conflicts. In other words, we may create a more amicable environment in which citizens can learn to respect one another and reach a mutual understanding of the not wholly justifiable assumptions with which we are *all* compelled to live—whether they be embraced by “sturdy atheists” or religious dogmatists. This could at least create a measure of epistemic humility and thereby a more cordial social climate in which we “agree to disagree” if nothing else.

Notwithstanding our discussion so far, it does not preclude the possibility that students also learn about the arguments that have been advanced for the existence of God—as Noddings suggests. However, I suspect that the primary impediment to such a discussion is more psychological than philosophical. What philosophers like Noddings seem to overlook, is the impact of what social psychologists refer to as the *confirmation bias*. The manifestation of this widespread phenomenon can be stated in a simple assertion: *believing is seeing*.³⁷ As social psychologists point out, we are much more likely to hear, attend to and remember arguments that support our beliefs, biases and *philosophical matrix* than we are those statements, testimonials and other bits of evidence that contradict them. For this reason, students should spend more time examining the fundamental, underlying metaphysical assumptions to their own beliefs rather than engage in an extensive review of competing religious doctrines and how they conflict with each other and with science. In this manner, students are encouraged to momentarily step outside their *metaphysical matrix*: to thereby consider on what basis one might feel compelled to revise and reconstruct his or her metaphysical assumptions. When is it warranted and why it might be difficult? If as a result of this dialogue, we nurture a measure of epistemic humility in our students, we will have fulfilled an important educational objective.

I believe the approach to classroom discussion outlined here also provides an appropriate means for addressing the most recent attack on the theory of evolution as it is taught in public schools. The most recent attack on the teaching of evolution is one that urges schools to “teach (the) strengths and weaknesses of evolution.” This call is accompanied by the slogan “open minds teach both sides.”³⁸ In this instance, we are not being asked to teach intelligent design per se, just the *weaknesses* in the theory of evolution. This is a fair request, since all scientific findings and theories should be open to revision if truly warranted. However, this recommendation does not go far enough. Indeed, it provides a more compelling rationale for why students need an elementary understanding of the philosophy of science as well as an appreciation of the competing metaphysical paradigms that underlie either science or religion—each of which may be seen to be characterized by their own “strengths” and “weaknesses.” In effect, what students need to learn is something about the nature and range of scientific inquiry and how it differs from religious inquiry: both those approaches to religious inquiry which see itself compatible with evolutionary theory, and those approaches which view scientific assumptions and religious doctrine as mutually exclusive. In either instance, there is an assumed metaphysic underlying these approaches that should be exposed. In doing so, we may, as suggested, help nurture a measure of epistemic humility among our students since no metaphysic can advance a claim for its unequivocal veracity.

I think it is clear that the central problem in the debate over evolutionary theory and religion in our public schools comes down to the inherent conflict between a supernatural approach to

37. Carol Tavis & Elliot Aronson, *Mistakes Were Made (but not by me): Why We Justify Foolish Beliefs, Bad Decisions and Hurtful Act* (New York: Harcourt, 2007).

38. See the following web site: <http://www.strengthsandweaknesses.org/weaknesses.htm>.

metaphysics, and the other metaphysical paradigms. On this account, unless the metaphysical underpinnings of these perspectives are first laid bare, discussions over God's existence and/or intelligent design may be the 21st century equivalent of discussing the question of how many angels can stand on the head of a pin. It is for this reason that the strengths and weaknesses we should be discussing are those of the competing metaphysical assumptions—not the relative merits of Darwin's theory of evolution.

Yet, having said this, I think it is time to acknowledge that honest reasoning and debate is not necessarily going to be welcomed by many of Darwin's critics. I do not suspect that they want a discussion on the strengths and weaknesses of a Supernatural Metaphysic. Indeed, as suggested, the root of our challenge may be psychological, not philosophical. Summarizing a large body of research, social psychologists Carol Tavris and Elliot Aronson offer us this caveat:

Most people, when directly confronted by evidence that they are wrong, do not change their point of view or course of action but justify it even more tenaciously. Even irrefutable evidence is rarely enough to pierce the mental armor of self-justification.³⁹

As Tavris and Aronson also point out, when it comes to firmly held religious convictions, one is not likely to change any minds with a discussion of strengths and weaknesses in metaphysical theories. Indeed, people who are somewhat insecure in their religious outlook are going to feel most uncomfortable with anyone or any set of ideas that challenge their fundamental faith and beliefs. The mere presence of contradictory statements (i.e., Philosophical Naturalism) can arouse the painful dissonance of doubt. People seek a sense of consonance regarding their identity, beliefs and self-image and are made most uncomfortable by the presence of those people, and or ideas, whose mere presence may inspire doubt—in them or, in the case of our schools, in their children. For this reason, it is highly ingenious for critics of Darwin to call for an “open discussion” on the strengths and weaknesses of evolution. I do not believe an open discussion of metaphysical paradigms would be as welcome, even though this is precisely the kind of discussion that is needed.

It must also be conceded, however, that, as Tavris and Aronson also state, not all scientists are scientific, open-minded and willing to give up their strong convictions either.⁴⁰ One can adhere to Philosophical Naturalism—*scientism*—with the same degree of dogmatic certainty and epistemic arrogance that one can adhere to a supernatural approach to metaphysics. What may be the most valuable outcome of the kind of dialogue suggested here is that it might help us identify more clearly the difference between *epistemic arrogance* and *epistemic humility*. In a pluralistic, democratic society there is little doubt that epistemic humility and modesty are critical for advancing democratic ideals. Indeed, democracies demand *pluralistic citizens*. Unlike the absolutist (e.g., Biblical literalist), who arrogantly proclaim to have all the answers, or the relativist who obstinately rejects any and all claims regarding “truth” or “virtue” the pluralistic citizen makes two critical assumptions: first, we are capable of assessing both truth and virtue, but different people will inevitably disagree about their nature; and secondly, if we are to make a democracy work, our first task is to engage in a respectful dialogue on questions of truth and virtue, to avoid epistemic arrogance and to build consensus through compromise—made possible by humility. In other words, the pluralistic citizen applies what Brighthouse terms “the norm of reciprocity” to public

39. Tavris & Aronson, *Mistakes Were Made*, 2.

40. *Ibid.*, 102.

dialogue.⁴¹ In applying these principles, citizens are not required to abandon their beliefs and values. However, there must be some recognition that imposing beliefs and values on others in the absence of a significant measure of public consensus is not simply undemocratic but anti-democratic. Unfortunately, the arrogance and self-righteousness that affects many of those who subscribe to a dogmatic, Supernatural Metaphysics (i.e., Biblical/scriptural literalists) have a history of condoning cruel, inhumane and undemocratic actions on account of their unwillingness to compromise “the word of God” that they have identified in their scripture and tradition. Dewey was quite candid about this problem and the challenge that it poses to the democratic ideal. In *A Common Faith* it led him to this ominous conclusion:

I cannot understand how any realization of the democratic ideal as a vital moral and spiritual ideal in human affairs is possible without surrender of the conception of the basic division to which supernatural Christianity is committed.⁴²

The best explanation I have found, for why a dogmatic, supernatural Christianity (or any dogmatic supernaturalism) may be incompatible with our democratic ideals is provided by Aldous Huxley, when he wrote: “It is fatally easy to kill people in the name of a dogma; it is blessedly difficult to kill them in the name of a working hypothesis.”⁴³

It is true that at this time in human history, the Muslim World in particular has generated tragic publicity on account of the willingness of some to kill people in the name of their dogmatic beliefs. However, it is important to recognize that this has not always been the case. Tragic examples of mass killings in the name of beliefs in the Christian World are clearly illustrated by the Inquisition, the Thirty Years’ War, and the Salem witch trials of Colonial America. On this account, the Western “Christian” World should not assume chauvinistic confidence in their cultural superiority—in spite of the fact that some time that has passed since religion was a major source of widespread and fatal disagreements in Western Civilization (although the Nazi Holocaust is not so distant, and inflammatory rhetoric has not gone out of style).

The United States may be unique in the industrialized world for the degree of religiosity prevalent in a large portion of its population—and this is why my recommendations are particularly relevant to our nation’s public schools. On that account, it is not unreasonable to view our Constitution’s First Amendment’s separation of Church and State as a critical protection essential for both “believers” and “unbelievers” alike. For Aldous Huxley our culture of science and democracy is in many ways a protective *vener*, albeit an effective one, that safeguards us from our otherwise troublesome impulses and non-rational (if not irrational) biases. He reminds us that while the human brain is capable of generating science, philosophy, art and literature, it also retains the potential to be quickly victimized by “fanaticism, superstition, dogmatic bumptiousness, and the nationalistic idolatry” made possible by “rabble-rousing propaganda and organized lying”—all of which can make mass murder quite possible and even acceptable.⁴⁴ For this reason, Huxley believed our protective cultural veneers can be readily shattered by any number of man-made or

41. Harry Brighouse, *On Education* (New York: Routledge, 2006), 67-73.

42. Dewey, *A Common Faith*, 84.

43. Aldous Huxley, in “Aldous Huxley’s Revisions of the Old Raja’s *Notes on What’s What* in His final Typescript of *Island*” by Bernfried Nugel, *Aldous Huxley Annual: A Journal of Twentieth Century Thought and Beyond*, 9 (Berlin: Deutsche Nationalbibliothek, 2009): 69-90.

44 Aldous Huxley, “Culture and the Individual,” in *Moksha: Aldous Huxley’s Classic Writings on Psychedelics and the Visionary Experience*, Michael Horowitz & Cynthia Palmer (eds.) (Rochester: Parker Street Press, 1999 edition), 248.

natural disasters of sufficient enough scale, thereby unleashing the tragedies our Constitution is designed to prevent.⁴⁵ On this account, the ultimate purpose of education in a democracy is to provide a curriculum and instruction that fortifies this protective veneer. This is the central meaning of the notion advanced long ago by Thomas Jefferson and Horace Mann that education is the “bulwark” of democracy. It is only through these efforts in strengthening that bulwark—or veneer—that we may hope to realize, as Dewey wrote, “the democratic ideal as a vital moral and spiritual ideal in human affairs.”⁴⁶

45. For a fuller consideration of Huxley’s ideas on education and those forces which can undermine our humanity and our protective cultural veneer, see Ronald Lee Zigler, *The Educational Prophecies of Aldous Huxley: The Visionary Legacy of Brave New World, Ape and Essence and Island* (New York: Routledge, 2015).

46. Dewey, *A Common Faith*, 84.